Introduction to Financial Accounting

Second Edition (Revised)

Based on International Financial Reporting Standards

David Annand

Published by Valley Educational Services Ltd.

4910C – 58 St., Athabasca AB T9S 1L5

ISBN 978-0-9953266-5-1

Printed and bound in Canada by Athabasca University

Library and Archives Canada Cataloguing in Publication

Annand, David, 1954–

Latest version available at http://business.athabascau.ca/faculty/david-annand-edd/

Please forward suggested changes to davida@athabascau.ca.

Version 2.2

December 31, 2016

CHAPTER ONE

Introduction to Financial Accounting

Chapter 1 Learning Objectives

LO1 – Define accounting.

LO2 – Identify and describe the forms of business organizations.

LO3 – Identify and explain generally accepted accounting principles (GAAP).

LO4 – Identify and explain the uses of the four financial statements.

LO5 – Analyze transactions using the accounting equation.

A. Accounting Defined

LO1 – Define accounting.

Accounting is often called the language of business because it uses a unique vocabulary to communicate information to decision makers. In this chapter, we will discuss what financial accounting is and briefly introduce how financial information is communicated through financial statements. Then we will study how financial transactions are analyzed and reported on financial statements.

Accounting is the process of identifying, measuring, recording, and communicating an organization's economic activities to users. Users need information for decision making. **Internal users** of accounting information work for the organization and are responsible for planning, organizing, and operating the entity. The area of accounting known as **managerial accounting** serves the decision-making needs of internal users. **External users** do not work for the organization and include investors, creditors, labour unions, and customers. **Financial accounting** is the area of accounting that presents financial information of interest to external users. This book deals with financial accounting.

B. Business Organizations

LO2 – Identify and describe the forms of business organizations.

An **organization** is a group of individuals who come together to pursue a common set of goals and objectives. There are typically two types of organizations: *business* and *non-business*. A **business organization** sells products or services for profit. A **non-business organization**, such as a charity or hospital, exists to meet various societal needs and does not have profit as a goal. All organizations record, report, and, most importantly, *use* accounting information for making decisions.

This book focuses on business organizations. There are three common forms of business organizations—a *proprietorship*, a *partnership*, and a *corporation*.

Proprietorship

A **proprietorship** is a business owned by one person. It is not a separate legal entity, which means that the business and the owner are considered to be the same. For example, the profits of a proprietorship are reported on the owner's personal income tax return. Proprietorship accounting is covered in a later chapter.

Partnership

A **partnership** is a business owned by two or more individuals. Like the proprietorship, it is not a separate legal entity. Partnership accounting is also covered in a later chapter.

Corporation

A **corporation** is a business owned by one or more owners.[1] The owners are known as *shareholders*. A **shareholder** owns shares of the corporation. **Shares** are units of ownership in a corporation. For example, if a corporation has 1,000 shares, there may be three shareholders who own 700 shares, 200 shares, and 100 shares respectively. The number of shares held by a shareholder represents how much of the corporation they own. The first shareholder who owns 700 shares owns 70% of the corporation (700/1,000 = 70%). A corporation can have different types of shares; this topic is discussed in a later chapter.

A corporation's shares can be privately held or available for public sale. A corporation that sells its shares publicly typically does so on a stock exchange. It is called a **publicly accountable enterprise**. It may have thousands or millions of shareholders. A corporation that holds its shares privately is known as a **private enterprise**. Its shares are often held by only one or a few shareholders.

Unlike the proprietorship and partnership, a corporation is a separate legal entity. This means, for example, that from an income tax perspective, a corporation files its own tax return. The owners or shareholders of a corporation are not responsible for the corporation's debts so have **limited liability** meaning that the most they can lose is the amount they invested in the corporation. They are not responsible for all the debts of an organization.

In larger corporations, there can be many shareholders. In these cases, shareholders do not manage a corporation but participate indirectly through the election of a **Board of Directors.** The Board of Directors does not participate in the day-to-day management of the corporation but delegates this responsibility to the officers of the corporation. An example of this delegation of responsibility is illustrated in Figure 1-1.

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[1] Equivalent designations for a corporation are "Corp.", "Incorporated", "Inc.", "Limited", and "Ltd."

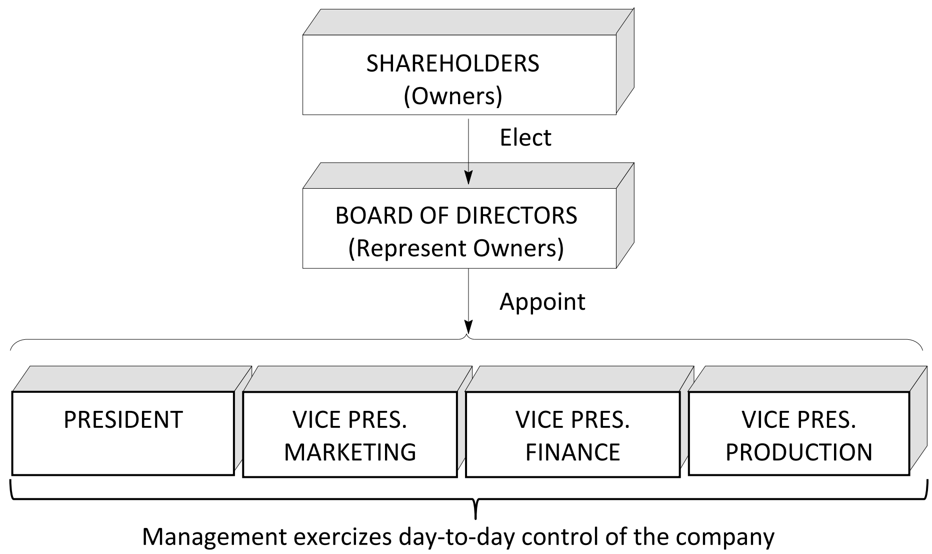


Figure 1-1 Generalized Form of a Corporate Organization

Shareholders usually meet annually to elect a Board of Directors. The Board of Directors meets regularly to review the corporation's operations and to set policies for future operations. Unlike shareholders, directors in certain circumstances can be held personally liable for the debts of a corporation if it fails.

C. Generally Accepted Accounting Principles (GAAP)

LO3 – Identify and explain generally accepted accounting principles (GAAP).

The goal of accounting is to ensure information provided to decision makers is useful. To be useful, information must be relevant and faithfully represent a business's economic activities. This requires **ethics**, beliefs that help us differentiate right from wrong, in the application of underlying accounting concepts or principles. These underlying accounting concepts or principles are known as **generally accepted accounting principles (GAAP).**

GAAP for publicly accountable enterprises in Canada, as well as in many other countries, is based on **International Financial Reporting Standards (IFRS)**. IFRS are issued by the **International Accounting Standards Board (IASB)**. The IASB's mandate is to promote the adoption of a single set of global accounting standards through a process of open and transparent discussions among corporations, financial institutions, and accounting firms around the world. Private enterprises in Canada are permitted to follow either IFRS or **Accounting Standards for Private Enterprises (ASPE)**, a set of less onerous GAAP-based standards developed by the **Canadian Accounting Standards Board (AcSB)** . The AcSB is the body that governs accounting standards in Canada.

A private enterprises might consider using IFRS if it has significant competitors that have adopted IFRS, if it plans to issue shares to the general public, or if it plans to expand into international markets. On the other hand, if these are not factors and current reporting is relatively simple, a private enterprise would likely choose APSE as its set of generally accepted accounting standards. The focus in this book will be on International Financial Reporting Standards.

GAAP are undergirded by qualitative characteristics and principles that inform how and when financial information is presented. Financial information should possess characteristics of:

- **relevance** – the ability to make a difference in the decision-making process;
- **faithful representation** – provision of information that is complete, neutral, and free from error;
- **comparability** – reporting similar information across similar entities in a similar manner;
- **verifiability** – the ability of an independent observer to reproduce the same financial information given the same input data and assumptions;
- **timeliness** – the provision of new information to decision makers while it is still useful; and
- **understandability** – presentation of information in a manner that is clear and concise.

In practice, these characteristics are demonstrated through the following accounting conventions:

Accounting convention	*Explanation*
Accrual accounting	Recognizes revenues when earned and expenses when incurred regardless of when cash is exchanged. Example: Repair services are performed on January 15 for $2,000. Revenue is recorded at this date, even if the customer will not pay in cash until February. Example: Supplies are purchased for $700 on credit and used immediately. They are reported as expenses even though the $700 will not paid in cash until February.

Business entity	Requires that each economic entity maintain separate records. Example: An owner of an unincorporated business keeps one set of accounting records for business transactions and one for personal transactions.
Consistency	Requires that a business use the same accounting policies and procedures from period to period. Example: A business records a sale when goods are shipped to a customer, even if cash may not have been received yet. In the future, it cannot change the way in which it accounts for sales (by recognizing sales when cash is received, for instance).
Historical Cost	Requires that each economic transaction be based on original cost. Example: A business purchased a piece of land for $70,000 ten years ago. Even though the land can be now sold for more than this, it is not revalued in the financial statements. It remains recorded at $70,000.
Full disclosure	Requires that accounting information communicate sufficient information to allow users to make knowledgeable decisions. Example: A business is being sued for $20,000,000 and management is certain that it will lose. The financial statements must disclose the lawsuit even though no damages have been finalized.
Going concern	Assumes that a business has the resources needed to continue to operate indefinitely into the future. Example: A bakery does not expense an item like a delivery truck in the year in which it is purchased. Rather, it writes-off the purchase price of the truck gradually over the estimated number of years it will provide useful service into the future.
Matching	Requires that expenses be reported in the period in which they are incurred or related revenues are earned, not when cash is paid. Though IFRS does not mention the matching concept, it still underlies the practice of accrual accounting. Example: Merchandise purchased for resale is not recorded as an expense until it is sold and the related

	sales revenue is recognized.
Materiality	Allows another accounting principle to be violated if the effect on the financial statements is so small that users will not be misled. Example: A business purchases a desk for $100 that will last ten years. Technically, cost of the desk should be written off gradually over ten years. However for accounting convenience, the business will usually record the $100 as an expense in the current year instead of gradually reducing the "book value" of the desk each year. Expensing it immediately will not affect the financial results enough to mislead financial statement readers.
Stable monetary unit	Requires that financial information be communicated in unchanging units of money. Example: Goods are purchased for $10,000 in 2018 that will be sold to customers in 2019. In early 2019, the same amount and type of goods are purchased for $10,100. The cost has increased due to inflation. If the goods purchased in 2018 are still unsold, they are not revalued to reflect the inflationary effect.
Revenue recognition	Requires that sale of goods or provision of services should be recognized when the process is substantially complete. This is accomplished through accrual accounting. Example: A product is sold on March 5. The customer receives the product on March 5 but agrees to pay for it on April 5. The corporation recognizes the revenue from the sale on March 5 when the sale occurred even though the cash will not be received until a later date.

Figure 1–2 Conventions of Generally Accepted Accounting Principles

D. Financial Statements

LO4 – Identify and explain the uses of the four financial statements.

Recall that financial accounting focuses on communicating information to external users. That information is communicated using **financial statements**. There are four financial statements: the income statement, statement of changes in equity, statement of financial position, and statement of cash flows. Each of these is briefly introduced in the following sections using an example based on a fictitious corporate organization called Big Dog Carworks Corp. ("Corp." is the abbreviated form of "Corporation".)

The Income Statement

An **income statement** or **statement of profit and loss** communicates information about a business's financial performance by summarizing **revenues** less **expenses** over a period of time. Revenues are created when a business provides products or services to a customer in exchange for assets. Assets are resources resulting from past events and from which future economic benefits are expected to result. Examples of assets include cash, equipment, and supplies. Assets will be discussed in more detail later in this chapter. Expenses are the assets that have been used up or the obligations incurred in the course of earning revenues. When revenues are greater than expenses, the difference is called **net income** or **profit**. When expenses are greater than revenue, a **net loss** results.

Consider the following income statement of Big Dog Carworks Corp. (BDCC). This business was started on January 1, 2017 by Bob "Big Dog" Baldwin in order to repair automobiles. All the shares of the corporation are owned by Bob.

At January 31, the income statement shows total revenues of $10,000 and various expenses totalling $7,800. Net income, the difference between $10,000 of revenues and $7,800 of expenses, equals $2,200.

Big Dog Carworks Corp.
Income Statement
For the Month Ended January 31, 2017

The heading shows the name of the entity, the type of financial statement, and in this case, the *period-in-time* date.

Revenues		
Repairs		$10,000
Expenses		
Rent	$1,600	
Salaries	4,000	
Supplies	1,500	
Truck operating	700	
Total expenses		7,800
Net income		$2,200

The net income is transferred to the statement of changes in equity.

The Statement of Changes in Equity

The **statement of changes in equity** provides information about how the balances in Share capital and Retained earnings changed during the period. **Share capital** is a heading in the shareholders' equity section of the statement of financial position and represents how much shareholders have invested. When shareholders buy shares, they are investing in the business. The number of shares they purchase will determine how much of the corporation they own. The type of ownership unit purchased by Big Dog's shareholders is known as *common shares*. These and other types of shares will be discussed in a later chapter. For now, all ownership units will be called share capital. When a corporation sells its shares to shareholders, the corporation is said to be *issuing shares* to shareholders.

In the statement of changes in equity shown below, share capital and retained earnings balances at January 1 are zero because the corporation started the business on that date. During January, share capital of $10,000 was issued to shareholders so the January 31 balance is $10,000.

Retained earnings is the sum of all net incomes earned by a corporation over its life, less any distributions of these net incomes to shareholders. Distributions of net income to shareholders are called **dividends**. Shareholders generally have the right to share in dividends according to the percentage of their ownership interest. To demonstrate the concept of retained earnings, recall that Big Dog has been in business for one month in which $2,200 of net income was reported. If dividends of $200 are distributed, these are subtracted from retained earnings. Big Dog's retained earnings are therefore $2,000 at January 31, 2017 as shown in the statement of changes in equity below.

The heading shows the name of the entity, the type of financial statement, and in this case, the *period-in-time* date.

Big Dog Carworks Corp.
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	10,000		10,000
Net income		2,200	2,200
Dividends		(200)	(200)
Ending balance	$10,000	$2,000	$12,000

These totals are transferred to the statement of financial position at January 31, 2017.

To demonstrate how retained earnings would appear in the next accounting period, let's assume that Big Dog reported a net income of $5,000 for February, 2017 and dividends of $1,000 were paid to the shareholder. Based on this information, retained earnings at the end of February would be $6,000, calculated as the $2,000 January 31 balance plus the $5,000 February net income less the $1,000 February dividend. The balance in retained earnings continues to change over time because of additional net incomes/losses and dividends.

The Statement of Financial Position

The **statement of financial position** or **balance sheet** shows a business's assets, liabilities, and equity at a point in time. The statement of financial position of Big Dog Carworks Corp. at January 31, 2017 is shown below.

The heading shows the name of the entity, the type of financial statement and the *point-in-time* date.

Big Dog Carworks Corp.
Statement of Financial Position
At January 31, 2017

Assets		*Liabilities*		
Cash	$ 6,200	Bank loan	$ 9,000	
Accounts receivable	2,500	Accounts payable	700	
Prepaid insurance	2,400	Unearned revenue	400	
Equipment	3,000	Total liabilities		$10,100
Truck	8,000			
		Shareholders' Equity		
		Share capital	$10,000	
		Retained earnings	2,000	12,000
Total assets	$22,100	Total liabilities and equity		$22,100

Total assets ($22,100) always equal total liabilities ($10,100) plus shareholders' equity ($12,000).

What Is an Asset?

Assets are economic resources that provide future benefits to the business. Examples include cash, accounts receivable, prepaid expenses, equipment, and trucks. **Cash** is coins and currency, usually held in a bank account, and is a financial resource with future benefit because of its purchasing power. **Accounts receivable** represent amounts to be collected in cash in the future for goods sold or services provided to customers on credit. **Prepaid expenses** are assets that are paid in cash in advance and have benefits that apply over future periods. For example, a one-year insurance policy purchased for cash on January 1, 2017 will provide a benefit until December 31, 2017 so is a prepaid asset when purchased. The equipment and truck were purchased on January 1, 2017 and will provide benefits for 2017 and beyond so are assets.

What Is a Liability?

A **liability** is an obligation to pay an asset in the future. It is also known as **debt.** For example, Big Dog's bank loan represents an obligation to repay cash in the future to the bank. **Accounts payable** are obligations to pay a creditor for goods purchased or services rendered. A **creditor** owns the right to receive payment from an individual or business. **Unearned revenue** represents an advance payment of cash from a customer for Big Dog's services or products to be provided in the future. For example, Big Dog collected cash from a customer in advance for a repair to be done in the future.

What Is Shareholders' Equity?

Shareholders' equity represents the net assets owned by the owners (the shareholders). **Net assets** are assets minus liabilities. For example, in Big Dog's January 31 statement of financial position, net assets are $12,000, calculated as total assets of $22,100 minus total liabilities of $10,100. This means that although there are $22,100 of assets, only $12,000 are owned by the shareholders and the balance, $10,100, are financed by debt. Notice that net assets and total shareholders' equity are the same value; both are $12,000. Shareholders' equity consists of share capital and retained earnings. Share capital represents how much the shareholders have invested in the business. Retained earnings are the sum of all net incomes earned by a corporation over its life, less any dividends distributed to shareholders. Shareholders have a right to these accumulated earnings because they own the corporation.

In summary, the statement of financial position is represented by the equation:

Assets = Liabilities + Shareholders' equity

The Statement of Cash Flows (SCF)

The fourth financial statement is the **statement of cash flows**. The SCF explains the sources (inflows) and uses (outflows) of cash over a period of time. The preparation and interpretation of the SCF will be covered in a later chapter.

Notes to the Financial Statements

An essential part of financial statements are the notes that accompany them. These notes are generally located at the end of a set of financial statements. The notes provide greater detail about various amounts shown in the financial statements, or provide non-quantitative information that is useful to users. For example, a note may indicate the estimated useful lives of long-lived assets, or loan repayment terms. Examples of note disclosures will be provided in later chapters.

E. Transaction Analysis and Double-entry Accounting

LO5 – Analyze transactions using the accounting equation.

The **accounting equation** is foundational to accounting. It shows that the total assets of a business must always equal the total claims against those assets by creditors and owners. The equation is expressed as:

ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY
(economic resources owned by an entity)		(creditors' claims on assets)		(owners' claims on assets)

When financial transactions are recorded, combined effects on assets, liabilities, and shareholders' equity are always exactly offsetting. This is the reason that the statement of financial position always balances.

Each economic exchange is referred to as a **financial transaction**—for example, when an organization exchanges cash for land and buildings. Incurring a liability in return for an asset is also a financial transaction. Instead of paying cash for land and buildings, an organization may borrow money from a financial institution. The company must repay this with cash payments in the future. The accounting equation provides a system for processing and summarizing these sorts of transactions.

Accountants view financial transactions as economic events that change components within the accounting equation. These changes are usually triggered by information contained in **source documents** (such as sales invoices and bills from creditors) that can be verified for accuracy.

The accounting equation can be expanded to include all the items listed on the statement of financial position of Big Dog at January 31, 2017, as follows:

ASSETS									=	LIABILITIES					+	S/H EQUITY		
Cash	+	Accounts Receivable	+	Prepaid Insurance	+	Equipment	+	Truck	=	Bank Loan	+	Accounts Payable	+	Unearned Revenue	+	Share Capital	+	Retained Earnings

If one item within the accounting equation is changed, then another item must also be changed to balance it. In this way, the equality of the equation is maintained. For example, if there is an increase in an asset account, then there must be a decrease in another asset or a corresponding increase in a liability or shareholders' equity account. This equality is the essence of *double-entry accounting*. The equation itself always remains in balance after each transaction. The operation of double-entry accounting is illustrated in the following section, which shows 10 transactions of Big Dog Carworks Corp. for January 2017.

Transaction number	Date	Description of transaction	ASSETS	=	LIABILITIES	+	S/H EQUITY
			Effect on the accounting equation				
1	Jan. 1	Big Dog Carworks Corp. issued 1,000 shares to Bob Baldwin for $10,000 cash.					
		The asset *Cash* is increased while the equity item *Share Capital* is also increased. The impact on the equation is:					
		CASH →	+10,000				
		SHARE CAPITAL →					+10,000
		Note that both sides of the equation are in balance.					
2	Jan. 2	Big Dog Carworks Corp. borrowed $4,000 from the bank and deposited the cash into the business's bank account.					
		The asset *Cash* is increased and the liability *Bank Loan* is also increased. The impact on the equation is:					
		CASH	+4,000				
		BANK LOAN			+4,000		
3	Jan. 2	The corporation purchased $3,000 of equipment for cash.					
		There is an increase of the asset *Equipment* and a decrease to another asset, *Cash*. The impact on the equation is:					
		EQUIPMENT	+3,000				
		CASH	-3,000				
4	Jan. 3	The corporation purchased a tow truck for $8,000, paying $1,000 cash and incurring an additional bank loan for the remaining $7,000.					
		The asset *Cash* is decreased while the asset *Truck* is increased and the liability *Bank Loan* is also increased. The impact on the equation is:					
		CASH	-1,000				
		TRUCK	+8,000				
		BANK LOAN			+7,000		

Transaction Number	Date	Description of transaction	ASSETS	=	LIABILITIES	+	S/H EQUITY
			Effect on the accounting equation				
5	Jan. 5	Big Dog Carworks Corp. paid $2,400 for a one-year insurance policy, effective January 1.					
		Here the asset *Prepaid Insurance* is increased and the asset *Cash* is decreased. The impact on the equation is:					
		PREPAID INSURANCE	+2,400				
		CASH	-2,400				
		Since the one-year period will not be fully used at January 31 when financial statements are prepared, the insurance cost is considered to be an asset at the payment date. The transaction does not affect liabilities or shareholders' equity.					
6	Jan. 10	The corporation paid $2,000 cash to the bank to reduce the loan outstanding.					
		The asset *Cash* is decreased and there is a decrease in the liability *Bank Loan*. The impact on the equation is:					
		BANK LOAN			-2,000		
		CASH	-2,000				
7	Jan. 15	The corporation received $400 as an advance payment from a customer for services to be performed over the next two months as follows: $300 for February, $100 for March.					
		The asset *Cash* is increased by $400 and a liability, *Unearned Revenue*, is also increased since the revenue will not be earned by the end of January. It will be earned when the work is performed in later months. At January 31, these amounts are repayable to customers if the work is not done (and thus recorded as a liability). The impact on the equation is:					
		CASH	+400				
		UNEARNED REVENUE			+400		
8	Jan. 31	Automobile repairs of $10,000 were made for customers; $7,500 of repairs was paid in cash and $2,500 of repairs will be paid in the future by customers.					
		Cash and *Accounts Receivable* assets of the corporation increase. The repairs are a revenue; revenue causes an increase in net income and an increase in net income causes an increase in shareholders' equity. The impact on the equation is:					
		CASH	+7,500				
		ACCOUNTS RECEIVABLE	+2,500				
		REPAIR REVENUE					+10,000
		This activity increases assets and net income.					

			Effect on the accounting equation				
Transaction Number	Date	Description of transaction	ASSETS	=	LIABILITIES	+	S/H EQUITY
9	Jan. 31	The corporation incurred operating expenses for the month as follows: $1,600 for rent; $4,000 for salaries; and $1,500 for supplies expense. These were paid in cash. $700 for truck operating expenses (e.g., oil, gas) was incurred. This will be paid in the future.					
		There is a $7,100 decrease in the asset *Cash*. There is a $700 increase in the liability *Accounts Payable*. Expenses cause net income to decrease. A decrease in net income causes retained earnings and shareholders' equity to decrease. The impact on the equation is:	↓		↑		↓
		RENT EXPENSE					-1,600
		SALARIES EXPENSE					- 4,000
		SUPPLIES EXPENSE					- 1,500
		TRUCK OPERATING EXPENSE					- 700
		CASH	-7,100				
		ACCOUNTS PAYABLE			+700		
10	Jan. 31	Dividends of $200 were paid in cash to the shareholder, Bob Baldwin.					
		Dividends are a distribution of net income. They cause retained earnings to decrease. A decrease in retained earnings will decrease shareholders' equity. The impact on the equation is:	↓				↓
		DIVIDENDS					-200
		CASH	-200				

These various transactions can be recorded in the expanded accounting equation as shown below:

	ASSETS					=	LIABILITIES			+	S/H EQUITY	
Trans.	Cash	+ Acc. Rec.	+ Ppd. Insur.	+ Equip.	+ Truck	=	Bank Loan	+ Acc. Pay.	+ Un. Rev.	+	Share Capital	+ Retained Earnings
1.	+10,000										+10,000	
2.	+4,000						+4,000					
3.	-3,000			+3,000								
4.	-1,000				+8,000		+7,000					
5.	-2,400		+2,400									
6.	-2,000						-2,000					
7.	+400								+400			
8.	+7,500	+2,500										+10,000
9.	-7,100							+700				- 1,600 - 4,000 - 1,500 - 700
10.	-200											- 200
	6,200 +	2,500 +	2,400 +	3,000 +	8,000 =		9,000 +	700 +	400 +		10,000 +	2,000

These numbers are used to prepare the Statement of Cash Flows.

These numbers are used to prepare the Income Statement

Transactions in these columns are used to prepare the Statement of Changes in Equity.

Column totals are used to prepare the Statement of Financial Position.

ASSETS = $22,100

LIABILITIES + EQUITY = $22,100

Figure 1-3a Transactions Worksheet for January 31, 2017

Transactions summary:

1. Issued share capital for $10,000 cash.
2. Assumed a bank loan for $4,000.
3. Purchased equipment for $3,000 cash.
4. Purchased a truck for $8,000; paid $1,000 cash and incurred a bank loan for $7,000.
5. Paid $2,400 for a comprehensive one-year insurance policy effective January 1.
6. Paid $2,000 cash to reduce the bank loan.
7. Received $400 as an advance payment for repair services to be provided over the next two months as follows:
   $300 for February,
   $100 for March.
8. Performed repairs for $7,500 cash and $2,500 to be paid by customers at a later date.
9. Paid a total of $7,100 for operating expenses incurred during the month; also incurred an expense on account for $700.

10. Dividends of $200 were paid in cash to the only shareholder, Bob Baldwin.

The transactions summarized in Figure 1-3a were used to prepare the financial statements described earlier, and reproduced in Figure 1-3b below.

Big Dog Carworks Corp.
Statement of Financial Position
At January 31, 2017

Assets		
Cash	$ 6,200	
Accounts receivable	2,500	
Prepaid insurance	2,400	
Equipment	3,000	
Truck	8,000	
		$22,100
Liabilities		
Bank loan	$ 9,000	
Accounts payable	700	
Unearned revenue	400	10,100
Shareholders' Equity		
Share capital	$10,000	
Retained earnings	2,000	
		12,000
		$22,100

The components of equity are shown on the statement of financial position

Big Dog Carworks Corp.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Repairs		$10,000
Expenses		
Rent	$ 1,600	
Salaries	3,500	
Supplies	2,000	
Truck operating	700	
Total expenses		7,800
Net Income		$2,200

Net income becomes part of retained earnings

Big Dog Carworks Corp.
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	10,000		10,000
Net income		2,200	2,200
Dividends		(200)	(200)
Ending balance	$10,000	$2,000	$12,000

Figure 1-3b Financial Statements of Big Dog Carworks Corp.

Accounting Time Periods

Financial statements are prepared at regular intervals—usually monthly or quarterly—and at the end of each 12-month period. This 12-month period is called the **fiscal year**. The timing of the financial statements is determined by the needs of management and other users of the financial statements. For instance, financial statements may also be required by outside parties, such as bankers and shareholders if there are many. However, accounting information must possess the qualitative characteristic of timeliness—it must be available to decision makers in time to be useful—which is typically a minimum of once every 12 months.

Accounting reports, called the *annual financial statements*, are prepared at the end of each 12-month period, which is known as the **year-end** of the entity. Most companies' year-ends are on December 31, though this may not always be the case.

Summary of Chapter 1 Learning Objectives

LO1 – Define accounting.

Accounting is the process of identifying, measuring, recording, and communicating an organization's economic activities to users for decision making. Internal users work for the organization while external users do not. Managerial accounting serves the decision-making needs of internal users like managers. Financial accounting reports financial information useful for users external to the organization, like shareholders.

LO2 – Identify and describe the forms of business organizations.

There are two types of organizations. A business organization sells products or services for profit. A non-business organization such as a charity or hospital, exists to meet various societal needs and does not have profit as a goal. Three types of business organizations are a proprietorship, partnership, and corporation. A corporation is different because it is considered a separate legal entity from shareholders, and these shareholders have limited liability for the debts of the corporation.

LO3 – Identify and explain generally accepted accounting principles (GAAP).

GAAP are the guidelines that shape the way financial information is reported in financial statements prepared for external users. GAAP have qualitative characteristics of relevance, faithful representation, comparability, verifiability, timeliness, and understandability. Development of GAAP is guided by the principles of the business entity, consistency, historical cost, full disclosure, going concern, matching, materiality, a stable monetary unit, and revenue recognition.

LO4 – Identify, explain, and prepare the financial statements.

The four financial statements are: income statement, statement of changes in equity, statement of financial position, and statement of cash flows. The income statement reports financial performance by detailing revenues less expenses to arrive at net income for the period. The statement of changes in equity shows the changes during the period to share capital and retained earnings. The statement of financial position identifies financial position at a point in time by listing assets, liabilities, and shareholders' equity. Finally, the statement of cash flows details the sources and uses of cash during the period.

LO5 – Analyze transactions by using the accounting equation.

The accounting equation (Assets equals liabilities plus shareholders' equity, or A = L + E), describes the asset investments (the left side of the equation) and the liabilities and shareholders' equity that financed the assets (the right side of the equation). The accounting equation provides a system for processing and summarizing financial transactions resulting from a business's activities. A financial transaction is an economic exchange between two parties that impacts the accounting equation. The equation must always balance.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. What is the difference between managerial and financial accounting?
2. What is the difference between a business organization and a non-business organization?
3. What are the three types of business organizations?
4. What is a publicly accountable enterprise? a private enterprise?
5. What does the term *limited liability* mean?
6. Describe what GAAP refers to.
7. Identify and explain the six qualitative characteristics of GAAP.
8. What is the general purpose of financial statements? What are the four types of financial statements?
9. What is the purpose of an income statement? a statement of financial position? How do they interrelate?
10. Define the terms “revenue” and “expense”.
11. What is net income? What information does it convey?
12. What is the purpose of a statement of changes in equity?
13. Shareholders’ equity consists of what two components?
14. Explain how retained earnings and dividends are related.
15. What are the three primary components of the statement of financial position?
16. What are assets?
17. To what do the terms “liability” and “shareholders’ equity” refer?
18. What information is provided in the statement of cash flows?
19. What are notes to the financial statements?
20. Illustrate how the double-entry accounting system works.
21. Why are financial statements prepared at regular intervals? Who are the users of these statements?
22. What is the basic accounting equation? How does it work?
23. Explain what is meant by the term “financial transaction”. Give an example of a financial transaction.

Comprehension Problems

CP 1–1

View Answer

The following list covers many of the types of financial transactions. Notice that each transaction has an equal and offsetting effect on the accounting equation.

Types of accounting transactions

	ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY
1.	(+)				(+)
2.	(+)		(+)		
3.	(+)(-)				
4.	(-)				(-)
5.	(-)		(-)		
6.			(+)		(-)
7.			(-)		(+)
8.			(+)(-)		
9.					(+)(-)

Required: Using the appropriate accounting equation, study the following transactions and identify the effect of each on assets, liabilities and shareholders' equity, as applicable. Use a (+) to denote an increase and a (–) to denote a decrease, if any.

A = L + E

Example:

A	L	E	
(+)	___	(+)	Issued share capital for cash
___	___	___	Purchased a truck for cash
___	___	___	Received a bank loan to pay for equipment
___	___	___	Purchased the equipment for cash
___	___	___	Made a deposit for electricity service to be provided in the future
___	___	___	Paid rent for the month just ended
___	___	___	Signed a new union contract that provides for increased wages in the future
___	___	___	Hired a messenger service to deliver letters during a mail strike
___	___	___	Received a parcel; paid the delivery service
___	___	___	Billed customers for services performed
___	___	___	Made a cash payment to satisfy an outstanding obligation

__ __ __ Received a payment of cash in satisfaction of an amount owed by a customer
__ __ __ Collected cash from a customer for services rendered the same day
__ __ __ Paid cash for truck operating expenses (gas, oil, etc.)
__ __ __ Made a monthly payment on the bank loan; this payment included a payment on part of the loan and also an amount of interest expense. (*Hint:* This transaction affects more than two parts of the accounting equation.)
__ __ __ Issued shares in the company to pay off a loan
__ __ __ Paid a dividend with cash.

CP 1–2

View Answer

Refer to the list of accounting transactions in Comprehension Problem 1–1.

Required: Study the following transactions and identify, by number (1 to 9), the type of transaction. Some transactions may not require an accounting entry.

Example:
__1__ Issued share capital for cash
____ Paid an account payable
____ Borrowed money from a bank
____ Collected an account receivable
____ Collected a commission on a sale made today
____ Paid for this month's advertizing in a newspaper
____ Repaid money borrowed from a bank
____ Signed a contract to purchase a computer
____ Received a bill for supplies used during the month
____ Received a payment of cash in satisfaction of an amount owed by a customer
____ Sent a bill to a customer for repairs made today
____ Sold equipment for cash
____ Purchased a truck on credit, to be paid in six months
____ Requested payment from a customer of an account receivable that is overdue
____ Increased employee vacations from four to six weeks
____ Recorded the amount due to the landlord as rent for the past month.
____ Received the monthly telephone answering service bill

CP 1–3

View Answer

Required: Calculate the missing amounts for companies A to E.

	A	*B*	*C*	*D*	*E*
Cash	$3,000	$1,000	$?	$6,000	$2,500
Equipment	8,000	6,000	4,000	7,000	?
Accounts payable	4,000	?	1,500	3,000	4,500
Share capital	2,000	3,000	3,000	4,000	500
Retained earnings	?	1,000	500	?	1,000

CP 1–4

View Answer

Required: Calculate the net income earned during the year. Assume that the change to shareholders' equity results only from net income earned during the year.

	Assets	*Liabilities*
Balance Jan. 1, 2017	$50,000	$40,000
Balance Dec. 31, 2017	35,000	20,000

CP 1–5

View Answer

Required: Indicate whether each of the following is an asset (A), liability (L), or a shareholders' equity (E) item.

1. Accounts payable
2. Accounts receivable
3. Bank loan
4. Cash
5. Equipment
6. Insurance expense
7. Loan payable
8. Prepaid insurance
9. Rent expense
10. Repair revenue
11. Share capital
12. Truck operating expense
13. Unused office supplies
14. Dividends

CP 1–6

View Answer

The following accounts are taken from the records of Jasper Inc. at January 31, 2017, its first month of operations.

Cash	$33,000
Accounts receivable	82,000
Unused supplies	2,000
Land	25,000
Building	70,000
Equipment	30,000
Bank loan	15,000
Accounts payable	27,000
Share capital	?
Net income	40,000
Dividends	1,000

Required:

1. Calculate the amount of total assets.
2. Calculate the amount of total liabilities.
3. Calculate the amount of share capital.

CP 1–7

View Answer

Required: A corporation has been in business for one month. From the financial information at January 31 shown below, complete an income statement, statement of changes in shareholders' equity, and statement of financial position.

Accounts receivable	$ 4,000
Accounts payable	5,000
Cash	1,000
Share capital	4,000
Equipment	8,000
Insurance expense	1,500
Miscellaneous expense	2,500
Office supplies expense	1,000
Service revenue	20,000
Wages expense	9,000
Dividends	2,000

CP 1–8

View Answer

A junior bookkeeper of Adams Ltd. prepared the following financial statements at January 31, 2017, the end of its first month of operations.

Adams Ltd.
Income Statement
For the Month Ended January 31, 2017

Revenue		$3,335
Expenses		
Accounts payable	$ 300	
Land	1,000	
Dividends	500	1,635
Miscellaneous expenses	335	
Net income		$1,200

Statement of Financial Position

Assets		*Liabilities and Shareholder's Equity*	
Cash	$1,000	Rent expense	$ 300
Repairs expense	500	Share capital	3,000
Salaries expense	1,000	Retained earnings	1,200
Building	2,000		
	$4,500		$4,500

Required: Prepare a revised income statement, a statement of changes in equity, and a revised statement of financial position.

CP 1–9

View Answer

Financial statements are prepared according to a number of accounting principles, some of which are listed below:

1. Business entity
2. Going concern
3. Stable monetary unit
4. Historical cost
5. Revenue recognition
6. Consistency
7. Full disclosure
8. Matching
9. Materiality

Required: Identify the principle that would apply in each of the following situations. Explain your choice.

____________ a. An accountant for Caldwell Corporation records a $25 stapler with a five–year life as an expense. Caldwell has total assets of $1,000,000.

____________ b. Fred Rozak, an independent consultant, must keep a set of books for his consulting firm and a separate set of books for his personal records.

____________ c. A machine is recorded at its purchase price of $9,000 and is not revalued at the end of the accounting period to reflect its market value of $10,000.

____________ d. Land purchased in 1985 for $10,000 is not revalued even though it would take $30,000 in equivalent money to purchase the land today.

____________ e. Accountants of Hull Corporation do not record the value of its production equipment at the much lower amount for which it could be sold in the near future.

____________ f. Investors of Spellman Corporation note that the accounting policy for valuing inventory has not changed from the prior fiscal year.

____________ g. Looten Corporation senior managers decide to disclose a recent $2 million lawsuit in a note to the financial statements even though the case will not likely be settled for two years.

Problems

P 1–1

View Answer

The following balances appeared on the transactions worksheet of Hill Chairs Inc. on April 1, 2017.

ASSETS								=	LIABILITY	+	EQUITY		
Cash	+	Accounts Receivable	+	Prepaid Expense	+	Unused Supplies		=	Accounts Payable	+	Share Capital	+	Retained Earnings
1,400		3,600		1,000		350			2,000		4,350		

The following transactions occurred during April:

a. Collected $2,000 cash in satisfaction of an amount owed by a customer
b. Billed $3,000 to customers for chairs rented to date
c. Paid the following expenses: advertizing, $300; salaries, $2,000; telephone, $100
d. Paid half of the accounts payable
e. Received a $500 bill for April truck operating expenses
f. Collected $2,500 in satisfaction of an amount owed by a customer
g. Billed $1,500 to customers for chairs rented to date
h. Transferred $500 of prepaid expenses to rent expense
i. Counted $200 of supplies still on hand (recorded the amount used as an expense)
j. Issued additional share capital and received $1,000 cash
k. Paid $200 dividend in cash.

Required: Record the opening balances and the above transactions on a transactions worksheet and calculate the total of each column at the end of April. (Use the headings above on your worksheet.)

P 1–2

View Answer

The following transactions of Larson Services Inc. occurred during August 2017, its first month of operations.

Aug.	1	Issued share capital for $3,000 cash
	1	Borrowed $10,000 cash from the bank
	1	Paid $8,000 cash for a used truck
	4	Paid $600 for a one–year truck insurance policy effective August 1 (record as an asset)
	5	Collected $2,000 fees from a client for work to be performed at a later date
	7	Billed a client $5,000 for services performed today
	9	Paid $250 for supplies purchased and used today
	12	Purchased $500 of supplies on credit (record as an asset)
	15	Collected $1,000 of the amount billed August 7
	16	Paid $200 for advertizing in The News during the first two weeks of August
	20	Paid $250 of the amount owing for supplies purchased on August 12
	25	Paid the following expenses: rent for August, $350; salaries, $2,150; telephone, $50; truck operating, $250
	28	Called clients about payment of the balances owing from August 7
	29	Billed a client $6,000 for services performed today, including $1,500 related to cash received August 5
	31	Transferred $50 of August's prepaid expenses to insurance expense
	31	Counted $100 of supplies still on hand (recorded the amount used as an expense).

Required:

1. Record the above transactions on a transactions worksheet and calculate the total of each column at the end of August. Use the following headings on your worksheet.

ASSETS									=	LIABILITIES			+	EQUITY		
		Acct.		Ppd.		Un.				Bank		Acct.		Share		Ret.
Cash	+	Rec.	+	Exp.	+	Supp.	+	Truck	=	Loan	+	Pay.	+	Capital	+	Earn.

2. Prepare an income statement and statement of changes in equity for the month ended August 31, 2017, and a statement of financial position at August 31, 2017. Identify the revenue earned as Fees. Record the expenses in alphabetical order.

P 1–3

View Answer

Following are the asset, liability, and shareholders' equity balances of Dumont Inc. at January 31, 2017 after its first month of operations.

ASSETS		=	LIABILITIES		+	SHAREHOLDERS' EQUITY	
Cash	$1,300		Bank loan	$8,000		Share capital	$2,000
Accounts rec.	2,400		Accounts pay.	1,000		Service revenue	7,500
Prepaid exp.	550					Advertizing expense	500
Unused supp.	750					Commissions expense	720
Truck	9,000					Insurance expense	50
						Interest expense	80
						Rent expense	400
						Supplies expense	100
						Telephone expense	150
						Wages expense	2,300
						Dividend paid	200

Required:

1. Prepare an income statement and statement of changes in equity for the month ending January 31, 2017. Record the expenses in alphabetical order. Assume no share capital was issued during the month.
2. Prepare a statement of financial position at January 31.

P 1–4

View Answer

The following is an alphabetical list of data from the records of Kenyon Services Corporation at March 31, 2017.

Accounts payable	$9,000	Equipment rental expense	$ 500
Accounts receivable	3,900	Fees earned	4,500
Advertizing expense	300	Insurance expense	400
Cash	3,100	Interest expense	100
Share capital	2,000	Truck operating expense	700
Equipment	5,000	Wages expense	1,500

Required:

1. Prepare an income statement and statement of changes in equity for the month ended March 31, 2017. Record the expenses in alphabetical order. Assume no share capital was issued during the month and that there were no retained earnings at March 1.
2. Prepare a statement of financial position at March 31.

P 1–5

View Answer

The following "financial statement" was prepared from the records of Laberge Sheathing Inc. for the eight-month period ended August 31, 2017.

Laberge Sheathing Inc.
Financial Statement
For the Eight Month Period Ended August 31, 2017

Cash	$ 400	Accounts payable	$ 7,800
Accounts receivable	3,800	Share capital	3,200
Unused supplies	100	Service revenue	6,000
Equipment	8,700		
Advertizing expense	300		
Interest expense	500		
Maintenance expense	475		
Supplies expense	125		
Wages expense	2,000		
Dividends	600		
	$17,000		$17,000

Required:

1. When is the corporation's likely fiscal year-end?
2. Prepare an income statement and statement of changes in equity for the eight-month period ended August 31, 2017.
3. Prepare a statement of financial position at August 31.

P 1–6

View Answer

The following transactions took place in McIntyre Builders Corporation during June 2017, its first month of operations.

Jun.	1	Issued share capital for $8,000 cash
	1	Purchased $5,000 equipment on credit
	2	Collected $600 cash for renovations completed today
	3	Paid $20 for supplies used June 2
	4	Purchased $1,000 supplies on credit (record supplies as an asset)
	5	Billed customers $2,500 for renovations completed to date
	8	Collected $500 of the amount billed June 5
	10	Paid half of the amount owing for equipment purchased June 1
	15	Sold excess equipment for a promise from the buyer to pay $1,000 in the future. The same amount is the same as the original cost of this equipment. Record as a loan payable.
	18	Paid for the supplies purchased June 4
	20	Received a bill for $100 for electricity used to date (record as utilities expense)
	22	Paid $600 to the landlord for June and July rent (record as prepaid expense)
	23	Signed a union contract
	25	Collected $1,000 of the amount billed June 5
	27	Paid the following expenses: advertizing, $150; telephone, $50; truck operating expense (repairs, gas), $1,000; wages, $2,500
	30	Billed $2,000 for repairs completed to date
	30	Transferred the amount for June rent to rent expense
	30	Counted $150 of supplies still on hand (recorded the amount used as an expense)
	30	Paid $30 dividend in cash.

Required:

1. Record the above transactions on a transactions worksheet and calculate the total of each column at the end of June. Use the following headings on your worksheet.

				ASSETS					=	LIABILITY	+	S/H EQUITY		
		Acct.		Ppd.		Un.				Acct.		Share		Ret.
Cash	+	Rec.	+	Exp.	+	Supp.	+	Equip.	=	Pay.	+	Capital	+	Earn.

2. Prepare an income statement and statement of changes in equity for the one-month period ended June 30, 2017 and a statement of financial position at June 30. Identify the revenue earned as "Renovations". Record the expenses on the income statement in alphabetical order.

P 1–7

View Answer

Clarke Limited had the following balances in its accounting equation at the end of September 30, 2017:

ASSETS		=	LIABILITIES		+	S/H EQUITY	
Cash	$14,215		Accounts payable	$ 3,853		Share capital	$?
Accounts receivable	11,785		Loan payable	25,000			
Unused supplies	1,220						
Land	?						
Building	?						
Furniture	8,000						
Equipment	60,000						
Truck	3,210						
	$?			$28,853			$?

Land and building were acquired at a cost of $30,000. It was estimated that one-third of the total cost should be applied to the cost of land. The following transactions were completed during the month of October:

Oct.	2	Paid $110 to satisfy an account payable
	3	Collected in full an account receivable of $670
	4	Purchased office supplies for $400 for credit (record supplies as an asset)
	8	Issued additional share capital for $16,000 cash
	10	Collected $1,000 cash owed by a customer
	11	Purchased equipment for $22,000; made a cash payment of $2,000, the balance to be paid within 30 days
	15	Paid $400 cash to satisfy an account payable
	20	Paid $10,000 in cash in partial settlement of the liability of October 11; took out a long-term loan for the balance
	31	Collected in full an account receivable of $300.

Required:

1. Calculate the missing figures in the September 30 accounting equation.
2. Record the September 30 balances on a transactions worksheet and record the October transactions. Total the columns and ensure that the accounting equation balances.
3. Calculate net income for the month of October.

CHAPTER TWO

The Accounting Process

Chapter 2 looks more closely at asset, liability, and shareholder's equity accounts and how they are affected by double-entry accounting. The transactions introduced in Chapter 1 for Big Dog Carworks Corp. are used to explain "debit" and "credit" analysis. The preparation of a trial balance will be introduced. Additionally, this chapter will demonstrate how transactions are recorded in a general journal and posted to a general ledger. Finally, the concept of the accounting cycle is presented.

Chapter 2 Learning Objectives

LO1 – Describe asset, liability, and equity accounts, identifying the effect of debits and credits on each.

LO2 – Analyze transactions using double-entry accounting.

LO3 – Prepare a trial balance, explain its use, and prepare financial statements from it.

LO4 – Record transactions in a general journal and post them to a general ledger.

LO5 – Define the accounting cycle.

A. Accounts

LO1 – Describe asset, liability, and equity accounts, identifying the effect of debits and credits on each.

Chapter 1 reviewed the analysis of financial transactions and the resulting impact on the accounting equation. We now expand that discussion by introducing the way transaction is recorded in an *account*. An **account** accumulates detailed information regarding the increases and decreases in a specific asset, liability, or shareholders' equity item. Accounts are maintained in a **general ledger**. We now review and expand our understanding of asset, liability, and shareholders' equity accounts.

Asset Accounts

Recall that assets are resources that have future economic benefits for the business. The primary purpose of assets is that they be used in day-to-day operating activities in order to generate revenue either directly or indirectly. A separate account is established for each asset. Examples of asset accounts are reviewed below.

- Cash has future purchasing power. Coins, currency, cheques, and bank account balances are examples of cash.

- Accounts receivable occur when products or services are sold on account(or "on credit"). When a sale occurs on account or on credit, the customer has not paid cash but promises to pay in the future.

- **Notes receivable** are formal promises to pay accounts receivable on a specific future date along with a predetermined amount of interest.

- **Unused supplies** are things like paper, staples, and other business stock to be used in the future. If the supplies are used before the end of the accounting period or immaterial in amounts, they are considered an expense of the period rather than an asset.

- **Merchandize inventory** are items to be sold in the future.

- *Prepaid insurance* represents an amount paid in advance for insurance. The prepaid insurance will be used in the future.

- *Prepaid rent* represents an amount paid in advance for rent. The prepaid rent will be used in the future.

- **Buildings** indirectly help a business generate revenue over future accounting periods since they provide space for day-to-day operating activities.

- **Land** cost must be in a separate account from any building that might be on the land. Land usually has an indefinite useful life.

Liability Accounts

As explained in Chapter 1, a liability is an obligation settled in time through the transfer of economic benefits like cash. One purpose of liabilities is to finance the purchase of assets like land, buildings, and equipment. Liabilities are also used to finance day-to-day operating activities. Examples of liability accounts are reviewed below.

- Accounts payable are debts owed to suppliers for goods purchased or services received as a result of day-to-day operating activities. An example of a service received on credit might be a plumber billing the business for a repair.

- **Wages payable** are wages owed to employees for work performed but not paid at the statement of financial position date.

- **Bank loans** are debts owed to a bank or other financial institution.

- **Unearned revenues** are payments received in advance of the product or service being provided. If a customer pays $1,000 for an automobile repair to be done in the next accounting period, this is recorded as a liability.

Shareholders' Equity Accounts

Chapter 1 explained that shareholders' equity represents the net assets owned by the owners of a corporation. There are five different types of shareholders' equity accounts: share capital, retained earnings, dividends, revenues, and expenses. Share capital represents the investments made by owners into the business and causes shareholders' equity to increase. Retained earnings is the sum of all net incomes earned over the life of the corporation to date, less any dividends distributed to shareholders over the same time period.

Therefore, the Retained Earnings account includes revenues, which cause shareholders' equity to increase, along with expenses and dividends, which cause shareholders' equity to decrease. Figure 2-1 summarizes shareholders' equity accounts.

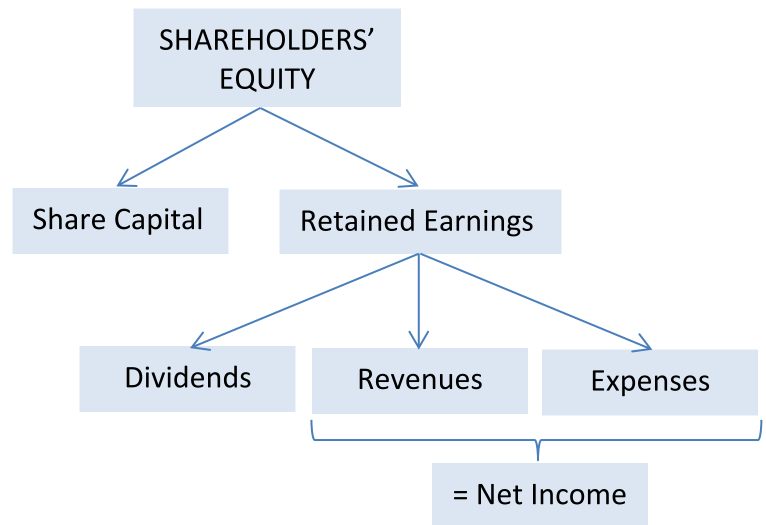


Figure 2-1 Composition of Shareholders' Equity

T-accounts

A simplified account, called a **T-account**, is often used as a learning tool to show increases and decreases in an account. It is called a T-account because it resembles the letter *T*. As shown in the T-account below, the left side records **debit** entries and the right side records **credit** entries.

Account Name	
Debit (always on left)	Credit (always on right)

The *type* of account determines whether an increase or a decrease in a particular transaction is represented by a debit or credit. For financial transactions that affect *assets*, *dividends*, and *expenses,* increases are recorded by debits and decreases by credits. This guideline is shown in the following T-account.

Assets, Dividends, Expenses	
Debits are always increases ↑	Credits are always decreases ↓

For financial transactions that affect *liabilities, share capital,* and *revenues*, increases are recorded by credits and decreases by debits, as follows:

Liabilities, Revenues, Share Capital	
Debits are always decreases ↓	Credits are always increases ↑

	Assets	=	Liabilities	+	S/H Equity
Increases are recorded as:	Debits		Credits		Credits*
Decreases are recorded as:	Credits		Debits		Debits**

* Revenue and share capital transactions cause shareholders' equity to increase, so they are recorded as credits.

**Expense and dividend transactions cause shareholders' equity to decrease, so they are recorded as debits.

The following summary shows how debits and credits are used to record increases and decreases in various types of accounts.

ASSETS DIVIDENDS EXPENSES	LIABILITIES SHARE CAPITAL
Increases are DEBITED Decreases are CREDITED	Increases are CREDITED Decreases are DEBITED

This summary will be used in a later section to illustrate the recording of debits and credits regarding the transactions of Big Dog Carworks Corp. introduced in Chapter 1.

The **account balance** is determined by adding and subtracting the increases and decreases in an account as shown below:

Cash

	Debit	*Credit*
	10,000	4,000
	3,000	2,000
	400	2,400
Balance	5,000	

Accounts Payable

	Debit	*Credit*
	700	5,000
Balance		4,300

The $5,000 debit balance in the Cash account was calculated by adding all the debits and subtracting the credits (10,000 + 3,000 + 400 – 4,000 – 2,000 – 2,400). The $5,000 is recorded on the debit side of the T-account because the debits are greater than the credits. In Accounts Payable, the balance is a $4,300 credit calculated by subtracting the debits from the credits (5,000 – 700).

Notice that Cash shows a debit balance while Accounts Payable shows a credit balance. The Cash account is an asset so its *normal balance* is a debit. A **normal balance** is the side on which increases occur. Accounts Payable is a liability and because liabilities increase with credits, the normal balance in Accounts Payable is a credit as shown in the T-account above.

Chart of Accounts

A business will create a list of accounts called a **chart of accounts** where each account is assigned both a name and a number. A common practice is to have the accounts arranged in a manner that is compatible with the order of their use in financial statements. For instance, Asset accounts may begin with the digit '1', liability accounts with the digit '2', and shareholders' equity accounts (excluding revenues and expenses) with the digit '3'. Each business will have a unique chart of accounts that corresponds to its specific needs. Assume Big Dog Carworks Corp. uses the following numbering system for its accounts:

100-199	Asset accounts
200-299	Liability accounts
300-399	Share capital, retained earnings, and dividend accounts
400-499	Revenue accounts
600-699	Expense accounts

B. Transaction Analysis Using Accounts

LO2 – Analyze transactions using double-entry accounting.

In Chapter 1, transactions for Big Dog Carworks Corp. were analyzed to determine the change in each item of the accounting equation. In this next section, these same transactions will be used to demonstrate double-entry accounting. **Double-entry accounting** means each transaction is recorded in at least two accounts where the total debits always equal the total credits. As a result of double-entry accounting, the sum of all the debit balance accounts in the ledger must equal the sum of all the credit balance accounts. The rule that debits = credits is rooted in the accounting equation:

ASSETS	=	LIABILITIES	+	SHAREHODLERS' EQUITY
Debits	=	Credits	+	Credits

Illustrative Problem—
Double-Entry Accounting and the Use of Accounts

In this section, the following debit and credit summary will be used to record the transactions of Big Dog Carworks Corp. into T-accounts.

ASSETS DIVIDENDS EXPENSES	LIABILITIES SHARE CAPITAL REVENUE
Increases are DEBITED. Decreases are CREDITED.	Increases are CREDITED. Decreases are DEBITED.

Transaction 1

Jan. 1 – Big Dog Carworks Corp. issued 1,000 shares to Bob Baldwin, the only shareholder, for $10,000 cash.

Debit: An asset account, Cash, is increased resulting in a debit.

Cash	
10,000	

Credit: Share Capital, a shareholders' equity account, is increased resulting in a credit.

Share Capital	
	10,000

Transaction 2

Jan. 2 – Borrowed $4,000 from the bank.

Debit: An asset account, Cash, is increased resulting in a debit.

Cash	
4,000	

Credit: A liability account, Bank Loan, is increased resulting in a credit.

Bank Loan	
	4,000

Transaction 3

Jan. 3 – Equipment was purchased for $3,000 cash. In this case, one asset is acquired in exchange for another asset.

Debit: An asset account, Equipment, is increased resulting in a debit.

Equipment	
3,000	

Credit: A liability account, Bank Loan, is increased resulting in a credit.

Bank Loan	
	3,000

Transaction 4

Jan. 3 – A truck was purchased for $8,000; Big Dog paid $1,000 cash and incurred a $7,000 bank loan for the balance. This transaction involves one debit and two credits.

Debit: An asset account, Truck, is increased by a debit.

Truck	
8,000	

Credit: An asset account, Cash, is decreased by a credit.

Cash	
	1,000

Credit: A liability account, Bank Loan, is increased by a credit.

Bank Loan	
	7,000

Transaction 5

Jan. 5 – Big Dog Carworks Corp. paid $2,400 cash for a one-year insurance policy, effective January 1. Because the insurance provides future benefit, it is recorded as an asset until it is used.

Debit: An asset account, Prepaid Insurance, is increased by a debit.

Prepaid Insurance	
2,400	

Credit: An asset account, Cash, is decreased by a credit.

Cash	
	2,400

Transaction 6

Jan. 10 – The corporation paid $2,000 cash to reduce the bank loan.

Debit: A liability account, Bank Loan, is decreased by a debit.

Bank Loan	
2,000	

Credit: An asset account, Cash, is decreased by a credit.

Cash	
	2,000

Transaction 7

Jan. 15 – The corporation received an advance payment of $400 for repair services to be performed as follows: $300 in February and $100 in March. Since the revenue relating to this cash receipt is not earned as of this date, a liability account, Unearned Repair Revenue, is created.

Debit: An asset, Cash, is increased at the time the cash is received by a debit.

Cash	
400	

Credit: a liability account, Unearned Repair Revenue, is credited.

Unearned Repair Revenue	
	400

Transaction 8

Jan. 31 – A total of $10,000 of automotive repair services is performed for customers who paid $7,500 cash. The remaining $2,500 will be paid in 30 days. Two debits are required in this case.

Debit: An asset, Cash, is increased by a debit.

Cash	
7,500	

Debit: Another asset, Accounts Receivable, is increased by a debit.

Accounts Receivable	
2,500	

Credit: A shareholders' equity account, Repair Revenue, is increased by a credit.

Repair Revenue	
	10,000

Transaction 9

Jan. 31 – Operating expenses of $7,100 were paid in cash: rent expense, $1,600; salaries expense, $4,000; and supplies expense of $1,500. $700 for truck operating expenses were incurred on credit. This transaction increases four separate expense accounts and two separate statement of financial position accounts.

Debit: An expense account, Rent Expense is increased by a debit.

Rent Expense	
1,600	

Debit: An expense account, Salaries Expense is increased by a debit.

Salaries Expense	
4,000	

Debit: An expense account, Supplies Expense is increased by a debit.

Supplies Expense	
1,500	

Debit: An expense account, Truck Operating Expense is increased by a debit.

Truck Operating Expense	
700	

Credit: An asset, Cash, is decreased by a credit.

Cash	
	7,100

Credit: A liability, Accounts Payable, is increased by a credit.

Accounts Payable	
	700

Transaction 10

Jan. 31 – Dividends of $200 were paid in cash to the shareholder, Bob Baldwin. Dividends are a distribution of net income, and reduce shareholders' equity.

Debit: The Dividends account is increased by a debit.

Dividends	
200	

Credit: An asset, Cash, is decreased by a credit.

Cash	
	200

After the January transactions of Big Dog Carworks Corp. have been recorded in the T-accounts, each account is totalled and the difference between the debits and credits is calculated, as shown in the following diagram. The numbers in parentheses refer to the transaction numbers used in the preceding section. To prove that the accounting equation is in balance, the account balances for each of assets, liabilities, and shareholders' equity are added. Notice that total assets of $22,100 equal the sum of total liabilities of $10,100 plus shareholders' equity of $12,000.

ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY

Cash

(1)	10,000	(3)	3,000
(2)	4,000	(4)	1,000
(7)	400	(5)	2,400
(8)	7,500	(6)	2,000
		(9)	7,100
		(10)	200
Bal.	6,200		

Accounts Receivable

(8)	2,500		

Prepaid Insurance

(5)	2,400		

Equipment

(3)	3,000		

Truck

(4)	8,000		

Bank Loan

(6)	2,000	(2)	4,000
		(4)	7,000
		Bal.	9,000

Accounts Payable

		(9)	700

Unearned Repair Revenue

		(7)	400

Share Capital

		(1)	10,000

Dividends

(10)	200		

Repair Revenue

		(8)	10,000

Rent Expense

(9)	1,600		

Salaries Expense

(9)	4,000		

Supplies Expense

(9)	1,500		

Truck Operating Expense

(9)	700		

22,100[1] = 10,100[2] + 12,000[3]

[1] 6,200 + 2,500 + 2,400 + 3,000 + 8,000 = 22,100
[2] 9,000 + 700 + 400 = 10,100
[3] 10,000 – 200 + 10,000 – 1,600 – 4,000 – 1,500 – 700 = 12,000

C. The Trial Balance

LO3 – Prepare a trial balance, explain its use, and prepare financial statements from it.

To help prove that the accounting equation is in balance, a trial balance is normally prepared instead of the T-account listing shown in the previous section. A **trial balance** is an internal document that lists all the account balances at a point in time. The total debits must equal total credits on the trial balance. The form and content of a trial balance is illustrated below, using the account numbers, account names, and account balances of Big Dog Carworks Corp. at January 31, 2017. Assume that the account numbers are those assigned by the business.

Big Dog Carworks Corp.
Trial Balance

Acct. No.	*Account*	*Account balances* Debit	Credit
101	Cash	$6,200	
110	Accounts receivable	2,500	
161	Prepaid insurance	2,400	
183	Equipment	3,000	
184	Truck	8,000	
201	Bank loan		$9,000
210	Accounts payable		700
247	Unearned repair revenue		400
320	Share capital		10,000
350	Dividends	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Truck operating expense	700	
		$30,100	$30,100

Double-entry accounting requires that debits equal credits. The trial balance establishes that this equality exists for Big Dog but it does not ensure that each item has been recorded in the proper account. Neither does the trial balance ensure that all items that should have been entered have been entered. In addition, a transaction may be recorded twice. Any or all of these errors could occur and the trial balance would still balance. Nevertheless, a trial balance provides a useful mathematical check before preparing financial statements.

Preparation of Financial Statements

Financial statements for the one-month period ended January 31, 2017 can now be prepared from the trial balance figures.

Big Dog Carworks Corp.
Trial Balance
At January 31, 2017

Acct. No.		*Account Balances* *Debit*	*Credit*
101	Cash	$ 6,200	
110	Accounts receivable	2,500	
161	Prepaid insurance	2,400	
183	Equipment	3,000	
184	Truck	8,000	
201	Bank loan		$ 9,000
210	Accounts payable		700
247	Unearned repair revenue		400
320	Share capital		10,000
350	Dividends	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Truck operating expense	700	
		$30,100	$30,100

Big Dog Carworks Corp.
Income Statement
For the Month Ended Jan. 31, 2017

Revenue		
Repairs		$10,000
Expenses		
Rent	1,600	
Salaries	4,000	
Supplies	1,500	
Truck operating	700	
Total expenses		7,800
Net income		$2,200

First, an income statement is prepared for January. Expenses are deducted from revenue to measure the amount of net income for January.

Second, net income is transferred to the statement of changes in equity as part of retained earnings.

Third, share capital and dividend amounts are transferred to the statement of changes in equity. Dividends reduce retained earnings. They are distributions of net income to owners.

Big Dog Carworks Corp.
Statement Of Changes In Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Balance, January 1, 2017	$ -0-	$ -0-	$ -0-
Shares issued	10,000		10,000
Net income		2,200	2,200
Dividends		(200)	(200)
Balance, January 31, 2017	$10,000	$ 2,000	$12,000

Fourth, the columns are totalled and carried forward to the applicable section of the statement of financial position (see next page).

The asset and liability accounts from the trial balance and the ending balances for share capital and retained earnings on the statement of changes in equity are used to prepare the statement of financial position.

These accounts are used to prepare the statement of financial position.

Big Dog Carworks Corp.
Trial Balance
At January 31, 2017

Acct. No.		*Account Balances* *Debit*	*Credit*
101	Cash	$ 6,200	
110	Accounts receivable	2,500	
161	Prepaid insurance	2,400	
183	Equipment	3,000	
184	Truck	8,000	
201	Bank loan		$ 9,000
210	Accounts payable		700
247	Unearned repair revenue		400
320	Share capital		10,000
350	Dividends	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Truck operating expense	700	
		$30,100	$30,100

Big Dog Carworks Corp.
Statement of Financial Position
At January 31, 2017

Assets		
Cash	$ 6,200	
Accounts receivable	2,500	
Prepaid insurance	2,400	
Equipment	3,000	
Truck	8,000	
Total assets		$22,100
Liabilities		
Bank loan	$ 9,000	
Accounts payable	700	
Unearned repair rev.	400	$10,100
Shareholders' Equity		
Share capital	$10,000	
Retained earnings	2,000	12,000
Total liabilities and shareholders' equity		$22,100

The share capital and retained earnings balances are transferred to the statement of financial position from the statement of changes in equity.

Note the links between financial statements:

The income statement is linked to the statement of changes in equity. Revenues and expenses are reported on the income statement to show the details of net income. Because net income causes shareholders' equity to change, it is then reported on the statement of changes in equity.

The statement of changes in equity is linked to the statement of financial position. The statement of changes in equity shows the details of how shareholders' equity changed during the accounting period. The balances for share capital and retained earnings that appear on the statement of changes in equity are transferred to the shareholders' equity section of the statement of financial position.

The statement of financial position summarizes shareholders' equity. It shows only account balances for share capital and retained earnings. To obtain the details regarding these shareholders' equity accounts, we must look at the income statement and the statement of changes in equity.

D. Using Formal Accounting Records

LO4 – Record transactions in a general journal and post them to a general ledger.

The preceding analysis of financial transactions used T-accounts to record debits and credits. T-accounts will continue to be used for illustrative purposes throughout this book. In actual practice, financial transactions are recorded in a **general journal**.

A general journal is a document that is used to chronologically record a business's debit and credit transactions (see Figure 2-2). It is often referred to as the *book of original entry*. **Journalizing** is the process of recording a financial transaction in the journal. The resulting debit and credit entry recorded in the journal is called a **journal entry**.

A **general ledger** is a record that contains all of a business's accounts. **Posting** is the process of transferring amounts from the journal to the matching ledger accounts. Because amounts recorded in the journal eventually end up in a ledger account, the ledger is sometimes referred to as a *book of final entry*.

Recording Transactions in the General Journal

Each transaction is first recorded in the journal. The January transactions of Big Dog Carworks Corp. are recorded in its journal as shown in Figure 2-2. The journalizing procedure follows these steps (refer to Figure 2-2 for corresponding numbers):

1. The year is recorded at the top and the month is entered on the first line of page 1. This information is repeated only on each new journal page used to record transactions.
2. The date of the first transaction is entered in the second column, on the first line. The day of each transaction is always recorded in this second column.
3. The name of the account to be debited is entered in the description column on the first line. By convention, accounts to be debited are usually recorded before accounts to be credited. The column titled Folio indicates the number given to the account in

the General Ledger. For example, the account number for Cash is 101. The amount of the debit is recorded in the debit column.

4. The name of the account to be credited is on the second line of the description column and is indented about one centimetre into the column. Accounts to be credited are always indented in this way in the journal. The amount of the credit is recorded in the credit column.

5. An explanation of the transaction is entered in the description column on the next line. It is not indented.

6. A line is usually skipped after each journal entry to separate individual journal entries and the date of the next entry recorded. It is unnecessary to repeat the month if it is unchanged from that recorded at the top of the page.

GENERAL JOURNAL Page 1

	Date 2017		Description	Folio	Debit	Credit
1	Jan.	1	Cash	101	10,000	
2			Share Capital	320		10000
			To record share capital issued.			
3		2	Cash	101	4,000	
4			Bank Loan	201		4,000
			To record receipt of bank loan.			
5						
		2	Equipment	183	3,000	
6			Cash	101		3,000
			To record purchase of equipment for cash.			
		3	Truck	184	8,000	
			Bank Loan	201		7,000
			Cash	101		1,000
			To record purchase of a tow truck; paid cash and incurred additional bank loan.			
		5	Prepaid Insurance	161	2,400	
			Cash	101		2,400
			To record payment for one-year			

		insurance policy.			
	10	Bank Loan	201	2,000	
		Cash	101		2,000
		To record payment on bank loan.			
	15	Cash	101	400	
		Unearned Repair Revenue	247		400
		To record receipt of cash for services that will not be performed in January.			
	31	Cash	101	7,500	
		Accounts Receivable	110	2,500	
		Repair Revenue	450		10,000
		To record repair revenue earned in January.			
	31	Rent Expense	654	1,600	
		Salaries Expense	656	4,000	
		Supplies Expense	668	1,500	
		Truck Operating Expense	670	700	
		Cash	101		7,100
		Accounts Payable	210		700
		To record payment of expenses for January.			
	31	Dividends	350	200	
		Cash	101		200
		To record payment of dividends.			

Figure 2–2 January General Journal Transactions for BDCC

Most of Big Dog's entries have one debit and credit. An entry can also have more than one debit or credit, in which case it is referred to as a **compound entry**. The entry dated January 3 is an example of a compound entry.

Posting Transactions to the General Ledger

The **ledger account** is a formal variation of the T-account. The ledger accounts shown in Figure 2-3 are similar to what is used in electronic/digital accounting programs. Ledger accounts are kept in the general ledger. Debits and credits recorded in the journal are transferred or "posted" to appropriate ledger accounts so that the details and balance for each account can be found easily. Figure 2-3 uses the first transaction of Big Dog Carworks Corp. to illustrate how to post amounts and record other information. The posting procedure follows these steps (refer to Figure 2-3 for corresponding numbers):

1. The date is recorded in the appropriate general ledger account.
2. The general journal page number is recorded in the Folio column of each ledger account as a cross reference. In this case, the posting has been made from general journal page 1 so the reference is recorded as "GJ1".
3. The debit and credit amounts from the general journal are posted to the debit or credit columns in the appropriate general ledger account. Here the entry debiting Cash is posted to the Cash ledger account. The entry crediting share capital is then posted to the Share Capital general ledger account.
4. After posting the entry, a balance is calculated in the Balance column of each general ledger account. A notation is recorded in the column to the left of the Balance column indicating whether the balance is a debit (DR) or credit (CR). A brief description can be entered in the Description column of the account but this is usually not necessary since the journal includes a detailed description for each journal entry.

The general journal records each financial transaction in double-entry form. Each side of the entry is posted to a separate ledger account.

GENERAL JOURNAL Page 1

Date 2017		Description	Folio	Debit	Credit
Jan.	1	Cash	101	10,000	
		Share Capital	320		10000
		To record share capital issued.			

2

1

3

The general ledger stores transactions according to account and keeps a running total of each account balance.

GENERAL LEDGER
Cash Acct. No. 101

Date 2017		Description	Folio	Debit	Credit		Balance
Jan.	1		GJ1	10,000		DR	10,000

4

GENERAL LEDGER
Share Capital Acct. No. 320

Date 2017		Description	Folio	Debit	Credit		Balance
Jan.	1		GJ1		10,000	CR	10,000

4

Figure 2–3 Illustration of a Transaction Posted to Two Accounts in the General Ledger

This manual process of recording, posting, summarizing, and preparing financial statements is cumbersome and time-consuming. In virtually all businesses, the use of accounting software automates much of the process. In this and subsequent chapters, either the T-account or the general ledger account format will be used to explain and illustrate concepts.

E. The Accounting Cycle

LO5 – Define the accounting cycle.

In the preceding sections, the January transactions of Big Dog Carworks Corp. were used to demonstrate the steps performed to convert economic data into financial information. This conversion was carried out in accordance with the basic double-entry accounting model. These steps are summarized in Figure 2-4.

Step 1: Transactions are analyzed and journalized.

GENERAL JOURNAL

Date		Description	Folio	Debit	Credit

Step 2: Transactions are posted to the appropriate general ledger accounts.

GENERAL LEDGER

Name of Account Acct. No.

Date		Description	Folio	Debit	Credit	DR CR	Balance

Step 3: A trial balance is prepared, to prove the equality of the debits and credits.

Example Corp.
Trial Balance

Acct. No.	*Account*	*Account Debit*	*Account Credit*
101	Cash	xxx	
110	Accounts receivable	xxx	
201	Bank loan		xxx
	. . .		
		Total	Total

Step 4: Financial statements are prepared from trial balance amounts.

Income Statement
For the Year Ended . . .

Revenue	$xxx
Expenses	(xx)
Net income	$ x

Statement of Financial Position
At . . .

Assets	$xx
Liabilities	x
Shareholders' equity	x
Total liab. and equity	$xx

Figure 2–4 Illustrated Steps in the Accounting Cycle

The sequence just described, beginning with the journalising of the transactions and ending with the communication of financial information in financial statements, is commonly referred to as the

accounting cycle. There are additional steps involved in the accounting cycle. These will be introduced in Chapter 3.

Summary of Chapter 2 Learning Objectives

LO1 – Describe asset, liability, and equity accounts, identifying the effect of debits and credits on each.

Assets are resources that have future economic benefits. Examples are cash, accounts receivable, prepaid expenses, and machinery. Increases in assets are recorded as debits and decreases as credits. Liabilities represent an obligation to pay an asset in the future. Examples include accounts payable and unearned revenues. Inceases in liabilities are recorded as credits and decreases as debits. Shareholders' equity represents the amount of net assets of the corporation that belong to owners. It includes share capital, dividends, revenues, and expenses. Increases in shareholders' equity caused by the issuing shares and earning revenues are recorded as credits. Decreases in shareholders' equity, like paying dividends and incurring expenses, are recorded as debits.

LO2 – Analyze transactions using double-entry accounting.

In double-entry accounting, each transaction is recorded in at least two accounts where the total debits always equal the total credits. The double-entry accounting rule is rooted in the accounting equation: Assets = Liabilities + Shareholders' equity.

LO3 – Prepare a trial balance, explain its use, and prepare financial statements from it.

To help prove the accounting equation is in balance, a trial balance is prepared. The trial balance lists all the account balances at a point in time. The total debits must equal total credits on the trial balance. The trial balance is used to prepare the financial statements.

LO4 – Record transactions in a general journal and post them to a general ledger.

Recording financial transactions was introduced in this chapter using T-accounts. A business actually records transactions in a general journal, a document which chronologically lists each debit and credit journal entry. To summarize the debit and credit entries by account, the entries in the general journal are posted (or transferred) to the general ledger. The account balances in the general ledger are used to prepare the trial balance.

LO5 – Define the accounting cycle.

Analyzing transactions, journalizing them in the general journal, posting from the general journal into the general ledger, preparing the trial balance, and generating financial statements are steps followed each accounting period. These steps form the core of the accounting cycle. Additional steps in the accounting cycle will be introduced in Chapter 3.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. What is an 'account'? How are debits and credits used to record transactions?
2. Why are T-accounts used in accounting?
3. How do debits and credits impact the T-account?
4. What is a chart of accounts?
5. Are increases in shareholders' equity recorded as a debit or credit?
6. Are decreases in shareholders' equity recorded as a debit or credit?
7. Summarize the rules for using debits and credits to record assets, expenses, dividends, liabilities, share capital, and revenues.
8. What is a trial balance? Why is it prepared?
9. How is a trial balance used to prepare financial statements?
10. A general journal is often called a book of original entry. Why?
11. What is a general ledger? Why is it prepared?
12. Explain the posting process.
13. What are the steps in the accounting cycle?

Comprehension Problems

CP 2–1 View Answer

The following T–accounts show the relationship of increases (inc.) and decreases (dec.) to debits and credits:

Transaction	Any Asset		Any Liability		Share Capital		Any Revenue		Any Expense	
	Debit (inc.)	*Credit* (dec.)	*Debit* (dec.)	*Credit* (inc.)	*Debit* (dec.)	*Credit* (inc.)	*Debit* (dec.)	*Credit* (inc.)	*Debit* (dec.)	*Credit* (inc.)
(1)	X					X				
(2)										
(3)										
(4)										
(5)										
(6)										
(7)										
(8)										
(9)										
(10)										
(11)										
(12)										
(13)										

Required: For each of the following transactions, indicate in the chart above with an 'X' which accounts are debited and credited (transaction 1 is done for you):

1. Issued share capital for cash
2. Paid cash for a truck
3. Paid for prepaid insurance
4. Borrowed cash from the bank to purchase machinery
5. Received a bill from a local garage for truck repairs done last week
6. Collected cash for services performed today
7. Billed customers for services performed last week
8. Repaid part of the bank loan
9. Made a deposit for utility services to be used in the future
10. Paid cash for truck operating expenses related to 5. above
11. Received a bill for repair supplies used during the month
12. Made a cash payment to a creditor
13. Received a cash payment to satisfy an amount owed by a customer.

CP 2–2

View Answer

The following list shows totals for all accounts for four different companies: A, B, C, and D. In each case, one amount is omitted.

	A	*B*	*C*	*D*
Cash	$100	$ 72	$?	$ 20
Truck	200	130	71	200
Accounts payable	50	10	5	10
Bank loan	75	?	25	61
Share capital	175	50	100	?
Net income	?	20	6	10

Required: In each case, compute the missing figure.

CP 2–3

View Answer

Required: Record the debit and credit for each of the following transactions (transaction 1 is done for you):

	Assets		=	Liabilities		+	Equity	
	Debit (inc.)	*Credit* (dec.)		*Debit* (dec.)	*Credit* (inc.)		*Debit* (dec.)	*Credit* (inc.)
1. Purchased a $10,000 truck on credit	10,000				10,000			
2. Borrowed $5,000 cash from the bank								
3. Paid $2,000 of the bank loan in cash								
4. Paid $600 in advance for a one–year insurance policy								
5. Received $500 in advance from a renter for next month's rental of office space.								

CP 2–4

View Answer

Required: Record the debit and credit in the appropriate account for each of the following transactions (transaction 1 is done for you):

	Debit	*Credit*
1. Issued share capital for cash	Cash	Share Capital
2. Purchased equipment on credit		
3. Paid for a one–year insurance policy		
4. Billed a customer for repairs completed today		
5. Paid this month's rent		
6. Collected the amount billed in transaction 4 above		
7. Collected cash for repairs completed today		
8. Paid for the equipment purchased in transaction 2 above		
9. Signed a union contract		
10. Collected cash for repairs to be made for customers next month		
11. Transferred this month's portion of prepaid insurance to insurance expense.		

CP 2–5

View Answer

Required: Post the following transactions to the appropriate accounts:

1. Issued share capital for $5,000 cash (posted as an example)
2. Paid $900 in advance for three months' rent, $300 for each month
3. Billed $1,500 to customers for repairs completed today
4. Purchased on credit $2,000 of supplies to be used next month
5. Borrowed $7,500 from a bank
6. Collected $500 for the amount billed in transaction 3
7. Received a $200 bill for electricity used to date (the bill will be paid next month)
8. Repaid $2,500 of the bank loan
9. Used $800 of the supplies purchased in transaction 4
10. Paid $2,000 for the supplies purchased in transaction 4
11. Re. transaction 2: transferred this month's rent to expenses.

Cash	
(1) 5,000	

Bank Loan	

Share Capital	
	(1) 5,000

Repair Revenue	

Accounts Receivable	

Accounts Payable	

Electricity Expense	

Prepaid Rent	

Rent Expense	

Unused Supplies	

Supplies Expense	

CP 2–6

View Answer

Required: Prepare journal entries for each of the following transactions:

1. Issued share capital for $3,000 cash
2. Purchased $2,000 of equipment on credit
3. Paid $400 cash for this month's rent
4. Purchased on credit $4,000 of supplies to be used next month
5. Billed $2,500 to customers for repairs made to date
6. Paid cash for one-half of the amount owing in transaction 4
7. Collected $500 of the amount billed in transaction 5
8. Sold one-half of the equipment purchased in transaction 2 above for $1,000 in cash.

CP 2–7

View Answer

Required: Prepare the journal entries and likely descriptions of the eleven transactions that were posted to the following general ledger accounts for the month ended January 31, 2017. Do not include amounts. For instance, the first entry would be:

1. Cash
    Share Capital
   To record share capital issued.

Cash	
1	2
3	5
11	10

Bank Loan	
	11

Share Capital	
	1

Repair Revenue	
	3
	4

Accounts Receivable	
4	

Accounts Payable	
10	2
	6
	7

Electricity Expense	
7	

Prepaid Expense	
5	9

Rent Expense	
9	

Unused Supplies	
2	8

Supplies Expense	
6	
8	

CP 2–8

View Answer

The following trial balance was prepared from the books of Cross Corporation at its year–end, December 31, 2017. After the company's bookkeeper left, the office staff was unable to balance the accounts or place them in their proper order. Individual account balances are correct, but debits may be incorrectly recorded as credits and vice-versa.

Acct.		*Accounts Balances*	
No.	*Account*	*Debits*	*Credits*
101	Cash	$120,400	
410	Commissions earned	5,000	
320	Share capital		$170,000
210	Accounts payable	30,000	
631	Insurance expense	100	
180	Land		8,000
181	Building		120,000
654	Rent expense		1,000
110	Accounts receivable		26,000
173	Unused supplies	6,000	
668	Supplies expense		300
201	Bank loan		80,000
656	Salaries expense		3,000
669	Telephone expense	200	
	Totals	$161,700	$408,300

Required: Prepare a trial balance showing the balances in the correct column. List the accounts in numerical order. Total the columns and ensure total debits equal total credits. Assume all accounts have normal balances.

CP 2–9

View Answer

The following is Schulte Corporation’s transactions worksheet for the month of March, 2017. Each line represents the dollar amount of a transaction for the month.

	ASSETS				=	LIABILITY	+	EQUITY					
			Acct.		*Ppd.*				*Acct.*		*Share*			
Mar.	*Cash*	+	*Rec.*	+	*Rent*	+	*Equip.*	=	*Pay.*	+	*Capital*	+	*Retained Earnings*	
													Revenue	*Expenses*
1	+5										+5			
2	-3						+6		+3					
3	-2				+2									
15	+4		+2										+6 (Service)	
17	+1						-1							
18									+3					-3 (Supplies)
24			+1										+1 (Service)	
31					-1									-1 (Rent)
31									+2					-2 (Truck Op.)
31	-1								-1					

Required:

1. Prepare journal entries for the ten transactions including the likely description of the transaction. Include account numbers (Folio) using the same general ledger account numbers shown in chapter 2 plus:

Prepaid rent	162
Service revenue	470

2. Post the journal entries to T–accounts and total the accounts.
3. From the T–accounts, prepare a trial balance. List expenses in alphabetical order.
4. Prepare an income statement and statement of changes in equity for the month ended March 31, 2017 and a statement of financial position at March 31, 2017.

CP 2–10

View Answer

The following trial balance was prepared from the books of McQueen Corp. at its year–end, December 31, 2017. The new bookkeeper was unable to balance the accounts or to list them in their proper order. Individual account balances are correct, but debits may be classified as credits and vice-versa.

Acct. No.	*Account*	*Account Balances* *Debit*	*Credit*
210	Accounts payable	$ 13,250	
110	Accounts receivable		$10,000
181	Building	50,000	
320	Share capital	75,000	
101	Cash	15,500	
182	Furniture	6,000	
180	Land		12,000
161	Prepaid insurance		9,600
201	Bank loan		28,000
350	Dividends	2,350	
162	Prepaid rent		8,000
173	Unused supplies	2,800	
	Totals	$164,900	$67,600

Required: Prepare a corrected trial balance showing the accounts in numerical order and balances in the correct column. Total the columns and ensure total debits equal total credits. Assume all accounts have normal balances.

CP 2–11

View Answer

The following general ledger accounts are taken from the books of Collins Corporation at June 30, 2017, the end of the first month of operation.

Cash	
Jn. 1 25,000	Jn. 1 500
20 5,000	15 1,000
	23 4,000
	30 1,000
	30 2,000
	30 16,000

Bank Loan	
	Jn. 30 4,000

Share Capital	
	Jn. 1 25,000

Repair Revenue	
	Jn. 20 5,000
	30 3,000

Prepaid Insurance	
Jn. 1 2,000	Jn. 30 200

Accounts Payable	
	Jn. 27 100

Rent Expense	
Jn. 1 500	

Accounts Receivable	
Jn. 30 3,000	

Salaries Expense	
Jn. 15 1,000	
30 1,000	

Unused Supplies	
Jn. 23 4,000	Jn. 30 200

Supplies Expense	
Jn. 30 200	

Land	
Jn. 30 5,000	

Telephone Expense	
Jn. 27 100	

Building	
Jn. 30 15,000	

Insurance Expense	
Jn. 30 200	

Required:

1. Prepare journal entries to record the June transactions, including likely descriptions of the transactions.
2. Total the T-accounts and prepare a trial balance at June 30.
3. Prepare an income statement and statement of changes in equity for the month ended June 30, 2017 and a statement of financial position at June 30, 2017.

CP 2–12

View Answer

The following trial balance has been prepared from the ledger of Sabre Travels Inc.

Sabre Travels Inc.
Trial Balance
January 31, 2017

	Account Balances	
	Debits	*Credits*
Cash	$ 60	
Accounts receivable	140	
Unused supplies	10	
Equipment	300	
Building	700	
Land	300	
Bank loan		$100
Accounts payable		20
Share capital		250
Fees earned		1,875
Advertizing expense	200	
Repairs expense	100	
Supplies expense	20	
Telephone expense	10	
Utilities expense	5	
Wages expense	400	

Required:

1. Calculate the total debits and credits.
2. Prepare an income statement and statement of changes in equity for the year ended January 31, 2017, and a statement of financial position at January 31. Assume share capital was issued in the prior fiscal year and that opening retained earnings is zero.

CP 2–13

View Answer

The following journal entries were prepared for Elgert Corporation for its first month of operation, January 2017.

			Debit	*Credit*
Jan.	1	Cash	10,000	
		Share Capital		10,000
		To record the shares issued.		
	5	Rent Expense	200	
		Cash		200
		To record the payment of rent for the month.		
	9	Unused Supplies	4,000	
		Cash		4,000
		To record the purchase of supplies.		
	11	Cash	1,300	
		Service Revenue		1,300
		To record service revenue earned.		
	28	Truck Operating Expense	450	
		Accounts Payable		450
		To record truck repairs.		
	30	Salaries Expense	1,800	
		Cash		1,800
		To record payment of salaries for the month.		
	31	Accounts Receivable	1,600	
		Service Revenue		1,600
		To record service revenue earned during the month.		
	31	Supplies Expense	200	
		Unused Supplies		200
		To record supplies used during the month.		
	31	Dividends	50	
		Cash		50

Required:

1. Prepare necessary general ledger T-accounts and post the transactions.
2. Prepare a trial balance at January 31, 2017.
3. Prepare an income statement and statement of changes in equity for the month ended January 31, 2017 and a statement of financial position at January 31, 2017.

Problems

P 2–1

View Answer

The following account balances are taken from the records of Fox Creek Service Limited at October 31, 2017 after its first year of operation:

Accounts Payable	$9,000	Insurance Expense	$ 500
Accounts Receivable	6,000	Repair Revenue	19,000
Advertizing Expense	2,200	Supplies Expense	800
Bank Loan	5,000	Telephone Expense	250
Cash	1,000	Truck	9,000
Share Capital	2,000	Truck Operating Expense	1,250
Commissions Expense	4,500	Wages Expense	4,000
Equipment	7,000	Wages Payable	1,500

Required:

1. Prepare a trial balance at October 31, 2017. General ledger account numbers are not necessary.
2. Prepare an income statement and statement of changes in equity for the year ended October 31, 2017.
3 Prepare a statement of financial position at October 31, 2017.

View Answer

P 2–2

The following ledger accounts were prepared for Davidson Tool Rentals Corporation during the first month of operation ending May 31, 2017. No journal entries were prepared to support of the amounts recorded in the ledger accounts.

Cash

May 1	5,000	May 11	1,000
6	2,000	16	500
10	1,500	20	300
15	1,200	22	600
21	800	28	400
		29	3,500

Accounts Payable

May 22	600	May 11	1,000
		23	150
		24	1,100

Share Capital

		May 1	5,000

Service Revenue

		May 5	3,000
		6	2,000
		18	2,500

Advertizing Expense

May 31	250		

Accounts Receivable

May 5	3,000	May 10	1,500
18	2,500	15	1,200

Commissions Expense

May 24	1,100		

Prepaid Advertizing

May 16	500	May 31	250

Rent Expense

May 28	400		

Unused Supplies

May 20	300	May 30	100

Salaries Expense

May 29	3,500		

Equipment

May 11	2,000	May 21	800

Supplies Expense

May 30	100		

Telephone Expense

May 23	150		

Required:

1. Reconstruct the transactions that occurred during the month and prepare journal entries to record these transactions, including appropriate descriptions. Use the same accounts numbers (Folio) as those used in the chapter plus the following:

Prepaid advertizing	160
Service revenue	470
Advertizing expense	610
Commissions expense	615
Telephone expense	669

   Calculate the balance in each account.
2. Prepare a trial balance in numerical order at May 31, 2017.

P 2–3

View Answer

The following trial balance was prepared for Findlay Consultants Corp. at January 31, 2017, its first month of operation.

Findlay Consultants Corp.
Trial Balance
At January 31, 2017

Acct.		*Account Balances*	
No.	*Account*	*Debits*	*Credits*
210	Accounts payable	$ 9,000	
110	Accounts receivable		
610	Advertizing expense	150	
101	Cash		$ 3,625
320	Share capital	2,000	
183	Equipment		7,000
182	Furniture		4,000
236	Utilities payable		1,000
631	Insurance expense	200	
641	Maintenance expense		250
160	Prepaid advertizing	300	
420	Fees earned	9,500	
654	Rent expense		400
656	Salaries expense		2,600
226	Salaries payable		1,500
668	Supplies expense	350	
669	Telephone expense	125	
184	Truck	9,000	
370	Truck operating expense		750
677	Wages expense		1,500

Required:

1. Prepare a corrected trial balance at January 31. List the accounts in numerical order. Record the amounts in their proper debit or credit positions. Re-add total debits and credits and ensure they are equal. Assume all accounts have normal balances.
2. Prepare an income statement and statement of changes in equity for the month ended January 31, 2017.
3. Prepare a statement of financial position at January 31, 2017.

P 2–4

View Answer

The following balances appeared in the general ledger accounts of Fenton Table Rentals Corporation at April 1, 2017.

Cash	$1,400	Accounts payable	$2,000
Accounts receivable	3,600	Share capital	4,350
Prepaid rent	1,000		
Unused supplies	350		

The following transactions occurred during April:

a. Collected $2,000 cash owed by a customer
b. Billed $3,000 to customers for tables rented to date
c. Paid the following expenses: advertizing, $300; salaries, $2,000; telephone, $100
d. Paid half of the accounts payable owing at April 1
e. Received a $500 bill for April truck repair expenses
f. Collected $2,500 owed by a customer
g. Billed $1,500 to customers for tables rented to date
h. Transferred $500 of prepaid rent to rent expense
i. Counted $200 of supplies on hand at April 30; recorded the amount used as an expense
j. Paid a $100 dividend.

Required:

1. Open general ledger T-accounts for the following and enter the April 1 balances (account numbers are indicated in brackets): Cash (101), Accounts Receivable (110), Prepaid Rent (162), Unused Supplies (173), Accounts Payable (210), Share Capital (320), Dividends (350),Service Revenue (470), Advertizing Expense (610), Rent Expense (654), Salaries Expense ()656, Supplies Expense (668), Telephone Expense (669), and Truck Operating Expense (670).
2. Prepare journal entries to record the April transactions, including general ledger account numbers.
3. Post transactions a through j to the T- accounts.
4. Prepare a trial balance at April 30, 2017.
5. Prepare an interim income statement and statement of changes in equity for the month ended April 30, 2017 and interim statement of financial position at April 30, 2017.

P 2–5

View Answer

The following transactions occurred in Thorn Accounting Services Inc. during August 2017, its first month of operation.

Aug.	1	Issued share capital for $3,000 cash
	1	Borrowed $10,000 cash from the bank
	1	Paid $8,000 cash for a used truck
	4	Paid $600 for a one–year truck insurance policy effective August 1
	5	Collected $2,000 fees in cash from a client for work performed today (recorded as Fees Earned)
	7	Billed $5,000 fees to clients for services performed to date (recorded as fees earned)
	9	Paid $250 for supplies used to date
	12	Purchased $500 of supplies on credit (recorded as unused supplies)
	15	Collected $1,000 of the amount billed on August 7
	16	Paid $200 for advertizing in *The News* during the first two weeks of August
	20	Paid half of the amount owing for the supplies purchased on August 12
	25	Paid cash for the following expenses: rent for August, $350; salaries, $2,150; telephone, $50; truck repairs, $250
	28	Called clients for payment of the balance owing from August 7
	29	Billed $6,000 of fees to clients for services performed to date (recorded as fees earned)
	31	Transferred the amount of August's truck insurance ($50) to insurance expense
	31	Counted $100 of supplies still on hand (recorded the amount used as supplies expense).

Required:

1. Open general ledger T-accounts for the following (account numbers are indicated in brackets): Cash (101), Accounts Receivable (110), Prepaid Insurance (161), Unused Supplies (173), Truck (184), Bank Loan (201), Accounts Payable (210), Share Capital (320), Fees Earned (420), Advertizing Expense (610), Insurance Expense (631), Rent Expense (654), Salaries Expense (656), Supplies Expense (668), Telephone Expense (669), and Truck Operating Expense (670).
2. Prepare journal entries to record the August transactions including general ledger account numbers.
3. Post these entries to the T-accounts. Total each account.
4. Prepare a trial balance at August 31, 2017.

5. Prepare an income statement and statement of changes in equity for the month ended August 31, 2017 and a statement of financial position at August 31, 2017.

P 2–6

View Answer

The following transactions took place in Chan Renovations Corporation during June 2017, its first month of operation.

Jun.	1	Issued share capital for $8,000 cash
	1	Purchased $5,000 of equipment on credit
	2	Collected $600 cash for repairs completed today
	3	Paid $20 for supplies used today
	4	Purchased $1,000 of supplies on credit (recorded as unused supplies)
	5	Billed customers $2,500 for repairs performed to date
	8	Collected $500 of the amount billed on June 5
	10	Paid half of the amount owing for equipment purchased on June 1
	15	Sold excess equipment for $1,000 (its original cost). The buyer will pay this amount in several months. (Recorded as accounts receivable).
	18	Paid for the supplies purchased on June 4
	20	Received a $100 bill for electricity used to date (recorded as utilities expense)
	22	Paid $600 to the landlord for June and July rent (recorded as prepaid rent)
	23	Signed a union contract that will increase wages 5% this year.
	25	Collected $1,000 of the amount billed on June 5
	27	Paid the following expenses in cash: advertizing, $150; telephone, $50; truck operating expense, $1,000; wages, $2,500
	30	Billed customers $2,000 for repairs completed to date
	30	Transferred the amount for June's rent to rent expense ($300)
	30	Counted $150 of supplies still on hand (recorded the amount used as supplies expense).

Required:

1. Open general ledger T-accounts for the following (account numbers are indicated in brackets): Cash (101), Accounts Receivable (110), Prepaid Rent (162), Unused Supplies (172), Equipment (183), Accounts Payable (210), Share Capital (320), Repair Revenue (450), Advertizing Expense (610), Rent Expense (654), Supplies Expense

(668), Telephone Expense (669), Truck Operating Expense (670), Utilities Expense (676), and Wages Expense (677).

2. Prepare journal entries to record the June transactions including general ledger account numbers.
3. Post the June entries to the T-accounts.
4. Prepare a trial balance at June 30, 2017
5. Prepare an income statement and statement of changes in equity for the month ended June 30, 2017 and a statement of financial position at June 30, 2017.

CHAPTER THREE

Financial Accounting and the Use of Adjusting Entries

Chapters 1 and 2 described the recording and reporting of accounting transactions in detail. However, the account balances used to prepare the financial statements in these previous chapters did not necessarily reflect correct amounts. Chapter 3 introduces the concept of *adjusting entries* and how these satisfy the *matching principle*. This enables revenues and expenses to be reported in the correct accounting period. The preparation of an adjusted trial balance is discussed, as well as its use in completing financial statements. At the end of the accounting period, after financial statements have been prepared, it is necessary to close temporary accounts to retained earnings. This process is introduced in this chapter, as is the preparation of a post-closing trial balance. The accounting cycle – the steps performed each accounting period to produce financial statements – is also reviewed.

Chapter 3 Learning Objectives

LO1 – Explain how adjusting entries match revenues and expenses to the appropriate time period.

LO2 – Explain the use of and prepare the adjusting entries required for prepaid expenses, depreciation, unearned revenues, accrued revenues, and accrued expenses.

LO3 – Prepare an adjusted trial balance and use it to prepare financial statements.

LO4 – Identify and explain the steps in the accounting cycle.

LO5 – Explain the purpose of closing entries and use closing entries to prepare a post-closing trial balance.

A. The Operating Cycle

LO1 – Explain how adjusting entries match revenues and expenses to the appropriate time period.

Financial transactions occur continuously during an accounting period as part of a sequence of operating activities. For Big Dog Carworks Corp., this sequence of operating activities takes the following form:

1. Operations begin with some cash on hand.
2. Cash is used to purchase supplies and to pay expenses.
3. Revenue is earned as repair services are completed for customers.
4. Cash is collected from customers.

This cash-to-cash sequence of transactions is commonly referred to as the **operating cycle** and is illustrated in Figure 3–1.

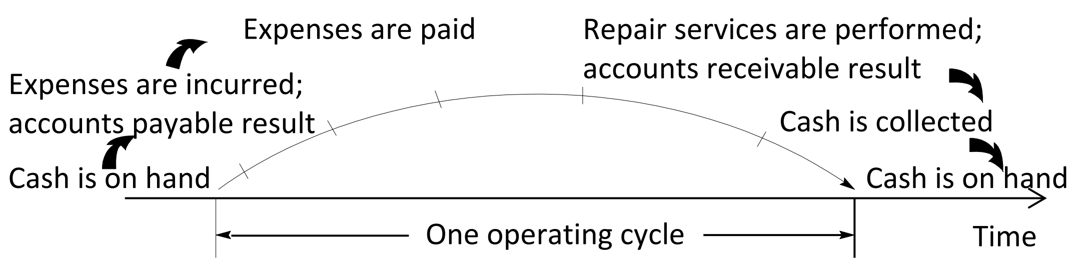


Figure 3–1 One Operating Cycle

Depending on the type of business, an operating cycle can vary in duration from short, such as one week (for example, a small grocery store) to much longer, such as one year (for example, a large construction company). Therefore, an annual accounting period could involve multiple operating cycles as shown in Figure 3-2.

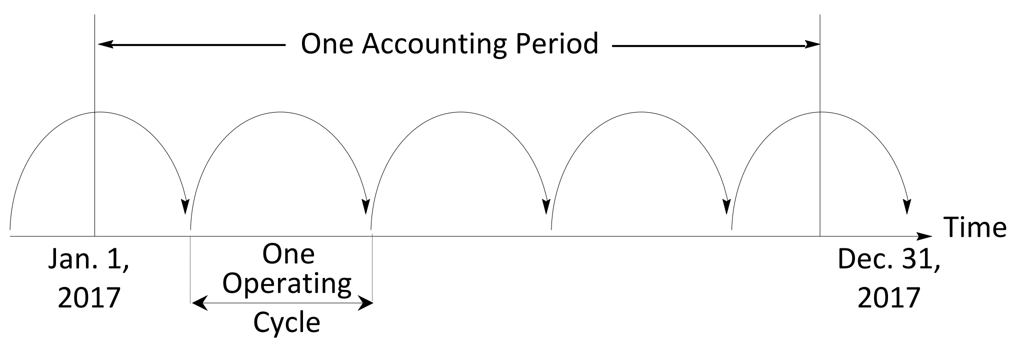


Figure 3–2 Operating Cycles Within an Annual Accounting Period

Notice that not all of the operating cycles in Figure 3-2 are completed within the accounting period. Since financial statements are prepared at specific time intervals to meet the GAAP requirement of timeliness, it is necessary to consider how to record and report transactions related to the accounting period's incomplete operating cycles. There are two criteria. These are discussed in the following section.

Revenue Recognition Principle in More Detail

GAAP provide guidance about when financial transactions should be recognized in financial statements. At this point in our studies, a financial transaction is recognized when it meets two criteria:

1. It is probable that any future economic benefit (usually cash) associated with the transaction will be received or paid at some time in the future; and
2. The value of the transaction can be reliably measured.

Revenue Recognition Illustrated

Revenue recognition is the process of recording revenue in the accounting period in which it was earned; this is not necessarily when cash is received. Most corporations assume that revenue has been earned at a consistent point in the accounting cycle. For instance, it is often convenient to recognize revenue at the point when a sales invoice has been sent to a customer and the related goods have been shipped or services performed. This point can occur before receipt of cash from a customer, creating an asset called *Accounts Receivable*. This concept was illustrated in Transaction 8 in Chapter 2. The general form of the journal entry is as follows, based on the format for entries in the general journal discussed in the prior chapter:

2017			
Date	Accounts Receivable	XX	
	Revenue		XX
	To record revenue earned on credit; cash will be paid at a later date.		

When cash payment is later received, the asset *Accounts Receivable* is exchanged for the asset *Cash* and the following entry is made:

2017			
Date	Cash	XX	
	Accounts Receivable		XX
	To record cash received from credit customer.		

Revenue is recognized in the first entry (the credit to revenue), prior to the receipt of cash. The second entry has no effect on revenue.

When cash is received at the same time that revenue is recognized, the following entry is made:

2017			
Date	Cash	XX	
	Revenue		XX
	To record cash received from customer at time of sale.		

Transaction 8 in Chapter 2 illustrated these two possibilities.

When a cash deposit or advance payment is obtained *before* revenue is earned, a liability called Unearned Revenue is recorded as follows:

2017			
Date	Cash	XX	
	Unearned Revenue		XX
	To record cash received from customer for work to be done in the future.		

Transaction 7 in Chapter 2 illustrated this. There is no effect on the income statement at this point. Revenue is recognized only when the services have been performed.

At that time, the following entry is made:

2017			
Date	Unearned Repair Revenue	XX	
	Repair Revenue		XX
	To record the earned portion of Unearned Revenue.		

This entry reduces the unearned revenue account by the amount of revenue earned. At this point, revenue is recognized in the income statement account called Repair Revenue.

The matching of revenue to a particular time period, regardless of when cash is received, is an example of *accrual accounting***.** Accrual accounting is the process of recognizing revenues when earned and expenses when incurred regardless of when cash is exchanged. Accrual accounting is an important generally accepted accounting principle. It allows revenue and expenses to be matched to the applicable time period, regardless of when cash receipts or outlays occur. Recognition of expenses is discussed in the next section.

Expense Recognition Illustrated

In a business, costs are incurred continuously. To review, a cost is recorded as an asset if it will be incurred in producing revenue in future accounting periods. A cost is recorded as an expense if it will be used or consumed during the current period to earn revenue. This distinction between types of cost outlays is illustrated in Figure 3–3.

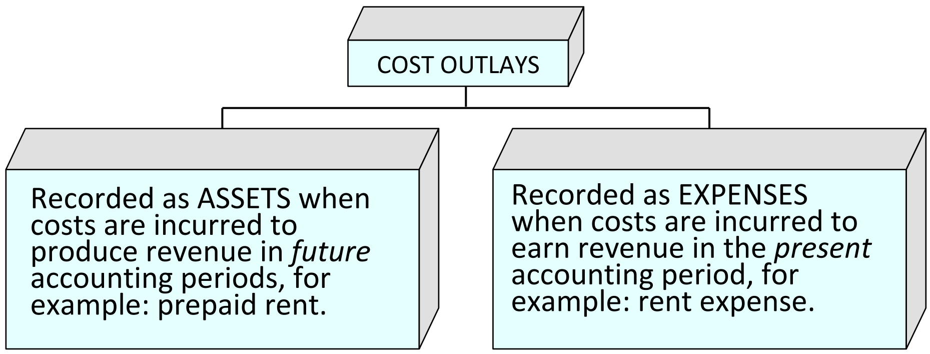


Figure 3–3 The Interrelationship Between Assets and Expenses

In the previous section regarding revenue recognition, journal entries illustrated three scenarios where revenue was recognized before, at the same time as, and after cash was received. Similarly, expenses can be incurred before, at the same time as, or after cash is paid out. An example of when expenses are incurred before cash is paid occurs when the utilities expense for January is not paid until February. In this case, an account payable is created in January as follows:

2017			
Date	Utilities Expense	XX	
	Accounts Payable (or Utilities Payable)		XX
	To record January utilities expense to be paid in February.		

The utilities expense is appropriately reported in the January income statement. When the January utilities are paid with cash in February, the following is recorded:

2017			
Date	Accounts Payable (or Utilities Payable)	XX	
	Cash		XX
	To record payment in February of utilities used in January.		

This entry has no effect on expenses reported on the February income statement, since these were reported on the January income statement.

Expenses can also be recorded at the same time that cash is paid. For example, if salaries for January are paid on January 31, the entry on January 31 is:

2017			
Jan. 31	Salaries Expense	XX	
	Cash		XX
	To record payment of January salaries.		

As a result of this entry, salaries expense is reported on the January income statement when cash is paid. Transaction 9 in Chapter 2 illustrated these two options.

Finally, a cash payment can be made *before* the expense is incurred, such as insurance paid in advance. A prepayment of insurance creates an asset *Prepaid Insurance* and is recorded as:

2017			
Date	Prepaid Insurance	XX	
	Cash		XX
	To record payment of insurance in advance.		

Transaction 5 in Chapter 2 illustrated this. As the prepaid insurance benefit is used up, the appropriate expense is reported on the income statement by following entry:

2017			
Date	Insurance Expense	XX	
	Prepaid Insurance		XX
	To record the expiry of Prepaid Insurance.		

The preceding examples illustrate how to *match* expenses to the appropriate accounting period. The **matching principle** requires that expenses be reported in the same period as the revenues they helped generate. That is, expenses are reported on the income statement: a) when related revenue is recognized, or b) during the appropriate time period, regardless of when cash is paid.

To ensure the recognition and matching of revenues and expenses to the correct accounting period, account balances must be reviewed and adjusted prior to the preparation of financial statements. This is the topic of the next section.

B. Adjusting Entries

LO2 – Explain the use of and prepare the adjusting entries required for prepaid expenses, depreciation, unearned revenues, accrued revenues, and accrued expenses.

At the end of an accounting period, before financial statements can be prepared, the accounts must be reviewed for potential adjustments. This review is done by using the **unadjusted trial balance.** The trial balance of Big Dog Carworks Corp. at January 31 was prepared in Chapter 2 and is reproduced in Figure 3-4 below. It is an unadjusted trial balance because the accounts have not yet been updated for accruals and other adjustments. We will use this trial balance to illustrate how adjustments are identified and recorded.

Big Dog Carworks Corp.
Unadjusted Trial Balance
At January 31, 2017

Acct. No.	*Account*	*Balance Debit*	*Balance Credit*
101	Cash	$6,200	
110	Accounts receivable	2,500	
161	Prepaid insurance	2,400	
183	Equipment	3,000	
184	Truck	8,000	
201	Bank loan		$9,000
210	Accounts payable		700
247	Unearned revenue		400
320	Share capital		10,000
350	Dividends	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Truck operating expense	700	
		$30,100	$30,100

Figure 3–4 Unadjusted Trial Balance of Big Dog Carworks Corp. at January 31, 2017

Adjustments are recorded with **adjusting entries.** Their purpose is to ensure both the statement of financial position and the income statement more accurately represent financial information. Adjusting entries help satisfy the matching principle.

There are five types of adjusting entries, each of which will be discussed in the following sections.

1. Adjust prepaid assets;
2. Adjust unearned liabilities;
3. Adjust plant and equipment assets;
4. Adjust accrued revenues; and
5. Adjust accrued expenses

An **accrued revenue** is income that has been earned but has not yet been collected or recorded. An **accrued expense** is an expense that has been incurred but has not yet been paid or recorded.

Adjusting Prepaid Asset Accounts

An asset or liability account requiring adjustment at the end of an accounting period is referred to as a **mixed account** because it includes both a statement of financial position portion and an income statement portion. The income statement portion must be removed from the statement of financial position account by an adjusting entry.

Refer to Figure 3-4 which shows an unadjusted balance in prepaid insurance of $2,400. Recall from Chapter 2 that Big Dog paid for a 12-month insurance policy that went into effect on January 1 (transaction 5).

The unadjusted trial balance shows the following balance in the Prepaid Insurance account:	The balance resulted when the journal entry below was recorded:

Prepaid Insurance	
2,400	

Prepaid Insurance	2,400	
Cash		2,400

At January 31, one month or $200 of the policy has expired (been used up) calculated as $2,400/12 months = $200.

The adjusting entry on January 31 to transfer $200 out of prepaid insurance and into insurance expense is:

(a)

2017			
Jan. 31	Insurance Expense	200	
	Prepaid Insurance		200
	To adjust for the use of one month of Prepaid Insurance.		

As shown below, the balance remaining in the Prepaid Insurance account is $2,200 after the adjusting entry is posted. The $2,200 balance represents the unexpired asset that will benefit future periods, namely, the 11 months from February to December, 2017. The $200 transferred out of prepaid insurance is posted as a debit to the Insurance Expense account to show how much insurance has been used during January.

Prepaid Insurance	
2,400	
	200 →
Bal. 2,200	

The asset account, Prepaid Insurance, is decreased by the $200 of insurance coverage that expired during January.

Insurance Expense	
→ 200	

An expense account, Insurance Expense, is increased by the benefit used up in January.

If the adjustment was not recorded, assets on the statement of financial position would be overstated by $200 and expenses would be understated by the same amount on the income statement.

Adjusting Unearned Liability Accounts

Recall from Chapter 2 (Transaction 7) that on January 15, Big Dog received a $400 cash payment in advance of services being performed: $300 for January and $100 for February.

The unadjusted trial balance shows the following in the Unearned Repair Revenue account:

Unearned Repair Revenue	
	400

The receipt of the $400 advance payment was recorded as follows:

Cash	400	
Unearned Repair Rev.		400

This advance payment was originally recorded as unearned revenue, since the cash was received *before* repair services were performed. Assume now that at January 31, $300 of the $400 unearned amount has been earned. Therefore, $300 must be transferred from unearned repair revenue into repair revenue.

The adjusting entry at January 31 is:

(b)

2017			
Jan. 31	Unearned Repair Revenue	300	
	Repair Revenue		300
	To adjust for repair revenue earned.		

After posting the adjustment, the $100 remaining balance in unearned repair revenue ($400 – $300) represents the amount at the end of January that will be earned in February.

Unearned Repair Revenue	
	400
300	
	100 Bal.

A liability account, unearned repair revenue, is decreased by the $300 adjustment.

Repair Revenue	
	10,000
	300
	10,300 Bal.

A revenue account, repair revenue, is increased by the $300 adjustment.

If the adjustment was not recorded, unearned repair revenue would be overstated (too high) by $300 causing liabilities on the statement of financial position to be overstated. Additionally, revenue would be understated (too low) by $300 on the income statement.

Adjusting Plant and Equipment Accounts

Plant and equipment assets, also known as **long-lived assets**, are expected to generate revenues over the current and future accounting periods because they are used to produce goods, supply services, or used for administrative purposes. The truck and equipment purchased by Big Dog Carworks Corp. in January are examples of assets that provide economic benefits for more than one accounting period. Because of this, their costs also must be spread over the same time period, or **useful life**. Useful life is an estimate of how long the asset will be used to produce benefits for the business. This is done to satisfy the matching principle. For example, the $100,000 cost of a machine expected to be used over five years is not expensed entirely in the year of purchase because the benefits it provides will last for several years. Immediately expensing the purchase would cause expenses to be overstated in Year 1 and understated in Years 2, 3, 4, and 5. More appropriately, the $100,000 cost should be spread over the asset's five-year useful life.

The process of allocating the cost of a long-lived asset over the period of time it is expected to be used is called **depreciation**. Various depreciation methods and considerations are discussed in a later chapter.

For our purposes here, the benefit of plant and equipment that is used up each month will be calculated as its cost divided by its estimated useful life**,** calculated in months.

Let's work through two examples to demonstrate depreciation adjustments. Recall that in January, BDCC purchased two assets – equipment and a truck. Assume that they are considered long-lived asset because they have an estimated useful life greater than one year. The equipment was purchased for $3,000 (Transaction 3, Chapter 2). If its actual useful life is 10 years (120 months), monthly depreciation expense is $25, calculated as:

$$\frac{\text{Cost}}{\text{Estimated Useful Life}} = \frac{\$3{,}000}{120 \text{ months}} = \$25/\text{month}$$

The following adjusting entry is made in the records of BDCC on January 31:

(c)

2017			
Jan. 31	Depreciation Expense – Equipment	25	
	Accumulated Depreciation – Equipment		25
	To record one month of depreciation expense on the equipment ($3,000/120 months).		

Notice that the credit side of the entry is not made to the Equipment account. Rather, a **contra account** called "Accumulated Depreciation – Equipment" is used. A contra account is a general ledger account that is related to another account (in this case, Equipment). It has a credit balance, which is subtracted from the debit balance of its related account on the financial statements. **Accumulated depreciation** is a contra account that records the amount of a particular asset's cost that has been expensed since it was put into use. The original cost of the long-lived asset needs to be maintained in the accounting records in case it is sold. Maintaining a separate accumulated depreciation contra account allows this original cost to be retained in the records.

When this adjusting entry is posted, the accounts appear as follows:

Equipment		Accumulated Depreciation – Equipment		Depreciation Expense – Equipment	
3,000			25	25	

The Equipment account remains unchanged by the adjusting entry.	A contra account, accumulated depreciation, is increased by $25.	Depreciation expense is increased by $25, the amount of the equipment's cost that has been allocated to expense.

For financial statement reporting, the asset and contra asset accounts are combined. This **carrying amount** or **net book value** of the equipment on the statement of financial position is shown as $2,975 ($3,000 – $25) at January 31, like this:

Equipment	3,000
Acc. Dep. – Equip.	(25)
Carrying amount	2,975

Recall that BDCC also purchased a truck for $8,000 during January (Transaction 4, Chapter 2). Assume the truck has an estimated useful life of 80 months. At January 31, one month of the truck cost has expired. Depreciation is calculated as:

$$\frac{\text{Cost}}{\text{Estimated Useful Life}} = \frac{\$8{,}000}{80 \text{ months}} = \$100/\text{month}$$

The adjusting entry recorded on January 31 is:

(d)

2017			
Jan. 31	Depreciation Expense, Truck	100	
	Accumulated Depreciation, Truck		100
	To record one month of depreciation expense on the truck ($8,000/80 months).		

When the adjusting entry is posted, the accounts appear as follows:

Truck		Accumulated Depreciation - Truck		Depreciation Expense - Truck	
8,000			100	100	

The Truck account remains unchanged by the adjusting entry.	A contra account, accumulated depreciation, is increased by $100.	Depreciation expense is increased by $100, the amount of the truck's cost that has been allocated to expense.

The value of the truck on the statement of financial position at January 31 is shown as $7,900 ($8,000 – $100), like this:

Truck	8,000
Acc. Dep. – Truck.	(100)
Carrying amount	7,900

Although land is a long-lived asset, it is not depreciated because its benefits do not decrease over time. Therefore, land is often referred to as a *non-depreciable asset*.

Adjusting for Accrued Revenues and Expenses

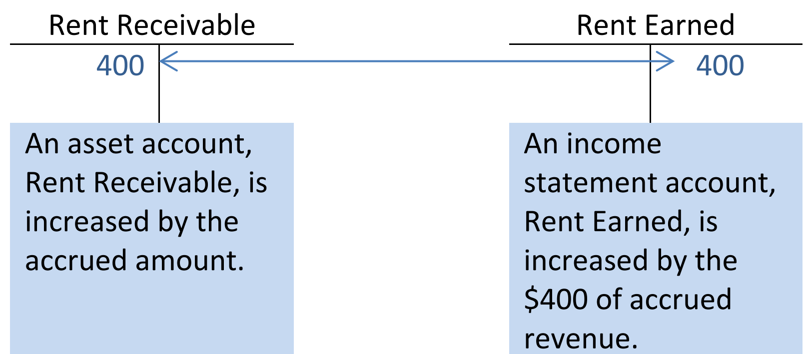
Some revenues and expenses increase as time passes and are therefore said to *accrue*. Accrued revenues and accrued expenses are items that need to be reported in the income statement for a certain time period. However, they are not recognized by the accounting system until they are received or paid in cash, because there are no source documents like sales invoices or purchase invoices to trigger their recording. Often these types or revenue and expenses need to be recognized earlier in the accounting records. This is done by adjusting entries. Common types of accrued revenues are rent and interest from investments. Common expenses are interest on debt, salaries, and income taxes.

Accrued revenues are revenues that have been earned but not yet collected or recorded. Assume that BDCC has rented out part of the building in which it operates to another business (this is often called a *sublet*) as of January 1, 2017. The rent is $400 per month. If the rent has not been paid to BDCC by January 31, and an accrued revenue amount needs to be recorded, as follows:

(e)

2017			
Jan. 31	Rent Receivable	400	
	Rent Earned		400
	To record January rent from sublet.		

When the adjusting entry is posted, the accounts appear as follows:



In this way, rent revenue would be appropriately reported in the January income statement. If the adjustment was not recorded, assets on the statement of financial position would be understated by $200 and revenues would be understated by the same amount on the income statement.

If the rent payment is received on February 3, the entry to record this would be:

2017			
Feb. 3	Cash	400	
	Rent Receivable		400
	To record receipt of January rent from sublet.		

Another example of accrued revenue is interest receivable. Assume that cash on deposit with the bank pays interest every three months and that the interest revenue earned on the account is $25 at January 31. An accrued revenue amount needs to be recorded at January 31, as follows:

(f)

2017			
Jan. 31	Interest Receivable	25	
	Interest Earned		25
	To record January accrued revenue on chequing account.		

When the adjusting entry is posted, the accounts appear as follows:

Interest Receivable			Interest Earned	
25				25

An asset account, Interest Receivable, is increased by the accrued amount.

An income statement account, Interest Earned, is increased by the $25 of accrued revenue.

Accrued expenses are expenses that have been incurred but not yet paid or recorded. Like accrued revenue, these items are not usually recorded in the accounting records because they are not recorded on source documents like a sales invoice or a bill from a supplier. An example of an accrued expense in the case of BDCC is interest expense. Interest expense arises when a business borrows money from a financial institution like a bank. Interest accrues (increases) daily but is paid only at certain time, perhaps monthly or every six months.

For Big Dog Carworks Corp., the January 31, 2017 unadjusted trial balance shows a $9,000 bank loan balance. Recall from Chapter 2 that this consists of a $4,000 loan on January 2 (Transaction 2), an additional $7,000 loan on January 3 (Transaction 3), and a repayment of $2,000 on January 10 (Transaction 6). No interest has been paid on this loan as of January 31. However, interest has been accruing on the loans since they were received. The interest needs to be recorded by means of adjusting entry.

Assume that interest expense amounts to $18. BDCC's adjusting entry to accrue this expense on January 31 is:

(g)

2017			
Jan. 31	Interest Expense	18	
	Interest Payable		18
	To record January accrued interest on the bank loan.		

This adjusting entry enables BDCC to include the interest expense on the January income statement even though interest has not yet been paid. The entry also creates a payable that will be reported as a liability on the statement of financial position at January 31.

When the adjusting entry is posted, the accounts appear as:

Interest Payable			Interest Expense	
	18	⟵⟶	18	

Interest payable (a liability) is established to record the credit.

An expense account is established to record the debit.

Accruing Salaries Expense

Transaction 9 in Chapter 2 included a $4,000 cash payment for salaries expense. ("Wages" are similar expenses, paid to hourly workers.) Let's assume that the payments were for work performed by staff only until January 28. There are three days of salary that have not been paid to January 31. Assume this amounts to $150. This additional accrued expense for work done on January 28, 29, 30, and 31 needs to be recorded to appropriately match the salaries expense to the month of January. This is the adjusting entry:

	(h)		
2017			
Jan. 31	Salaries Expense	150	
	Salaries Payable		150
	To accrue salaries for January 29-31.		

This entry enables the company to include in expense all salaries earned by employees, even though these amounts will not be paid in cash until the next pay period in February. The entry creates an accrued liability for an expense incurred during one accounting period (January) but paid in another accounting period (February).

When the adjusting entry is posted, the accounts appear as follows:

Salaries Payable			Salaries Expense	
			4,000	
	150	⟵⟶	150	
			Bal. 4,150	

A liability, Salaries Payable, is created at January 31.

An additional $150 expense is recorded for the period ended January 31.

Accruing Income Taxes Expense

Corporate income taxes expense also needs to be accrued for BDCC. In most jurisdictions, a corporation is taxed as an entity separate from its shareholders. For simplicity, assume BDCC's income tax expense for January 2017 is $500 and that this amount will be paid after the company's year-end, December 31. The adjusting entry for January is:

(i)

2017			
Jan. 31	Income Tax Expense	500	
	Income Tax Payable		500
	To adjust for January accrued income taxes.		

When the adjusting entry is posted, the accounts appear as follows:

Income Tax Payable			Income Tax Expense	
	500		500	

A liability, Income Tax Payable, is created at January 31.

Income Taxes Expense, an income statement account, is increased.

This adjusting entry enables the company to match the income tax expense accrued in January to the income earned during the same month.

C. The Adjusted Trial Balance

LO3 – Prepare an adjusted trial balance and use it to prepare financial statements.

In the last section, adjusting entries were recorded and posted. As a result, some account balances reported on the January 31, 2017 unadjusted trial balance in Figure 3-4 have changed. Recall that an unadjusted trial balance reports account balances *before* adjusting entries have been recorded and posted. An **adjusted trial balance** reports account balances *after* adjusting entries have been recorded and posted. Figure 3-5 shows the unadjusted trial balance, adjustments a through i discussed above, and the adjusted trial balance for BDCC at January 31, 2017. Changes are shown in blue.

Big Dog Carworks Corp.
Adjusted Trial Balance
January 31, 2017

Acct. No.	Account	*Unadjusted trial balance*		*Adjustments*				*Adjusted trial balance*	
		Debit	*Credit*		*Debit*		*Credit*	*Debit*	*Credit*
101	Cash	$ 6,200						$6,200	
110	Accounts receivable	2,500						2,500	
116	Interest receivable			(f)	25			25	
125	Rent receivable			(e)	400			400	
161	Prepaid insurance	2,400				(a)	200	2,200	
183	Equipment	3,000						3,000	
184	Truck	8,000						8,000	
193	Acc. dep. – equipment					(c)	25		$ 25
194	Acc. dep. – truck					(d)	100		100
201	Bank loan		$9,000						9,000
210	Accounts payable		700						700
222	Interest payable					(g)	18		18
226	Salaries payable					(h)	150		150
247	Unearned repair revenue		400	(b)	300				100
260	Income taxes payable					(i)	500		500
320	Share capital		10,000						10,000
350	Dividends	200						200	
430	Interest earned					(f)	25		25
440	Rent earned					(e)	400		400
450	Repair revenue		10,000			(b)	300		10,300
623	Dep. exp. – equipment			(c)	25			25	
624	Dep. exp. – truck			(d)	100			100	
631	Insurance expense			(a)	200			200	
632	Interest expense			(g)	18			18	
654	Rent expense	1,600						1,600	
656	Salaries expense	4,000		(h)	150			4,150	
668	Supplies expense	1,500						1,500	
670	Truck operating expense	700						700	
830	Income taxes expense			(i)	500			500	
		$30,100	30,100		$1,718		$1,718	$31,318	$31,318

Figure 3–5 BDCC's January 31, 2017 Adjusted Trial Balance

Financial statements can now be prepared using the adjusted trial balance, in the same manner as shown in Chapter 2.

Big Dog Carworks Corp.
Trial Balance
At January 31, 2017

Acct. No.	Account	Account Balances Debit	Credit
101	Cash	$ 6,200	
110	Accounts receivable	2,500	
116	Interest receivable	25	
125	Rent receivable	400	
161	Prepaid insurance	2,200	
183	Equipment	3,000	
184	Truck	8,000	
193	Acc. dep. – equipment		$ 25
194	Acc. dep. – truck		100
201	Bank loan		9,000
210	Accounts payable		700
222	Interest payable		18
226	Salaries payable		150
247	Unearned repair revenue		100
260	Income taxes payable		500
320	Share capital		10,000
350	Dividends	200	
430	Interest earned		25
440	Rent earned		400
450	Repair revenue		10,300
623	Dep. expense – equipment	25	
624	Dep. expense – truck	100	
631	Insurance expense	200	
632	Interest expense	18	
654	Rent expense	1,600	
656	Salaries expense	4,150	
668	Supplies expense	1,500	
670	Truck operating expense	700	
830	Income taxes expense	500	
		$31,318	$31,318

The income statement is prepared first, followed by the statement of changes in equity.

Big Dog Carworks Corp.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Interest	$ 25	
Rent	400	
Repairs	10,300	$10,725
Expenses		
Dep. – equip.	25	
Dep. – truck	100	
Insurance	200	
Interest	18	
Rent	1,600	
Salaries	4,150	
Supplies	1,500	
Truck operating	700	
Income taxes	500	8,793
Net income		$1,932

Big Dog Carworks Corp.
Statement Of Changes In Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Balance at January 1, 2017	$ -0-	$ -0-	$ -0-
Shares issued	10,000		10,000
Net income		1,932	1,932
Dividends		(200)	(200)
Balance at January 31, 2017	$10,000	$ 1,732	$11,732

The statement of financial position can be prepared once the statement of changes in equity is complete.

Big Dog Carworks Corp.
Trial Balance
At January 31, 2017

Acct. No.	Account	Debit	Credit
101	Cash	$ 6,200	
110	Accounts receivable	2,500	
116	Interest receivable	25	
125	Rent receivable	400	
161	Prepaid insurance	2,200	
183	Equipment	3,000	
184	Truck	8,000	
193	Acc. dep. – equipment		$ 25
194	Acc. dep. – truck		100
201	Bank loan		9,000
210	Accounts payable		700
222	Interest payable		18
226	Salaries payable		150
247	Unearned repair revenue		100
260	Income taxes payable		500
320	Share capital		10,000
350	Dividends	200	
430	Interest earned		25
440	Rent earned		400
450	Repair revenue		10,300
623	Dep. expense – equipment	25	
624	Dep. expense – truck	100	
631	Insurance expense	200	
632	Interest expense	18	
654	Rent expense	1,600	
656	Salaries expense	4,150	
668	Supplies expense	1,500	
670	Truck operating expense	700	
830	Income taxes expense	500	
		$30,318	$30,318

Big Dog Carworks Corp.
Balance Sheet
At January 31, 2017

Assets		
Cash		$6,200
Accounts receivable		2,500
Interest receivable		25
Rent receivable		400
Prepaid insurance		2,200
Equipment	3,000	
Acc. Dep. – Equip.	(25)	2,975
Truck	8,000	
Acc. Dep. – Truck	(100)	7,900
Total assets		$22,200
Liabilities		
Bank loan	9,000	
Accounts payable	700	
Interest payable	18	
Salaries payable	150	
Unearned repair rev.	100	
Income taxes pay.	500	10,468
Shareholders' Equity		
Share capital	10,000	
Retained earnings	1,732	11,732
Total liabilities and shareholders' equity		$22,200

Equipment and truck are shown net of depreciation.

These amounts are transferred from the Statement of Changes in Equity.

D. The Accounting Cycle

LO4 – Identify and explain the steps in the accounting cycle.

Recall from Chapter 2 that the accounting cycle is the process used to convert economic data into financial statement information using the double-entry accounting model. The complete accounting cycle consists of eight steps:

Step 1: Transactions are analyzed and recorded in the general journal.

Step 2: The journal entries in the general journal are posted to accounts in the general ledger.

Step 3: An unadjusted trial balance is prepared to ensure total debits equal total credits.

Step 4: The unadjusted account balances are analyzed and adjusting entries are journalized in the general journal and posted to the general ledger.

Step 5: An adjusted trial balance is prepared to prove the equality of debits and credits.

Step 6: The adjusted trial balance is used to prepare financial statements.

Step 7: Closing entries are journalized and posted.

Step 8: A post-closing trial balance is prepared.

Steps 4 was introduced in this chapter. Steps 7 and 8 are discussed in the next section.

E. The Closing Process

LO5 – Explain the purpose of closing entries and use closing entries to prepare a post-closing trial balance

At the end of a fiscal year after steps 1-6 of the accounting cycle have been completed and financial statements have been prepared, the revenue, expense, and dividend account balances must be zeroed so that they can begin to accumulate amounts belonging to the new fiscal year. To accomplish this, *closing entries* are journalized and posted. **Closing entries** transfer each revenue and expense account balance, as well as any balance in the Dividend account, into retained earnings. Revenues, expenses, and dividends are therefore referred to as **temporary accounts** because their balances are zeroed at the end of each accounting period. Balance sheet accounts such as Cash and Retained Earnings, are **permanent accounts** because they have a continuing balance from one fiscal year to the next. The closing process transfers temporary account balances into the Retained Earnings account. An interim closing account called the **Income Summary** is used. In this text, its assigned general ledger account number is 360. The four entries in the closing process are detailed below.

Entry 1: Close the revenue accounts to the Income Summary account

A single closing entry is used to transfer all revenue account (credit) balances to the Income Summary account. All revenue accounts with a credit balance are debited to bring them to zero. Their balances are transferred to the Income Summary account as an offsetting credit.

Entry 2: Close the expense accounts to the Income Summary account

A single closing entry is used to transfer all expense account (debit) balances to the Income Summary account. All expense accounts with a debit balance are credited to bring them to zero. Their balances are transferred to the Income Summary account as an offsetting debit.

The Dividend account is *not* closed to the Income Summary account because this is not an income statement account. The Dividend account is closed in Entry 4 directly to the Retained Earnings account.

After entries 1 and 2 above are posted to the Income Summary account, a new balance is calculated for the Income Summary account. If net income is reported on the income statement, the balance in the Income Summary should be a credit; if a net loss has been reported, the balance will be a debit. *If the income summary balance does not match the net income or loss reported on the income statement, the revenues and expenses have not been closed correctly.*

Entry 3: Close the Income Summary account to the Retained Earnings account

The balance in the Income Summary account is transferred to the Retained Earnings account because the net income belongs to the shareholders. An equal and offsetting entry (a debit in the case of net income) is made to the Income Summary account to bring its balance to zero. The same amount is credited to the Retained Earnings account. Again, the amount must always equal the net income reported on the income statement.

Entry 4: Close the Dividends account to Retained Earnings

The Dividend account is closed to the Retained Earnings account. This results in transferring the balance in dividends, a temporary account, to retained earnings, a permanent account.

The closing entries for Big Dog Carworks Corp. are shown in Figure 3–6.

These are for illustrative purposes only. Closing entries are only done at the fiscal year-end.

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Date 2017		Description Closing Entries	Folio	Debit	Credit
		(1)			
Jan.	31	Interest Earned	430	25	
		Rent Earned	440	400	
		Repair Revenue	450	10,300	
		Income Summary	360		10,725
		To close revenue account balances.			
		(2)			
Jan.	31	Income Summary	360	8,793	
		Depreciation Expense – Equipment	623		25
		Depreciation Expense – Truck	624		100
		Insurance Expense	631		200
		Interest Expense	632		18
		Rent Expense	654		1,600
		Salaries Expense	656		4,150
		Supplies Expense	668		1,500
		Truck Operating Expense	670		700
		Income Tax Expense	830		500
		To close expense account balances.			
		(3)			
Jan.	31	Income Summary	360	1,932	
		Retained Earnings	340		1,932
		To close Income Summary.			
		(4)			
Jan.	31	Retained Earnings	360	200	
		Dividends	350		200
		To close dividends to retained earnings.			

This amount must agree to the net income shown on the income statement.

Figure 3–6 Closing Entries for BDCC at January 31, 2017 for illustrative purposes only.

Posting the Closing Entries to the General Ledger

When entries 1 and 2 are posted to the general ledger, the balances in all revenue and expense accounts are transferred to the Income Summary account. The transfer of these balances is shown in Figure 3–7. Notice that a zero balance results for each revenue and expense account after the closing entries are posted, and there is a $1,932 credit balance in the income summary. The income summary balance agrees to the net income reported on the income statement.

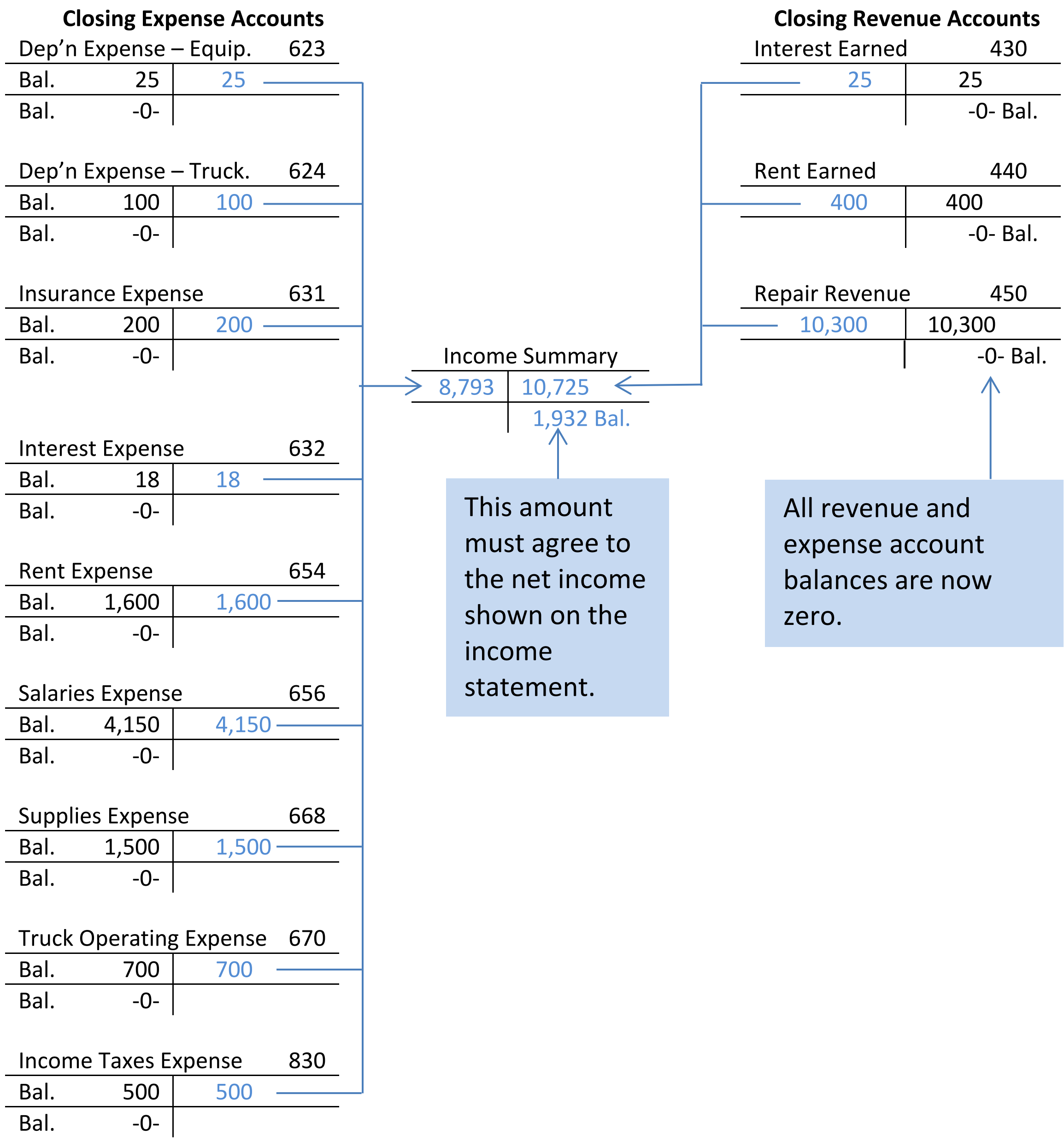

Figure 3–7 Closing Revenue and Expense Accounts

When the income summary is closed to retained earnings in the third closing entry, the $1,932 credit balance in the income summary account is transferred into retained earnings as shown in Figure 3–8. As a result, the income summary is left with a zero balance.

Income Summary		360
	8,793	10,725
	1,932	1,932 Bal.
Bal.	-0-	

Retained Earnings	340
	1,932

Figure 3–8 Closing the Income Summary Account

Finally, when dividends is closed to retained earnings in the fourth closing entry, the $200 debit balance in the Dividends account is transferred into retained earnings as shown in Figure 3–9. After the closing entry is posted, the Dividends account is left with a zero balance and retained earnings is left with a credit balance of $1,857.

Dividends		350
	200	200
Bal.	-0-	

Retained Earnings	340
	1,932
200	
	1,732 Bal.

Figure 3–9 Closing the Dividends Account

This amount must agree to the retained earnings balance calculated on the statement of changes in equity.

The Post–Closing Trial Balance

A **post-closing trial balance** is prepared immediately following the posting of closing entries. The purpose is to ensure that the debits and credits in the general ledger are equal and that all temporary accounts have been closed. The post-closing trial balance for Big Dog Carworks Corp. appears below.

Big Dog Carworks Corp.
Post-Closing Trial Balance
January 31, 2017

Acct. No.	*Account*	*Account Balances Debit*	*Credit*
101	Cash	$6,200	
110	Accounts receivable	2,500	
116	Interest receivable	25	
125	Rent receivable	400	
161	Prepaid insurance	2,200	
183	Equipment	3,000	
184	Truck	8,000	
193	Accumulated dep. – equip.		$ 25
194	Accumulated dep. – truck		100
201	Bank loan		9,000
210	Accounts payable		700
222	Interest payable		18
226	Salaries payable		150
247	Unearned repair revenue		100
260	Income taxes payable		500
320	Share capital		10,000
340	Retained earnings		1,732
	Total debits and credits	$22,325	$22,325

Only permanent accounts remain.

Only statement of financial position accounts – the permanent accounts – have balances and are carried forward to the next accounting year. All income statement and dividend accounts – temporary accounts – begin the new fiscal year with a zero balance, so they can be used to accumulate amounts belonging to the new fiscal year.

Summary of Chapter 3 Learning Objectives

LO1 – Explain how adjusting entries match revenues and expenses to the appropriate time period.

Financial statements must be prepared in a timely manner, at minimum, once per fiscal year. For statements to reflect activities accurately, revenues and expenses must be recognized and reported in the appropriate accounting period. In order to achieve this type of matching, adjusting entries need to be prepared.

LO2 – Explain the use of and prepare the adjusting entries required for prepaid expenses, depreciation, unearned revenues, accrued revenues, and accrued expenses.

Adjusting entries are prepared at the end of an accounting period. They allocate revenues and expenses to the appropriate accounting period regardless of when cash was received or paid. The five types of adjustments are:

	(1)		
Date	Expense	XX	
	Prepaid Expense		XX
	To adjust prepaid expense for the amount of benefit used.		

	(2)		
Date	Account Recievable	XX	
	Revenue		XX
	To record revenue earned on credit.		

	(3)		
Date	Depreciation Expense	XX	
	Accumulated Depreciation		XX
	To allocate the costs of plant and equipment over their useful lives.		

	(4)		
Date	Unearned Revenue	XX	
	Revenue		XX
	To adjust unearned amounts now earned.		

	(5)		
Date	Expense	XX	
	Payable		XX
	To adjust for accrued expenses.		

LO3 – Prepare an adjusted trial balance and use it to prepare financial statements.

The adjusted trial balance is prepared using the account balances in the general ledger after adjusting entries have been posted. Debits must equal credits. The adjusted trial balance is used to prepare the financial statements. Financial statements are prepared based on adjusted account balances.

LO4 – Identify and explain the steps in the accounting cycle.

The steps in the accounting cycle are:

Steps occurring continually during the fiscal year:

1. Transactions are analyzed and recorded in the general journal.
2. The journal entries in the general journal are posted to accounts in the general ledger.

Steps occurring whenever interim or year-end financial statements are prepared at the end of an accounting period

3. An unadjusted trial balance is prepared to ensure total debits equal total credits.
4. The unadjusted account balances are analyzed, and adjusting entries are journalized in the general journal and posted to the general ledger.
5. An adjusted trial balance is prepared to prove the equality of debits and credits.
6. The adjusted trial balance is used to prepare financial statements.

Steps occurring only at the fiscal year-end

7. Closing entries are journalized and posted.
8. A post-closing trial balance is prepared.

LO5 – Explain the purpose of closing entries and use closing entries to prepare a post-closing trial balance.

After the financial statements have been prepared, the temporary account balances (revenues, expenses, and dividends) are transferred to retained earnings, a permanent account, via closing entries. The result is that the temporary accounts will have a zero balance and will be ready to accumulate transactions for the next accounting period.

The general forms of the four closing entries are:

(1)

Dec. 31	Revenue	XX	
	Income Summary		XX
	To close revenue account balances to the Income Summary account.		

(2)

Dec. 31	Income Summary	YY	
	Expense		YY
	To close expense account balances to the Income Summary account.		

(3)

Dec. 31	Income Summary	ZZ	
	Retained Earnings		ZZ
	To close the Income Summary account balance to Retained Earnings (ZZ = XX – YY; ZZ must equal net income).[1]		

(4)

Dec. 31	Retained Earnings	AA	
	Dividends		AA
	To close the Dividend account to Retained Earnings.		

The post-closing trial balance is prepared after the closing entries have been posted to the general ledger. The post-closing trial balance will contain only permanent accounts because all the temporary accounts have been closed.

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[1] When there is a net loss, the Income Summary account will have a debit balance after revenues and expenses have been closed. To close the Income Summary account when there is a net loss the Income Summary must be credited. The following closing entry is required:

Dec. 31	Retained Earnings	XXX	
	Income Summary		XXX
	To close the Income Summary account balance to Retained Earnings		

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. Explain the sequence of financial transactions that occur continuously during an accounting time period. What is this sequence of activities called?
2. Do you have to wait until the operating cycle is complete before you can measure income using the accrual basis of accounting?
3. What is the relationship between the matching concept and accrual accounting? Are revenues matched to expenses, or are expenses matched to revenues? Does it matter one way or the other?
4. What are adjusting entries and why are they required?
5. What are the five types of adjusting entries?
6. Why are asset accounts like Prepaid Insurance adjusted? How are they adjusted?
7. How are long-lived asset accounts adjusted? Is the procedure similar to the adjustment of other asset and liability accounts at the end of an accounting period?
8. What is a contra account and why is it used?
9. How are liability accounts like Unearned Repair Revenue adjusted?
10. Explain the terms *accrued revenues* and *accrued expenses*. Give examples of each.
11. Why is an adjusted trial balance prepared?
12. How is the adjusted trial balance used to prepare financial statements?
13. List the eight steps in the accounting cycle.
14. Which steps in the accounting cycle occur continuously throughout the accounting period?
15. Which steps in the accounting cycle occur at the end of the fiscal year? Explain how they differ from the other steps.
16. In general, income statement accounts accumulate amounts for a time period not exceeding one year. Why is this done?
17. Identify which types of general ledger accounts are temporary and which are permanent.
18. What is the Income Summary account and what is its purpose?
19. What are the four types of closing entries, and why are they journalized?
20. Why is the Dividends account not closed to the Income Summary account when closing entries are prepared?
21. What is a post-closing trial balance and why is it prepared?

Comprehension Problems

CP 3–1

View Answer

The preparation of adjusting entries requires a debit entry to one account and a credit entry to another account.

A	*B*
a. Insurance Expense	1. Commissions Earned
b. Rent Earned	2. Supplies Expense
c. Prepaid Rent	3. Salaries Expense
d. Interest Payable	4. Unearned Fees
e. Interest Receivable	5. Accumulated Depreciation
f. Fees Earned	6. Rent Expense
g. Unused Supplies	7. Prepaid Insurance
h. Unearned Commissions Revenue	8. Interest Earned
i. Salaries Payable	9. Interest Expense
j. Depreciation Expense	10. Unearned Rent

Required: Match each account in column *A* with the appropriate account in column *B*.

CP 3–2

View Answer

The following unadjusted accounts are extracted from the general ledger of A Corp. at December 31, 2018:

Truck 184	
10,000	

Depreciation Expense – Truck 624	
1,300	

Acc. Dep'n – Truck 194	
	1,300

Additional Information: The truck was purchased January 1, 2018. It has an estimated useful life of 4 years.

Required: Prepare the needed adjusting entry at December 31, 2018.

CP 3–3

View Answer

The following unadjusted accounts are taken from the records of B Corp. at December 31, 2018:

Bank Loan	201	Interest Expense	632	Interest Payable	222
	12,000	1,100			100

Additional Information: Interest expense for the year should be $1,200.

Required: Prepare the adjusting entry at December 31, 2018.

CP 3–4

An extract from the trial balance of Armstrong Corp. at June 30, 2018 is reproduced below:

View Answer

Account	*Amount in unadjusted trial balance*	*Amount in adjusted trial balance*
Unused office supplies	$ 190	$ 55
Accumulated depreciation – truck	0	400
Prepaid insurance	850	610
Interest payable	0	100
Unearned rent	1,000	500

Required: Prepare in general journal format the entries that were posted, including a plausible description. General ledger account numbers are not necessary.

CP 3–5

View Answer

The following are account balances of Graham Corporation:

Account	*Amount in unadjusted trial balance*	*Amount in adjusted trial balance*
Rent Receivable	$ -0-	$110
Prepaid Insurance	1,800	600
Interest Payable	-0-	90

Required:

1. Enter the unadjusted balance for each account in the following T-accounts: Interest Receivable, Prepaid Insurance, Interest Payable, Salaries Payable, Unearned Rent, Interest Earned, Rent Earned, Insurance Expense, Interest Expenses, and Salaries Expense.
2. Reconstruct the adjusting entry that must have been recorded for each account. General ledger account numbers are not necessary.
3. Post these adjusting entries and agree ending balances in each T-account to the adjusted balances above.
4. List revenue and expense amounts for the period.

CP 3–6

View Answer

The following data are taken from an unadjusted trial balance at December 31, 2018:

Prepaid rent	$ 600
Office supplies	700
Income taxes payable	-0-
Unearned commissions revenue	1,500
Salaries expense	5,000

Additional Information:

a. The prepaid rent consisted of a payment for three months' rent at $200 per month for December 2018, January 2019, and February 2019.
b. Office supplies on hand at December 31, 2018 amounted to $300.
c. The estimated income taxes for 2018 are $5,000.
d. All but $500 in the Unearned Commissions account has been earned in 2018.

e. Salaries for the last three days of December amounting to $300 have not yet been recorded.

Required:

1. Prepare all necessary adjusting entries in general journal format at December 31, 2018. General ledger account numbers are not necessary.
2. Calculate the cumulative financial impact on assets, liabilities, shareholders' equity, revenue and expense if these adjusting entries are not made.

CP 3–7

View Answer

The following are general ledger accounts extracted from the records of Bernard Inc. at December 31, 2018, its year-end ('UB' = unadjusted balance):

Prepaid Advertizing	160
UB 1,000	500

Unused Supplies	173
UB 750	400

Equipment	183
UB 21,750	

Acc. Dep'n – Equip.	
	1,500
	250

Accounts Payable	210
	UB 15,000
	200
	100
	400
	800

Salaries Payable	226
	700

Unearned Subscription Revenue	250
5,000	UB 10,000

Share Capital	320
	UB 8,000

Subscription Revenue	480
	5,000

Advertizing Expense	610
500	

Commissions Expense	615
UB 800	

Dep'n Expense – Equip.	623
250	

Maintenance Expense	641
200	

Salaries Expense	656
UB 9,500	
700	

Supplies Expense	688
UB 2,500	
400	

Telephone Expense	669
100	

Utilities Expense	676
400	

Required: Prepare in general journal format the adjusting entries that were posted. Include general ledger account and plausible descriptions.

CP 3–8

View Answer

The following general ledger accounts are taken from the books of the Hynes Corporation at the end of its fiscal year, December 31, 2018:

Cash 101

750	50
950	150
90	50
	24
	20
	70

Accounts Receivable 110

228	90

Rent Receivable 125

40	

Prepaid Insurance 161

24	2

Unused Office Supplies 170

50	25

Unused Repair Supplies 171

145	80

Furniture 182

150	

Acc. Dep'n – Furniture 191

	2

Accounts Payable 210

70	145

Unearned Repair Revenue 247

	500
400	

Interest Payable 222

	12

Income Taxes Pay.260

	400

Interest Expense 632

12	

Income Taxes Expense 830

400	

Share Capital 320

	400

Ret. Earn. 340

	350

Repair Rev. 450

	950
	228
	400

Rent Earned 440

	40

Dep'n Exp. - Furniture 621

2	

Insurance Exp. 631

2	

Office Supplies Exp. 650

25	

Rent Expense 654

50	

Repair Supplies Expense 655

80	

Telephone Expense 669

20	

Required:

1. Label the debit and credit amounts that represent each adjusting entry made at December 31 (for example: a, b, c).
2. Prepare the adjusting entries made at December 31 in general journal form. Include general ledger account numbers and plausible descriptions.

CP 3–9

View Answer

The trial balance of Lauer Corporation at December 31, 2018 follows, before and after the posting of adjusting entries.

Acct. No.	*Account*	*Unadjusted trial balance*		*Adjustments*		*Adjusted trial balance*	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	$ 4,000				$ 4,000	
110	Accounts receivable	5,000				5,000	
161	Prepaid insurance	3,600				3,300	
162	Prepaid rent	1,000				500	
184	Truck	6,000				6,000	
194	Acc. dep. – truck						$1,500
210	Accounts payable		$7,000				7,000
222	Interest payable						400
226	Salaries payable						1,000
248	Unearned rent revenue		1,200				600
320	Share capital		2,700				2,700
440	Rent earned		25,000				25,600
610	Advertizing expense	700				700	
615	Commissions expense	2,000				2,000	
624	Dep. expense – truck					1,500	
631	Insurance expense					300	
632	Interest expense	100				500	
654	Rent expense	5,500				6,000	
656	Salaries expense	8,000				9,000	
	Totals	$35,900	$35,900			$38,800	$38,800

Required:

1. Indicate in the “Adjustments” column the debit or credit difference between the unadjusted trial balance and the adjusted trial balance.
2. Prepare in general journal format the adjusting entries that must have been recorded. Include general ledger account numbers and plausible descriptions.

CP 3–10

View Answer

The following general ledger accounts and additional information are taken from the records of Wolfe Corporation at the end of its fiscal year, December 31, 2018.

Additional information:

a. The prepaid insurance is for a one-year policy, effective July 1, 2018.
b. A physical count indicated that $500 of supplies is still on hand.
c. $50 of December rent expense has not been recorded.

Cash 101		Unused Supplies 173		Advertizing Exp. 610	
Bal. 2,700		Bal. 700		Bal. 200	
Accounts Receivable 110		**Share Capital 320**		**Salaries Expense 656**	
Bal. 2,000			Bal. 3,800	Bal. 4,500	
Prepaid Insurance 161		**Repair Revenue 450**		**Rent Expense 654**	
Bal. 1,200			Bal. 7,750	Bal. 250	

Required:

1. Record all necessary adjusting entries in general journal format including general ledger account numbers. Assume the following account numbers: Insurance Expense: 631; Supplies Expense: 668.
2. Post the adjusting entries to T-accounts and calculate balances.
3. Prepare all closing entries in general journal format. Include general ledger account numbers.
4. Post the closing entries to the applicable general ledger accounts.

Problems

P 3–1

View Answer

The following unrelated accounts are extracted from the trial balance of Meekins Limited at December 31, its fiscal year-end:

	Balance	
Account	*Unadjusted*	*Adjusted*
a. Prepaid rent	$ 300	$ 600
b. Wages payable	500	700
c. Income taxes payable	-0-	1,000
d. Unearned commissions revenue	2,000	3,000
e. Other unearned revenue	25,000	20,000
f. Advertizing expense	5,000	3,500
g. Depreciation expense — equipment	-0-	500
h. Supplies expense	850	625
i. Truck operating expense	4,000	4,500

Required: For each of the above accounts, prepare the most likely adjusting entry, including plausible descriptions. General ledger account numbers are not necessary.

P 3–2

View Answer

The unadjusted trial balance of Lukas Films Corporation includes the following account balances at December 31, 2018, its fiscal year-end. Assume all accounts have normal debit or credit balances as applicable.

Prepaid rent	$ 1,500
Equipment	2,400
Unearned advertizing revenue	1,000
Insurance expense	900
Supplies expense	600
Telephone expense	825
Wages expense	15,000

The following information applies at December 31:

a. A physical count of supplies indicates that $300 of supplies have not yet been used at December 31.

b. A $75 telephone bill for December has been received but not recorded.
c. One day of wages amounting to $125 remains unpaid and unrecorded at December 31; the amount will be included with the first Friday payment in January.
d. The equipment was purchased December 1; it is expected to last 2 years. No depreciation has yet been recorded.
e. The prepaid rent is for December 2018, and January and February 2019; rent is $500 per month.
f. Half of the advertizing revenue has been earned at December 31.
g. The $900 amount in Insurance Expense is for a one-year policy, effective July 1, 2018.

Required: Prepare all necessary adjusting entries at December 31, 2018. Include general ledger account numbers (see chart of accounts in chapter 2). Descriptions are not needed.

P 3–3

View Answer

The unadjusted trial balance of Mighty Fine Services Inc. includes the following account balances at December 31, 2018, its fiscal year-end. No adjustments have been recorded. Assume all accounts have normal debit or credit balances.

Prepaid insurance	$600
Unused supplies	500
Bank loan	5,000
Subscription revenue	9,000
Salaries payable	500
Rent expense	3,900
Truck operating expense	4,000

The following information applies to the fiscal year-end:

a. The $600 prepaid insurance is for a one-year policy, effective September 1, 2018.
b. A physical count indicates that $300 of supplies is still on hand at December 31.
c. Interest on the bank loan is paid on the fifteenth day of each month; the unrecorded interest for the last 15 days of December amounts to $25.

d. The Subscription Revenue account consists of a cash receipts for 6-month subscriptions to the corporation's Computer Trends report; the subscription period began December 1.
e. Three days of salary amounting to $300 remain unpaid at December 31, in addition to the previous week's salaries of $500, which have not yet been paid.
f. The monthly rent expense amounts to $300.
g. A bill for December truck operating expense has not yet been received; an amount of $400 is owed.

Required: Prepare all necessary adjusting entries at December 31, 2018. General ledger account numbers and descriptions are not necessary.

P 3–4

View Answer

The following accounts are taken from the records of Bill Pitt Corp. at the end of its first 12 months of operations ended December 31, 2018, prior to any adjustments. In addition to the balances in each set of accounts, additional data are provided for adjustment purposes if applicable. Treat each set of accounts independently of the others.

a.

Truck		Depreciation Expense – Truck		Acc. Dep'n – Truck	
6,000		600			600

Additional information: The truck was purchased July 1; it has an estimated useful life of 4 years.

b.

Cash		Unearned Rent		Rent Earned	
600			-0-		600

Additional information: A part of Harrison's office was sublet during the entire 12 months for $50 per month.

c.

Unused Supplies		Supplies Expense	
		1,250	

Additional information: A physical inventory indicated $300 of supplies still on hand at December 31.

d.

Prepaid Rent		Rent Expense	
1,200		4,400	

Additional information: The monthly rent is $400.

e.

Wages Expense		Wages Payable	
6,000			500

Additional information: Unrecorded wages at December 31 amount to $250.

f.

Bank Loan		Interest Expense		Interest Payable	
	8,000	600			100

Additional information: Total interest expense for the year should be $800.

g.

Cash		Utilities Expense		Utilities Payable	
	1,000	1,200			200

Additional information: The December bill has not yet been received or any accrual made; the amount owing at December 31 is estimated to be another $150.

h.

Cash		Prepaid Insurance		Insurance Expense	
	1,200	600		600	

Additional information: A $1,200 one-year insurance policy had been purchased effective February 1, 2018; there is no other insurance policy in effect.

i.

Unearned Rent Revenue		Rent Earned	
	900		300

Additional information: The Unearned Rent Revenue balance applies to the months of November and December 2018 and to January 2019 at $300 per month.

j.

Cash		Other Unearned Revenue		Commissions Earned	
25,200			-0-		25,200

Additional information: An amount of $2,000 commission revenue has not been earned at December 31.

Required: Prepare all necessary adjusting entries and descriptions at December 31, 2018. General ledger account numbers are not necessary.

P 3–5

View Answer

Following is the unadjusted trial balance of Pape Pens Corporation at the end of its first year of operations, December 31, 2018:

Acct. No.	*Account*	*Balance Debit*	*Balance Credit*
101	Cash	3,300	
110	Accounts receivable	4,000	
161	Prepaid insurance	1,200	
173	Unused supplies	500	
184	Truck	8,000	
194	Acc. dep. – truck		-0-
210	Accounts payable		5,000
226	Salaries payable		-0-
248	Unearned rent revenue		2,400
260	Income taxes payable		-0-
320	Share capital		7,000
350	Dividends	1,000	
410	Commissions earned		16,100
440	Rent earned		-0-
610	Advertizing expense	200	
615	Commissions expense	1,000	
624	Dep. expense – truck	-0-	
631	Insurance expense	-0-	
632	Interest expense	400	
654	Rent expense	3,600	
656	Salaries expense	7,000	
668	Supplies expense	-0-	
669	Telephone expense	300	
830	Income taxes expense	-0-	
		30,500	30,500

The following additional information is available:

a. Prepaid insurance at December 31 amounts to $600.
b. A physical count indicates that $300 of supplies is still on hand at December 31.
c. The truck was purchased on July 1; it has an estimated useful life of 4 years.
d. One day of salaries for December 31 is unpaid; the unpaid amount of $200 will be included in the first Friday payment in January.
e. The balance in the Unearned Rent Revenue account represents six months rental of warehouse space, effective October 1.
f. A $100 bill for December telephone charges has not yet been recorded.
g. Income taxes expense for the year is $300. This amount will be paid in the next fiscal year.

Required:
1. Prepare all necessary adjusting entries at December 31, 2018, including general ledger account numbers. Descriptions are not needed.
2. Prepare an adjusted trial balance at December 31, 2018.
3. Prepare an income statement, statement of changes in equity, and statement of financial position.
4. Prepare closing entries including general ledger account numbers and descriptions.
5. Prepare a post-closing trial balance.

P 3–6

View Answer

Roth Contractors Corporation was incorporated on December 1, 2018 and had the following transactions during December:

Part A

a. Issued share capital for $5,000 cash
b. Paid $1,200 cash for three months' rent: December 2018; January and February 2019
c. Purchased a used truck for $10,000 on credit (recorded as an account payable)
d. Purchased $1,000 of supplies on credit. These are expected to be used during the month (recorded as expense)
e. Paid $1,800 for a one-year truck insurance policy, effective December 1

f. Billed a customer $4,500 for work completed to date
g. Collected $800 for work completed to date
h. Paid the following expenses in cash: advertizing, $350; interest, $100; telephone, $75; truck operating, $425; wages, $2,500
i. Collected $2,000 of the amount billed in *f* above
j. Billed customers $6,500 for work completed to date
k. Signed a $9,000 contract for work to be performed in January 2019
l. Paid the following expenses: advertizing, $200; interest, $150; truck operating, $375; wages, $2,500
m. Collected a $2,000 advance on work to be done in January (the policy of the corporation is to record such advances as revenue at the time they are received)
n. Received a bill for $100 for electricity used during the month (recorded as utilities expense).

Required:

1. Open general ledger T-accounts for the following: Cash, Accounts Receivable, Prepaid Insurance, Prepaid Rent, Truck, Accounts Payable, Share Capital, Repair Revenue, Advertizing Expense, Interest Expense, Supplies Expense, Telephone Expense, Truck Operating Expense, Utilities Expense, and Wages Expense. General ledger account numbers are not necessary.
2. Prepare journal entries to record the December transactions. General ledger account numbers and descriptions are not needed.
3. Post the entries to general ledger T-accounts.

Part B

The following information relates to December 31, 2018:

o. One month of the prepaid insurance has expired.
p. The December portion of the rent paid on December 1 has expired.
q. A physical count indicates that $350 of supplies is still on hand.
r. The amount collected in transaction *m* is unearned at December 31.
s. Three days of wages for December 29, 30, and 31 are unpaid; the unpaid amount of $1,500 will be included in the first wages payment in January.
t. The truck has an estimated useful life of 4 years.
u. Income taxes expense is $500. This amount will be paid in the next fiscal year.

Required:

4. Open additional general ledger T-accounts for the following: Unused Supplies, Accumulated Depreciation, Wages Payable, Unearned Revenue, Income Taxes Payable, Depreciation Expense, Insurance Expense, Rent Expense, and Income Taxes Expense. General ledger account numbers are not necessary.
5. Prepare all necessary adjusting entries. General ledger account numbers and descriptions are not necessary.
6. Post the entries to general ledger T-accounts and calculate balances.
7. Prepare an adjusted trial balance at December 31.
8. Assume the fiscal year-end is December 31, 2018. Prepare an income statement, statement of changes in equity, and statement of financial position.
9. Prepare closing entries and a post-closing trial balance at December 31, 2018.

P 3–7

View Answer

Snow Services Corporation performs snow removal services and sells advertizing space on its vehicle. The company started operations on January 1, 2018 with $30,000 cash and $30,000 of share capital. It sublets some empty office space.

Part A

The following transactions occurred during January 2018:

a. Purchased a truck for $15,000 cash on January 1
b. Collected snow removal revenue for January, February, and March amounting to $4,000 per month, $12,000 in total (recorded as Service Revenue)
c. Paid $600 for a one-year insurance policy, effective January 1
d. Invested $5,000 of temporarily-idle cash in a term deposit (recorded as Short-term Investments)
e. Purchased $500 of supplies on credit (recorded as Supplies Expense)
f. Received three months of advertizing revenue amounting to $900 (recorded as Other Revenue)
g. Received two months of interest amounting to $150 (recorded as Interest Earned)
h. Paid $5,000 cash for equipment

i. Received $1,200 cash for January, February, and March rent of unused office space (recorded as Rent Earned)
j. Paid $3,000 of wages during the month.

Required:

1. Open general ledger T-accounts for the following: Cash, Short-term Investments, Prepaid Insurance, Equipment, Truck, Accounts Payable, Share Capital, Other Revenue, Interest Earned, Rent Earned, Service Revenue, Supplies Expense, and Wages Expense. General ledger account numbers are not necessary.
2. Prepare journal entries to record the January transactions. Descriptions are not needed.
3. Post the entries to the general ledger accounts.

Part B

At the end January, the following adjusting entries are needed:

k. The truck purchased in transaction *a* has a useful life of five years.
l. One-third of the snow removal revenue from transaction *b* has been earned.
m. The January portion of the insurance policy has expired.
n. Half of the interest revenue still has not been earned.
o. A physical count indicates $200 of supplies is still on hand.
p. The January component of the advertizing revenue has been earned.
q. $50 interest for January is accrued on the term deposit; this amount will be included with the interest payment to be received at the end of February.
r. The equipment purchased in transaction *h* on January 1 is expected to have a useful life of four years.
s. January rent revenue has been earned.
t. Three days of wages amounting to $150 remain unpaid; the amount will be included in the first Friday payment in February.

Required:

4. Open additional general ledger T-accounts for the following: Interest Receivable, Unused Supplies, Accumulated Depreciation—Equipment, Accumulated Depreciation—Truck, Wages Payable, Unearned Advertizing Revenue, Unearned Fees Revenue, Unearned Interest Revenue, Unearned Rent Revenue, Insurance Expense, Depreciation Expense—Equipment, and Depreciation Expense—Truck. General ledger account numbers are not necessary.
5. Prepare all adjusting entries at January 31. Descriptions are not necessary.

6. Post the entries to the general ledger accounts and post balances.
7. Prepare an adjusted trial balance at January 31.

CHAPTER FOUR

The Classified Statement of Financial Position and Related Disclosures

Chapters 1 through 3 discussed and illustrated the steps in the accounting cycle. They also discussed the concepts, assumptions, and procedures that provide a framework for financial accounting as a whole. Chapter 4 expands upon the content and presentation of financial statements. It reinforces what has been learned in previous chapters and introduces the classification or grouping of accounts on the statement of financial position. Chapter 4 explains notes to the financial statements, the auditor's report, and the management's responsibility report. These are all integral parts of a corporation's annual report.

Chapter 4 Learning Objectives

LO1 – Explain the importance of financial statement disclosure.

LO2 – Explain and prepare a classified statement of financial position.

LO3 – Explain the purpose and content of notes to financial statements.

LO4 – Explain the purpose and content of the auditor's report.

LO5 – Explain the purpose and content of the report that describes management's responsibility for financial statements.

A. Financial Statement Disclosure Decisions

LO1 – Explain the importance of financial statement disclosure.

Financial statements communicate information, with a focus on the needs of financial statement users such as a company's investors and creditors. Accounting information should make it easier for management to allocate resources and for shareholders to evaluate management. A key objective of financial statements is to fairly present the entity's economic resources, obligations, equity, and financial performance.

Fulfilling these objectives is challenging. Accountants must make a number of subjective decisions about how to apply generally accepted accounting principles. For example, they must decide how to measure wealth and how to apply recognition criteria. They must also make practical cost-benefit decisions about how much information is useful to disclose. Some of these decisions are discussed in the following section.

Making Accounting Measurements

Economists often define wealth as an increase or decrease in the entity's ability to purchase goods and services. Accountants use a more specific measurement—they consider only increases and decreases resulting from actual transactions. If a transaction has not taken place, they do not record a change in wealth.

The accountant's measurement of wealth is shaped and limited by the assumptions underlying generally accepted accounting principles that were introduced and discussed in Chapter 1. These included the use of historical cost, matching expenses to revenues or the period in which they are incurred, and assumptions about a stable monetary unit, a separate business entity, revenue recognition, , and going concern. These assumptions mean that accountants record transactions in one currency (for example, dollars), currency retains its purchasing power, and changes in market values of assets are generally not recorded.

Economists, on the other hand, make different assumptions. They often recognize changes in market value of assets. For example, if an entity purchased land for $100,000 that subsequently increased in value to $125,000, economists would recognize a $25,000 increase in wealth. International Financial Reporting Standards generally do not recognize this increase until the entity actually disposes of the asset; accountants would continue to value the land at its $100,000 purchase cost. This practice is based on the application of the historical cost principle, which is a part of GAAP.

Economic wealth is also affected by changes in the **purchasing power** of the dollar. For example, if the entity has cash of $50,000 at the beginning of a time period and purchasing power drops by 10% because of inflation, the entity has lost wealth because the $50,000 can purchase only $45,000 of goods and services. Conversely, the entity gains wealth if purchasing power increases by 10%. In this case, the same $50,000 can purchase $55,000 worth of goods and services. However, accountants do not record any changes because the monetary unit principle assumes that the currency unit is a stable measure.

Qualities of Accounting Information

Financial statements are focused on the needs of external users, primarily creditors and shareholders. They use materiality considerations to decide how particular items of information should be recorded and disclosed. To provide information to these users, accountants also make **cost-benefit judgments**. For example, if the costs associated with financial information preparation are too high or if an amount is not sufficiently large or important, a business might implement a materiality policy for various types of asset purchases to guide how such costs are to be recorded. For example, a business might have a materiality policy for the purchase of office equipment whereby anything costing $100 or less is expensed immediately instead of recorded as an asset. In this type of situation, purchases of $100 or less are recorded as an expense instead of an asset to avoid the time and effort needed to record depreciation expense each year for small amounts. This small violation of GAAP will not impact decisions made by external users of the business's financial statements.

Accountants must also make decisions based on whether information is useful. Is it comparable to prior periods? Is it verifiable? Is it presented with clarity and conciseness to make it understandable? Readers' perception of the usefulness of accounting information is determined by how well those who prepare financial statements address these qualitative considerations.

B. Classified Statement of Financial Position

LO2 – Explain and prepare a classified statement of financial position.

The accounting cycle and double-entry accounting have been the focus of the preceding chapters. This chapter focuses on the presentation of financial statements, including how financial information is *classified* (the way accounts are grouped) and what is disclosed.

A common order for the presentation of financial statements is:

1. Income statement
2. Statement of changes in equity
3. Statement of financial position
4. Statement of cash flows
5. Notes to the financial statements

In addition, the financial statements are often accompanied by an auditor's report and a statement entitled "Management's Responsibility for Financial Statements." Each of these items will be discussed below. Financial statement information must be disclosed for the most recent year as well as the prior year for comparison purposes.

Because external users of financial statements have no access to the entity's accounting records, it is important that financial statements be organized in a manner that is easy to understand. Thus, financial data are usually grouped into useful, similar categories within **classified financial statements**, as discussed below.

The Classified Statement of Financial Position

A **classified statement of financial position** organizes the asset and liability accounts into categories. The previous chapters used an unclassified statement of financial position which included only three broad account groupings: assets, liabilities, and shareholders' equity. The classification of asset and liability accounts into meaningful categories is designed to facilitate the analysis of statement of financial position information by external users. Assets and liabilities are classified as either *current* or *non-current*.

Current Assets

Current assets are those resources that the entity expects to convert to cash or consume during the next fiscal year[1]. Examples of current assets include:

- cash, comprising paper currency and coins, deposits at banks, cheques, and money orders.
- short-term investments, cash that is invested in interest-bearing deposits or shares that are easily convertible back into cash.
- accounts receivable that are due to be collected within one year.
- notes receivable, account receivables with formalized, written promises to pay specified amounts with interest, and due to be collected within one year.
- merchandize inventory that is expected to be sold within one year.

The current asset category also includes accounts whose future benefits are expected to expire within one fiscal year, such as:

- prepaid expenses, usually consisting of advance payments for insurance, rent, and similar items.
- supplies on hand at the end of an accounting year that will be used during the next year.

In North America, current assets are normally reported before non-current assets on the statement of financial position. They are listed by decreasing levels of **liquidity** – their ability to be converted into cash. Therefore, cash appears first under the current asset heading.

Non-current Assets

Non-current assets are assets that will be useful for more than one year; they are often referred to as *long-lived assets***.** Non-current assets include **property, plant, and equipment (PPE)** – items used to conduct the operations of the business. Some examples of PPE are: land, buildings, equipment, and motor vehicles.

Other types of non-current assets include long-term investments and intangible assets. **Long-term investments** include notes receivable that will be paid by customers over a period greater than one fiscal year and investments in shares and debt of other companies that will be

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[1] Or within the normal operating cycle of the entity, whichever is longer. In this text, the fiscal year will always be assumed to be longer.

held for more than one year. **Intangible assets** are resources that do not have a physical form and whose value comes from the rights held by the owner. They are used over the long term to produce or sell products and services and include copyrights, patents, trademarks, and franchises. These types of assets will be discussed in detail in a later chapter.

Current Liabilities

Current liabilities are obligations that must be paid within the next fiscal year. In North America, they are shown first in the liabilities section of the statement of financial position and listed in order of their due dates. Bank loans are shown first. Examples of current liabilities include:

- bank loans (or borrowings) that are payable on demand or due within the next 12 months (or next operating cycle, whichever is longer)
- accounts payable
- accrued liabilities such as interest payable, wages payable, and income taxes payable
- unearned revenue, and
- the **current portion of non-current liabilities**; that is, the amount that will be paid in the next fiscal year. For example, assume a $30,000 bank loan is issued on December 31, 2017 and this amount is to be repaid at the rate of $1,000 at the end of each month over two years. The current portion of this loan on the December 31, 2017 statement of financial position would be $12,000 (calculated as 12 months X $1,000/month). The remaining principal ($18,000) would be reported on the December 31, 2017 statement of financial position as a non-current liability.

Non-Current or Long-Term Liabilities

Non-current liabilities, also referred to as **long-term liabilities**, are borrowings that do not require repayment for more than one year. Examples include a bank loan (as noted above, minus the current portion). A **mortgage** is a liability that is secured by real estate.

Shareholders' Equity

As discussed in prior chapters, the shareholders' equity section of the classified statement of financial position consists of two major accounts: share capital and retained earnings.

Presentation of the Statement of Financial Position

The statement of financial position can be presented in the **account form** where liabilities and equities are presented to the right of the assets. An alternative is the **report form** where liabilities and shareholders' equity are presented below the assets. The following illustrates the classified statement of financial position of Big Dog Carworks Corp. after several years of operation, presented in account form:

Big Dog Carworks Corp.
Statement of Financial Position
At December 31, 2020

The prior year's information is also presented for comparison.

Assets are classified as current or non-current.

Assets	*2020*	*2019*
Current		
Cash	$ 10,800	$ 12,000
Accounts receivable	26,000	24,000
Merchandize inventories	120,000	100,000
Prepaid expenses	1,200	570
Total current assets	158,000	136,570
Non-current		
Property, plant, and equipment (Note 4)	126,645	10,430
Total assets	$284,645	$147,000

Various notes are included at the end of the financial statements. Among other purposes, they provide details about a particular category on the statement of financial position or income statement.

Liabilities are classified as current or non-current.

Liabilities	*2020*	*2019*
Current		
Borrowings (Note 5)	$ 39,000	$ 82,250
Accounts payable	24,000	22,000
Income taxes payable	15,000	10,000
Total current liabilities	78,000	114,250
Non-current		
Borrowings (Note 5)	163,145	-0-
Total liabilities	241,145	114,250
Shareholders' Equity		
Share capital (Note 6)	11,000	11,000
Retained earnings	32,500	21,750
Total shareholders' equity	43,500	32,750
Total liabilities and equity	$284,645	$147,000

The statement of changes in equity is as follows:

Big Dog Carworks Corp.
Statement of Changes in Equity
For the Year Ended December 31, 2020

	Share capital	*Retained earnings*	*Total equity*
Balance at January 1, 2019	$11,000	$10,000	$21,000
2019 net income		15,000	15,000
Dividends		(3,250)	(3,250)
Balance at December 31, 2019	**11,000**	**21,750**	**32,750**
2020 net income		20,000	20,000
Dividends		(9,250)	(9,250)
Balance at December 31, 2020	**$11,000**	**$32,500**	**$43,500**

This column shows the continuity of retained earnings from one year-end to the next. Bolded amounts agree to the statement of financial position. They are highlighted only for illustrative purposes.

The Classified Income Statement

Recall that the income statement summarizes a company's revenues less expenses over a period of time. An income statement for BDCC was presented in the first few pages of Chapter 1:

Big Dog Carworks Corp.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Repairs		$10,000
Expenses		
Rent	$1,600	
Salaries	3,500	
Supplies	2,000	
Truck operating	700	
Total expenses		7,800
Net income		$2,200

The format used above was sufficient to disclose relevant financial information for Big Dog's simple start-up operations. When operations become more complex, an income statement can be classified like the statement of financial position. The classified income statement will be discussed in detail in a later chapter.

Regardless of the type of financial statement, any items that are material must be disclosed separately so users will not otherwise be misled. A material amount is one which would affect the decision of a reader if it was omitted. Materiality is a matter for judgment. Office supplies of $1,000 per month used by BDCC in January 2017 in its first month of operations might be a material amount and therefore disclosed as a separate item on the income statement for the month ended January 31, 2017. If annual revenues grew to $1 million several years later, $1,000 per month for supplies might be considered immaterial. These expenditures would then be grouped with other similar items and disclosed as a single amount on the income statement.

C. Notes to Financial Statements

LO3 – Explain the purpose and content of notes to financial statements.

As an integral part of its financial statements, a company provides *notes to the financial statements*. In accordance with the disclosure principle, these provide relevant details that are not included in the body of the financial statements. For instance, details about Big Dog's property, plant, and equipment are shown in Note 4 in the following sample notes to the financial statements. The notes help external users better understand and analyze the financial statements.

Although a detailed discussion of disclosures that might be included as part of the notes is beyond the scope of an introductory financial accounting course, a simplified example of note disclosure is shown below for Big Dog Carworks Corp.

Big Dog Carworks Corp.
Notes to the Financial Statements
For the Year Ended December 31, 2020

1. **Nature of operations**

   The principal activity of Big Dog Carworks Corp. is the servicing and repair of vehicles.

2. **General information and statement of compliance with IFRS**

   Big Dog Carworks Corp. is a limited liability company incorporated and domiciled in Canada. Its registered office and principal place of business is 123 Fox Street, Edmonton, Alberta, T5J 2Y7, Canada. Big Dog Carworks Corp.'s shares are listed on the Toronto Stock Exchange.

   The financial statements of Big Dog Carworks Corp. have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued the International Accounting Standards Boards (IASB).

   The financial statements for the year ended December 31, 2020 were approved and authorized for issue by the board of directors on March 17, 2021.

3. **Summary of accounting policies**

   The financial statements have been prepared using the significant accounting policies and measurement bases summarized below.

   a. Revenue

   Revenue arises from the rendering of service. It is measured by reference to the fair value of consideration received or receivable.

   b. Operating expenses

   Operating expenses are recognized in the income statement upon utilization of the service or at the date of their origin.

   c. Borrowing costs

   Borrowing costs directly attributable to the acquisition, construction, or production of property, plant, and equipment are capitalized during the period of time that is necessary to complete and prepare the asset for its intended use or sale. Other borrowing costs are expensed in the period in which they are incurred and reported as interest expense.

d. Property, plant, and equipment

Land held for use in production or administration is stated at cost. Other property, plant, and equipment are initially recognized at acquisition cost plus any costs directly attributable to bringing the assets to the locations and conditions necessary to be employed in operations. They are subsequently measured using the cost model: cost less subsequent depreciation.

Depreciation is recognized on a straight-line basis to write down the cost, net of estimated residual value. The following useful lives are applied:

Buildings: 25 years
Equipment: 10 years
Truck: 5 years

Residual value estimates and estimates of useful life are updated at least annually.

e. Income taxes

Current income tax liabilities comprise those obligations to fiscal authorities relating to the current or prior reporting periods that are unpaid at the reporting date. Calculation of current taxes is based on tax rates and tax laws that have been enacted or substantively enacted by the end of the reporting period.

f. Share capital

Share capital represents the nominal value of shares that have been issued.

g. Estimation uncertainty

When preparing the financial statements, management undertakes a number of judgments, estimates, and assumptions about the recognition and measurement of assets, liabilities, income, and expenses. Information about estimates and assumptions that have the most significant effect on recognition and measurement of assets, liabilities, income, and expenses is provided below. Actual results may be substantially different.

4. Property, plant, and equipment

Details of the company's property, plant, and equipment and their carrying amounts at December 31 are as follows:

	2020					*2019*
	Land	*Building*	*Equip.*	*Truck*	*Total*	*Total*
Gross Carrying Amount						
Balance, January 1	$ -0-	$ -0-	$ 3,000	$8,000	$ 11,000	$11,000
Additions	30,000	90,000			120,000	
Balance, Dec. 31	30,000	90,000	3,000	8,000	131,000	11,000
Depreciation						
Balance, January 1		-0-	90	480	570	285
Deprecation for year		3,500	45	240	3,785	285
Balance, Dec. 31		3,500	135	720	4,355	570
Carrying Amount						
December 31	$30,000	$86,500	$ 2,865	$7,280	$126,645	$10,430

These amounts agree to the PPE balances shown in the assets section of BDCC's statement of financial position.

5. Borrowings

Borrowings include the following financial liabilities measured at cost:

	Current		*Non-current*	
	2020	*2019*	*2020*	*2019*
Demand bank loan	$ 20,000	$ 52,250	$ -0-	$ -0-
Subordinated shareholder loan	13,762	30,000	-0-	-0-
Mortgage	5,238	-0-	163,145	-0-
Total carrying amount	$39,000	$82,250	$163,145	$ -0-

These amounts agree to the Borrowings balances shown in the current and non-current liability sections of BDCC's statement of financial position.

The bank loan is due on demand and bears interest at 6% per year. It is secured by accounts receivable and inventories of the company.

The shareholder loan is due on demand, non-interest bearing, and unsecured.

The mortgage is payable to First Bank of Alberta. It bears interest at 5% per year and is amortized over 25 years. Monthly payments including interest are $960. It is secured by land and buildings owned by the company. The terms of the mortgage will be re-negotiated in 2023.

6. **Share capital**

The share capital of Big Dog Carworks Corp. consists of fully-paid common shares with a stated value of $1 each. All shares are eligible to receive dividends, have their capital repaid, and represent one vote at the annual shareholders' meeting. There were no shares issued during 2019 or 2020.

D. The Auditor's Report

LO4 – Explain the purpose and content of the auditor's report.

Financial statements are often accompanied by an auditor's report. An **audit** is an external examination of a company's financial statement information and its system of *internal controls*.

Internal controls are the processes instituted by management of a company to direct, monitor, and measure the accomplishment of its objectives. This includes the prevention and detection of fraud and error. An audit seeks not certainty, but reasonable assurance that the financial statement information is not materially misstated.

The auditor's report is a structured statement issued by an independent examiner, usually a professional accountant, who is contracted by the company to report the audit's findings to the company's shareholders. An audit report provides some assurance to present and potential investors and creditors that the company's financial statements are trustworthy. Therefore, it is a useful means to reduce the risk of their financial decisions. Put in simple terms, a **standard unqualified independent auditor's report** indicates that the financial statements are considered reliable and fairly stated. A **qualified auditor's report** is one that indicates the financial statements may not be reliable. A Canadian example of an unqualified auditor's report for BDCC is shown below, along with a brief description of each component.

The auditor's independence from the company is made explicit.	INDEPENDENT AUDITOR'S REPORT
The audit report is addressed to the shareholders.	The Shareholders of Big Dog Carworks Corp. Edmonton, Alberta
The audited information is described.	I have audited the accompanying financial statements of Big Dog Carworks Corp., which comprise the statement of financial position as at December 31, 2020, the income statement, statement of changes in equity, and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.
	Management Responsibility for the Financial Statements
Management's responsibilities are described.	Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.
	Auditor's Responsibility
The auditor's responsibilities and the audit standards used are described.	My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.
The audit procedures are described in general terms.	An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statement.
A conclusion about the adequacy of audit evidence is stated.	I believe that the audit evidence I have obtained in my audit is sufficient and appropriate to provide a basis for my audit opinion.
	Opinion
An opinion is expressed about the financial statement information.	In my opinion, the financial statements present fairly, in all material respects, the financial position of Big Dog Carworks Corp. as at December 31, 2020, and its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.
The report is signed by the auditor and dated.	March 15, 2021 (signed) Edmonton, AB H.K. Walker, CPA

E. Management's Responsibility for Financial Statements

LO5 – Explain the purpose and content of the report that describes management's responsibility for financial statements.

The final piece of information often included with the annual financial statements is a report describing management's responsibility for the accurate preparation and presentation of financial statements. This statement underscores the division of duties involved with the publication of financial statements. Management is responsible for preparing the financial statements, including estimates that underlie the accounting numbers. An example of an estimate is the useful life of property, plant and equipment used to calculate depreciation as shown in the preceding note 3(d).

On the other hand, the independent auditor is responsible for examining the financial statement information as prepared by management, including the reasonableness of estimates, and then expressing an opinion on their accuracy. In some cases, the auditor may assist management with aspects of financial statement preparation. For instance, the auditor may provide guidance on how a new accounting standard will affect financial statement presentation or other information disclosure. Ultimately, however, the preparation of financial statements is management's responsibility.

A Canadian example of a statement describing management's responsibility for the preparation and presentation of annual financial statements is shown below.

MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL STATEMENTS

Management's responsibility for all aspects of financial statement presentation and disclosure is expressly stated.

The accompanying financial statements of the company are the responsibility of management. The financial statements were prepared by management in accordance with accounting principles generally accepted in Canada, applied on a consistent basis, and conform in all material respects with International Accounting Standards. The significant accounting policies, which management believes are appropriate for the company, are described in Note 3 to the financial statements.

Management's responsibility for estimates used and maintenance of internal controls is acknowledged.	Management is responsible for the integrity and objectivity of the financial statements. Estimates are necessary in the preparation of these statements and, based on careful judgments, have been properly reflected. Management has established systems of internal control that are designed to provide reasonable assurance that assets are safeguarded from loss or unauthorized use, and to produce reliable accounting records for the preparation of financial information.
The board of directors' and audit committee's respective roles are explained.	The board of directors is responsible for ensuring that management fulfils its responsibilities for financial reporting and internal control. The audit committee of the board, which is comprised solely of directors who are not employees of the company, is appointed by the board of directors annually. The audit committee of the board meets regularly with financial management of the company and with the shareholders' independent auditor to discuss internal controls, audit matters, including audit scope and auditor remuneration, and financial reporting issues. The independent shareholders' auditor has unrestricted access to the audit committee. The audit committee reviews the annual financial statements and reporting to the board, and makes recommendations with respect to their acceptance. The audit committee also makes recommendations to the board with respect to the appointment and remuneration of the company's auditor.
Management acknowledges its obligation to oversee all aspects of the company's operations in a legal and ethical manner.	Management recognizes its responsibility for conducting the company's affairs in compliance with established financial standards and applicable laws, and maintains proper standards of conduct for its activities.
The officer responsible for the financial affairs of the company signs and dates the statement.	(signed) Bill Brown II, Chief Financial Officer March 3, 2021

Summary of Chapter 4 Learning Objectives

LO1 – Explain the importance of financial statement disclosure.

The objective of financial statements is to communicate information to meet the needs of external users. In addition to recording and reporting verifiable financial information, accountants make decisions regarding how to measure transactions. Applying GAAP can present challenges when judgment must be applied as in the case of cost-benefit decisions and materiality considerations.

LO2 – Explain and prepare a classified statement of financial position.

A classified statement of financial position groups assets and liabilities as follows:

Assets	*Liabilities*
Current assets	Current liabilities
Non-current assets:	Non-current or long-term liabilities
Property, plant, and equipment	
Long-term investments	
Intangible assets	

Current assets are those that are used within one year or one operating cycle, whichever is longer, and include cash, accounts receivables, and unused supplies. Non-current assets have benefits beyond one fiscal year, or are not expected to be converted to cash within one fiscal year or one operating cycle, whichever is longer. There are three types of non-current assets: property, plant, and equipment (PPE), long-term investments, and intangible assets. Long-term investments include holdings of shares and debt of other companies. Intangible assets are rights held by the owner and do not have a physical substance; they include copyrights, patents, franchises, and trademarks. Current liabilities must be paid within one year or one operating cycle, whichever is longer. Non-current liabilities are due beyond one year or one operating cycle, whichever is longer.

LO3 – Explain the purpose and content of notes to financial statements.

In accordance with the GAAP principle of full disclosure, relevant details not contained in the body of financial statements are included in the accompanying notes to financial statements. Notes generally include a summary of significant accounting policies, details regarding property, plant, and equipment assets, and specifics about liabilities such as the interest rates and repayment terms.

LO4 – Explain the purpose and content of the auditor's report.

An audit as it relates to the auditor's report is an external examination of a company's financial statement information and its system of internal controls. Internal controls are the processes instituted by management of a company to direct, monitor, and measure the accomplishment of its objectives including the prevention and detection of fraud and error. The auditor's report provides some assurance that the financial statements are trustworthy. In simple terms, an unqualified auditor's report indicates that the financial statements are reliable.

LO5 – Explain the purpose and content of the report that describes management's responsibility for financial statements.

This report describes management's responsibility for the preparation and presentation of financial statements, the accuracy of estimates used therein, the adequacy of internal controls, and legal and ethical oversight of all aspects of the corporation. It also explains the responsibilities of the board of directors and the audit committee.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. What shapes and limits an accountant's measurement of wealth?
2. Are financial statements primarily intended for internal or external users?
3. What are the common classifications within a classified statement of financial position?
4. What are current assets?
5. What are non-current assets?
6. What are current liabilities?
7. What are non-current liabilities?
8. What is the purpose and content of the notes to the financial statements?
9. What is the purpose and content of the auditor's report?
10. What is the purpose and content of the report that describes management's responsibility for financial statements?

To answer the following, refer to the Big Dog Carworks Corp. financial statements for the year ended December 31, 2020 and other information included in this chapter.

11. Identify the economic resources of Big Dog Carworks Corp. shown in its financial statements.
12. What comprise the financial statements of BDCC?
13. Why does BDCC prepare financial statements?
14. From the statement of financial position at December 31, 2020 extract the appropriate amounts to complete the following accounting equation:

    ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY
15. If ASSETS – LIABILITIES = NET ASSETS, how much is net assets at December 31, 2020? Is net assets synonymous with shareholders' equity?
16. What types of assets are reported by Big Dog Carworks Corp.? What types of liabilities?
17. Accounting for financial transactions makes it possible to measure the progress of the entity. How do generally accepted accounting principles positively affect this measurement process?

18. From reading the financial statements including the notes to the financial statements, can you tell whether BDCC has made any cost-benefit judgements about certain disclosures? How do these take materiality into account?
19. Does Big Dog Carworks Corp. use the cash basis of accounting or the accrual basis? How can you tell?
20. What kind of assumptions is made by Big Dog Carworks Corp. about asset capitalization? Over what periods of time are assets being amortized?
21. Should the salary of BDCC's president be recorded as an asset since his salary brings benefits to the company in future accounting periods?
22. What adjustments might management make to the financial information when preparing the annual financial statements? Consider the following categories:
    a. Current asset accounts
    b. Non-current asset accounts
    c. Current liability accounts
    d. Non-current liability accounts.

    Indicate several examples in each category. Use the BDCC statement of financial position and notes 3 and 5 for ideas.
23. What sequence of steps is likely followed in preparing BDCC's annual financial statements?
24. What are the advantages of using a classified statement of financial position? Why are current accounts shown before non-current ones on BDCC's statement of financial position?
25. How does Big Dog Carworks Corp. make it easier to compare information from one time period to another?
26. Who is the auditor of BDCC? What does the auditor's report tell you about BDCC's financial statements? Does it raise any concerns?
27. What does the auditor's report indicate about the application of generally accepted accounting principles in BDCC's financial statements?
28. What is BDCC management's responsibility with respect to the company's financial statements? Do the financial statements belong to management? the auditor? the board of directors? shareholders?

Comprehension Problems

CP 4–1

View Answer

The following list of accounts is taken from the records of the Viking Company Ltd. at December 31, 2018:

Account	*Balance*
Accounts payable	$200
Accounts receivable	100
Bank loan, due within 90 days	500
Building	1,000
Cash	20
Equipment	500
Land	2,000
Mortgage payable (due 2021)	1,500
Notes receivable, due within 90 days	40
Prepaid insurance	30
Retained earnings	?
Salaries payable	60
Share capital	1,200
Unused supplies	10

Required: Prepare a classified statement of financial position. Assume all accounts have normal balances.

CP 4-2

View Answer

The Oregon Corporation has been operating for a number of years. On October 31, 2018 the accountant of the company disappeared, taking the records with him. You have been hired to reconstruct the accounting records, and with this in mind you assemble a list of all company assets. By checking with banks, counting the materials on hand, and investigating the ownership of buildings and equipment, you developed the following information as of October 31.

Account	*Balance*
Accounts Receivable	$ 5
Buildings	10
Cash	2
Equipment	5
Land	200
Inventories	3
Investments*	4

*These are shares in another corporation that will be held indefinitely.

Statements and unpaid invoices found in the office indicate that $30 is owed to trade creditors. There is a $10 mortgage outstanding, $4 of which is due by October 31, 2019. Interviews with the board of directors and a check of the share capital records indicate that there are 100 shares outstanding. Shareholders paid $100 in total to the corporation for these. No record is available regarding past retained earnings.

Required: Prepare a classified statement of financial position at October 31, 2018.

Problems

P 4-1

View Answer

The following statement of financial position was prepared for Abbey Limited:

Abbey Limited
Statement of Financial Position
As at November 30, 2018

Assets			*Liabilities*		
Current			*Current*		
Bank loan	$ 1,000		Accounts payable	$ 5,600	
Notes receivable	6,000		Notes payable	2,000	
Building	12,000		Cash	1,000	
Merch. inventory	3,000				$ 8,600
		$22,000			
Non-current			*Non-current*		
Short-term investments	2,500		Mortgage payable	6,000	
Retained earnings	2,000		Equipment	2,000	
Unused supplies	100		Salaries payable	250	
Truck	1,350				8,250
		5,950	Total liabilities		16,850
			Shareholders' Equity		
			Share capital		11,100
Total assets		$27,950	Total liabilities and assets		$27,950

Other information you have gathered:

a. Amounts due on borrowings by November 30, 2019 are as follows:

Bank loan	$400
Mortgage payable	2,000
Notes payable	500

b. Notes receivable that will be collected by November 30, 2019 amount to $5,000.

c. The building was sold on December 15, 2018 for $20,000.

Required:

1. Identify the errors that exist in the statement of financial position of Abbey Limited and why you consider this information incorrect.
2. Prepare a corrected, classified statement of financial position.
3. Based on the statement of financial position categories, what additional information should be disclosed in the notes to the financial statements?

P 4-2

View Answer

The following accounts and account balances are taken from the records of Joyes Enterprises Ltd. at December 31, 2018.

Account	*2018*	*2017*
Accounts payable	$ 7,000	$ 4,000
Accounts receivable	5,000	3,000
Notes receivable	3,000	2,000
Bank loan	5,000	5,000
Building	24,000	20,000
Cash	2,000	1,000
Dividends	1,000	-0-
Equipment	16,000	12,000
Income taxes payable	3,000	2,500
Land	5,000	5,000
Merchandize inventory	19,000	24,500
Mortgage payable	5,000	7,000
Prepaid insurance	1,000	1,000
Share capital	48,000	48,000
Retained earnings, start of year	2,000	1,000
Net income	?	?

Other information:

a. One-half of the notes receivable at December 31, 2018 will be received in cash during 2019. All of the notes receivable at December 31, 2017 were received in cash during 2018.
b. $1,000 of the bank loan and $2,000 of the mortgage payable must be repaid by December 31, 2019.

Required:

1. Calculate net income for 2017 and 2018.
2. Prepare a classified statement of financial position. Assume all accounts have normal balances. Disclose all amounts separately on the statement of financial position.
3. Does Joyes Enterprises Ltd. have sufficient resources to meet its current obligations in 2019?
4. Refer to BDCC's note 4 shown in this chapter. Assume now that Joyes' property, plant, and equipment are combined into one amount on the statement of financial position. Prepare a suitable note to the financial statements. Assume there are no additions to PPE in 2017, and that there is no depreciation calculated for either year.

P 4-3

View Answer

Required: Identify whether each of the following sentences would be found in (a) the auditor's report; (b) the statement of management's responsibility for the financial statements; or (c) the notes to the financial statements. The answer to the first sentence is provided.

__b__ 1. The significant accounting policies, which management believes are appropriate for the company, are described in Note X to the financial statements.

___ 2. The financial statements of Acme Supplies Ltd. have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued the International Accounting Standards Boards (IASB).

___ 3. Management has established systems of internal control that are designed to provide reasonable assurance that assets are safeguarded from loss or unauthorized use [. . .]

___ 4. The board of directors is responsible for ensuring that management fulfils its responsibilities for financial reporting and internal control.

___ 5. When preparing the financial statements, management undertakes a number of judgments, estimates, and assumptions about the recognition and measurement of assets, liabilities, income, and expenses. Information about estimates and assumptions that have the most significant effect on recognition and measurement of assets, liabilities, income, and expenses is provided below. Actual results may be substantially different.

___ 6. The mortgage is payable to Last Chance Bank. It bears interest at 5% per year and is amortized over 20 years.

___ 7. [. . .] the accompanying financial statements of Acme Supplies Ltd., which comprise the statement of financial position as at December 31, 2020, the income statement, statement of changes in equity, and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

___ 8. An [. . .] involves performing procedures to obtain [. . .] evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the [. . .] judgment, including assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

___ 9. The accompanying financial statements of the company are the responsibility of management.

___ 10. Revenue arises from the rendering of service. It is measured by reference to the fair value of consideration received or receivable.

___ 11. The bank loan is due on demand and bears interest at 4% per year. It is secured by real estate of the company.

___ 12. The audit committee reviews the annual financial statements and reporting to the board, and makes recommendations with respect to their acceptance.

___ 13. Management recognizes its responsibility for conducting the company's affairs in compliance with established financial standards and applicable laws, and maintains proper standards of conduct for its activities.

___ 14. My responsibility is to express an opinion on the financial statements based on my audit.

___ 15. Estimates are necessary in the preparation of these statements and, based on careful judgments, have been properly reflected.

___ 16. I believe that the [. . .] evidence I have obtained is sufficient and appropriate to provide a basis for my [. . .].

___ 17. Land held for use in production or administration is stated at cost. Other property, plant, and equipment are initially recognized at acquisition cost plus any costs directly attributable to bringing the assets to the locations and conditions necessary to be employed in operations. They are subsequently measured using the cost model: cost less subsequent depreciation.

___ 18. In making those risk assessments, [. . .]considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design [. . .]procedures that are appropriate in the circumstances

___ 19. The share capital of Acme Supplies Ltd. consists of fully-paid common shares with a stated value of $1 each.

___ 20. The principal activity of Acme Supplies Ltd. is the retail sale of merchandize.

CHAPTER FIVE

Accounting for the Sale of Goods

To this point, examples of business operations have involved the sale of services. This chapter introduces business operations based on the purchase and resale of goods. For example, Canadian Tire and Walmart each purchase and resell goods—such businesses are known as merchandizers. The accounting transactions for merchandizing companies differ from those of service-based businesses. Chapter 5 covers accounting for transactions of sales of goods on credit and related cash collections by merchandizing firms, and transactions involving purchases and payments for goods sold in the normal course of business activities.

Chapter 5 Learning Objectives

LO1 – Describe merchandizing and explain the financial statement components of sales, cost of goods sold, merchandize inventory, and gross profit; differentiate between the perpetual and periodic inventory systems.

LO2 – Analyze and record purchase transactions for a merchandizer.

LO3 – Analyze and record sales transactions for a merchandizer.

LO4 – Record adjustments to merchandize inventory.

LO5 – Explain and prepare a classified multiple-step income statement for a merchandizer.

LO6 – Explain the closing process for a merchandizer.

LO7 – (Appendix) Explain and identify the entries to record purchase and sales transactions in a periodic inventory system.

A. The Basics of Merchandizing

LO1 - Describe merchandizing and explain the financial statement components of sales, cost of goods sold, merchandize inventory, and gross profit; differentiate between the perpetual and periodic inventory systems.

A merchandizing company, or **merchandizer**, differs in several basic ways from a company that provides services. First, a merchandizer purchases and then sells goods whereas a service company sells services. For example, a car dealership is a merchandizer that sells cars while an airline is a service company that sells air travel. Because merchandizing involves the purchase and then the resale of goods, an expense called **cost of goods sold** results. Cost of goods sold is the purchase price of items that are then re-sold to customers. For example, the cost of goods sold for a car dealership would be the cost of the cars purchased from the manufacturer. A service company does not have an expense called cost of goods sold since it does not sell physical items. As a result, the income statement for a merchandizer includes different details. A merchandizing income statement highlights cost of goods sold by showing the difference between sales revenue and cost of goods sold, which is called **gross profit** or *gross margin*. The basic income statement differences between a service business and a merchandizer are illustrated in Figure 5-1.

Service Company	*Merchandizing Company*
Revenues	Sales
	Less: Cost of Goods Sold
	Equals: Gross Profit
Less: Expenses	*Less*: Other Expenses
Equals: Net Income	*Equals*: Net Income

Figure 5-1 Differences Between the Income Statements of Service and Merchandizing Companies

Assume that Excel Cars Corporation decides to go into the business of buying used vehicles from a supplier and reselling these to customers. If Excel purchases a vehicle for $2,000 and then sells it for $3,000, the gross profit would be $1,000, as follows:

Sales	$ 3,000
Cost of goods sold	2,000
Gross profit	$ 1,000

The word "gross" is used by accountants to indicate that other expenses incurred in running the business must still be deducted from this amount before net income is calculated. In other words, gross profit represents the amount of sales revenue that remains to pay expenses after the cost of the goods sold is deducted.

A **gross profit percentage** can be calculated to express the relationship of gross profit to sales. The sale of the vehicle that cost $3,000 results in a 33.3% gross profit percentage ($1,000/3,000). That is, for every $1 of sales, the company has $.33 left to cover other expenses after deducting cost of goods sold. Readers of financial statements use this percentage as a means to evaluate the performance of one company against other companies in the same industry, or in the same company from year to year. Small fluctuations in the gross profit percentage can have significant effects on the financial performance of a company because the amount of sales and cost of goods sold are often very large in comparison to other income statement items.

Another difference between a service company and a merchandizer relates to the statement of financial position. Since a merchandizer purchases goods for resale, goods held for resale by a merchandizer are called *merchandize inventory* and are reported as an asset on the statement of financial position. A service company would not normally have merchandize inventory.

Inventory Systems

There are two ways that inventory is managed: the perpetual inventory system or periodic inventory system. This chapter focuses on the perpetual system. In a **perpetual inventory system**, the Merchandize Inventory and Cost Of Goods Sold accounts in the general ledger are updated immediately when a purchase or sale of goods occurs. When merchandize inventory is purchased, the cost is debited to the Merchandize Inventory account. As inventory is sold to customers, the cost of the inventory sold is removed from the Merchandize Inventory account and debited to the Cost Of Goods Sold account. Under a perpetual system, the detailed composition of merchanides inventory – item description, number of items, cost per item, and total cost – is known at any time. However, a physical count is still performed at the end of the accounting period to determine and adjust for differences between the actual inventory on hand and the Merchandize Inventory account balance in the general ledger.

Some businesses will use a **periodic inventory system** instead**.** The purchase of merchandize inventory is debited to a temporary account called Purchases in the general ledger. At the end of the accounting period, inventory is counted, the Merchandize Inventory account is updated, and cost of goods sold is calculated. In a periodic inventory system, the real-time balances in Merchandize Inventory and Cost Of Goods Sold accounts are not known. The entry to record this difference is discussed later in this chapter. The periodic system is discussed in greater detail in the appendix to this chapter.

B. The Purchase and Payment of Merchandize Using the Perpetual Inventory Method

LO2 – Analyze and record purchase transactions for a merchandizer.

As introduced in Chapter 3, a company's operating cycle includes purchases *on account* or *on credit* and is highlighted in Figure 5–2.

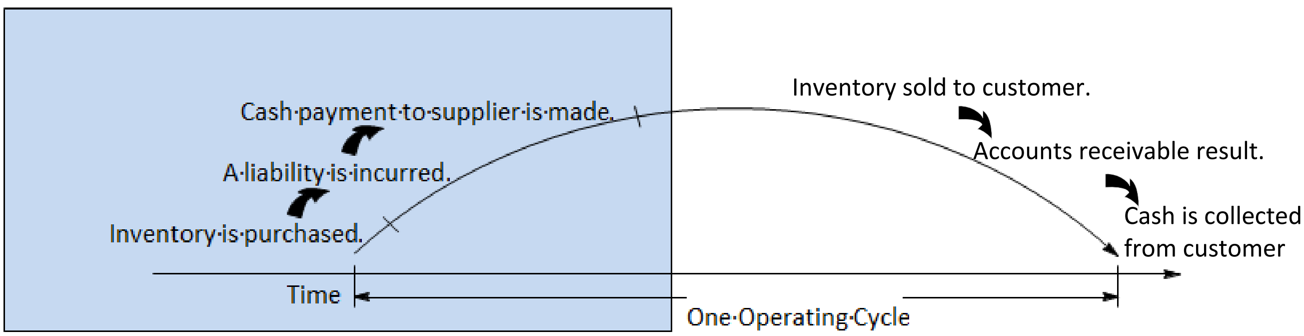

Figure 5–2 Purchase and Payment Portion of the Operating Cycle

Recording the Purchase of Merchandize Inventory

When merchandize inventory is purchased, the cost is recorded in a Merchandize Inventory general ledger account. An account payable results when the merchandize inventory is acquired but will not be paid in cash until a later date. For example, recall the vehicle purchased on account by Excel Cars Corporation for $2,000. Assume this was purchased on May 2, 2018. The journal entry and general ledger T-account effects would be as follows:

General Journal Entry					*General Ledger Effect*
					Merch. Inventory: 2,000 (Dr.)
May 2	Merchandize Inventory	150	2,000		
	Accounts Payable	210		2,000	Accounts Payable: 2,000 (Cr.)
	To record purchase of vehicle.				

In addition to the purchase of merchandize inventory, there are other activities that affect the Merchandize Inventory account. For instance, merchandize may occasionally be returned to a supplier or damaged in transit, or discounts may be earned for prompt cash payment. These transactions result in the reduction of amounts due to the supplier and thus the costs of inventory. The purchase of merchandize inventory may also involve the payment of transportation and handling costs. These are all costs necessary to prepare inventory for sale, and all such costs are included in the Merchandize Inventory account. These costs are discussed in the following sections.

Purchase Returns and Allowances

Assume that the vehicle purchased by Excel turned out to be the wrong colour. The supplier was contacted on May 3 and agreed to reduce the price by $300 to $1,700. This is an example of a **purchase returns and allowances** adjustment. The amount of the allowance, or reduction, is recorded as via journal entry as a credit to the Merchandize Inventory account. The entry and related T-account effects are:

May 3	Accounts Payable	210	300	
	Merchandize Inventory	150		300
	To record reduction in account payable: vehicle wrong colour.			

Accounts Payable

Dr.	Cr.
	2,000
300	
	1,700

Merch. Inventory

Dr.	Cr.
2,000	
	300
1,700	

Note that the cost of the vehicle has been reduced to $1,700 ($2,000 – 300) as has the amount owing to the supplier.

Purchase Discounts

Purchase discounts affect the purchase price of merchandize if payment is made within a time period specified in the supplier's invoice. For example, if the terms on the $2,000 invoice for one vehicle received by Excel indicates "1/15, n45", this means that the $2,000 must be paid within 45 days ('n' = net). However, if cash payment is made by Excel within 15 days, the purchase price will be reduced by 1%.

Assuming the amount is paid within 15 days, the supplier's terms entitle Excel to deduct $17 [($2,000 - $300) = $1,700 x 1% = $17]. The payment to the supplier if payment was made on May 9 would be recorded as:

May 9	Accounts Payable	210	1,700	
	Merchandize Inventory	150		17
	Cash	101		1,683
	To record payment on account in full and purchases discount applied.			

Accounts Payable	
	1,700
1,700	

Merch. Inventory	
2,000	
	300
	17
1,683	

Cash	
	1,683

The cost of the vehicle in Excel's inventory records is now $1,683 ($2,000 – 300 – 17). If payment is made after the discount period, $2,700 of cash is paid and the entry would be:

Accounts Payable	1,700	
Cash		1,700
To record payment on account; no purchase discount applied.		

In this case, the Merchandize Inventory account is not affected. The cost of the vehicle in the general ledger remains at $1,700.

Trade discounts are similar to purchase discounts. A supplier advertizes a **list price** which is the normal selling price of its goods to merchandizers. Trade discounts are given by suppliers to merchandizers that buy a large quantity of goods. For instance, assume a supplier offers a 10% trade discount on purchases of 1,000 units or more where the list price is $1/unit. If Beta Merchandizer Corp. buys 1,000 units on account, the entry in Beta's records would be:

Merchandize Inventory	900	
Accounts Payable		900
To record purchase of cups; 5% trade discount applied (1,000 x $1 x 95% = $900)		

Note that just the net amount (list price less trade discount) is recorded.

Transportation

Costs to transport goods from the supplier to the seller must also be considered when recording the cost of merchandize inventory. The shipping terms on the invoice identify the point at which ownership of the inventory transfers from the supplier to the purchaser. When the terms are **FOB shipping point**, ownership transfers at the 'shipping point' so the purchaser is responsible for transportation costs. **FOB destination** indicates that ownership transfers at the 'destination point' so the seller is responsible for transportation costs. FOB is the abbreviation for "free on board."

Assume that Excel's supplier sells with terms of FOB shipping point indicating that transportation costs are Excel's responsibility. If the cost of shipping is $125 and this amount was paid in cash to the truck driver at time of delivery on May 9, the entry would be:

May 9	Merchandize Inventory	150	125	
	Cash	101		125
	To record freight on vehicle purchased.			

Merch. Inventory

2,000	
	300
	17
125	
1,808	

Cash

	125

The cost of the vehicle in the Excel Merchandize Inventory account is now $1,808. It is important to note that Excel's transportation costs to deliver goods to customers are recorded as *delivery expenses* that do not affect the Merchandize Inventory account.

The next section describes how the sale of merchandize is recorded as well as the related costs of items sold.

C. Merchandize Inventory: Sales and Collection Using the Perpetual Inventory System

LO3 – Analyze and record sales transactions for a merchandizer.

In addition to purchases on account, a merchandizing company's operating cycle includes the sale of merchandize inventory *on account* or *on credit* as highlighted in Figure 5–3.

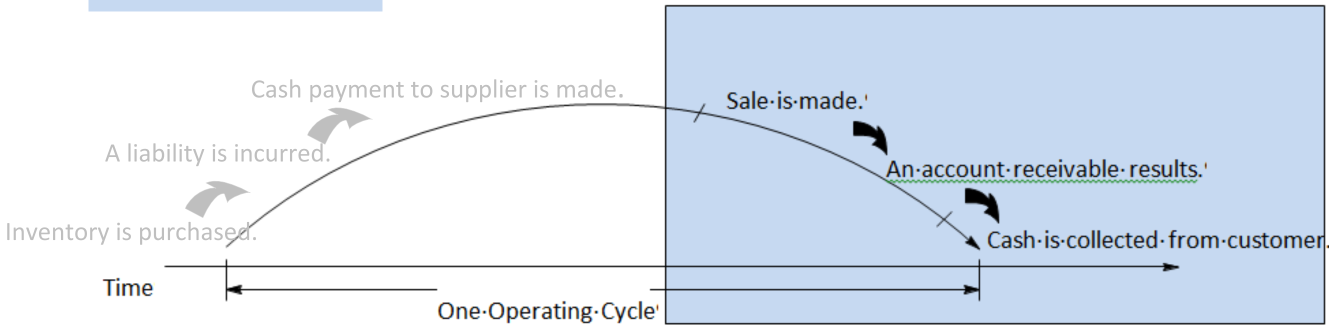

Figure 5–3 Sales and Collection Portion of the Operating Cycle

There are some slight recording differences when revenue is earned in a merchandizing company. These are discussed below.

Recording the Sale of Merchandize Inventory

The sale of merchandize inventory is recorded with two entries:

1. recording the sale by debiting Cash or Accounts Receivable and crediting Sales, and
2. recording the cost of the sale by debiting Cost of Goods Sold and crediting Merchandize Inventory.

Assume the vehicle purchased by Excel is sold on May 15 for $3,000 on account. Recall that the cost of this vehicle in the Excel Merchandize Inventory account is $1,808, as shown below.

The entries to record the sale of the merchandize inventory are:

Date	Account	Ref	Debit	Credit
May 15	Accounts Receivable	110	3,000	
	Sales	500		3,000
	Cost of Goods Sold	570	1,808	
	Merchandize Inventory	150		1,808
	To record sale of vehicle.			

Accounts Receivable

3,000	

Sales

	3,000

Cost of Goods Sold

1,808	

Merch. Inventory

1,808	
	1,808
-0-	

> Costs are transferred to the income statement from the statement of financial position at the same time the sale is recorded.

The first part of the entry records the sales revenue. The second part is required to reduce the Merchandize Inventory account and transfer the cost of the merchandize sold to the Cost of Goods Sold account, and then to the income statement. The part of the entry ensures that both the Merchandize Inventory and Cost of Goods Sold accounts in the general ledger are up to date.

Sales Returns and Allowances

When merchandize inventory that has been sold is returned to the merchandizer by the customer, a **sales return and allowance** is recorded. For example, assume some damage occurs to the car sold by Excel while it is being delivered to the customer on May 17. Excel would give the customer a **sales allowance** by agreeing to reduce the amount owing by, say, $100. The entry is:

Date	Account	Ref	Debit	Credit
May 17	Sales Returns and Allowances	508	100	
	Accounts Receivable	110		100
	To record customer allowance for damage to vehicle during delivery.			

Sales Ret. & Allow.

100	

Accounts Receivable

3,000	
	100
2,900	

Accounts receivable is credited because the original sale was made on account and has not yet been paid. The amount owing from the customer is reduced to $2,900. If the $2,900 had already been paid, a credit would be made to Cash and $100 refunded to the customer. The Sales Returns and Allowances account is a *contra* revenue account, meaning it is *deducted* from Sales when preparing the income statement.

If goods are returned by a customer, a **sales return** occurs. The related sales and cost of goods sold recorded on the income statement are reversed and the goods are returned to inventory. For example, assume Max Corporation sells a plastic container for $3 that it purchased for $1. The dual entry at the time of sale would be:

Accounts Receivable	3	
Sales		3
Cost of Goods Sold	1	
Merchandize Inventory		1
To record sale of plastic container.		

If the container is returned, the journal entry would reverse the original entry, except that Sales Returns and Allowances would be debited instead of the Sales account:

Sales Returns and Allowances	**3**	
Accounts Receivable		3
Merchandize Inventory	1	
Cost of Goods Sold		1
To record return of plastic container.		

Use of a Sales Returns and Allowances contra account allows management to track the amount of returned and damaged items for their information purposes.

Sales Discounts

Another contra revenue account, **Sales Discounts**, records reductions in sales amounts when a customer pays within a certain time period. For example, assume Excel Cars Corporation offers sales terms of "2/10, n30." This means that the amount owed must be paid by the customer within 30 days ('n' = net); however, if the customer chooses to pay within 10 days, a 2% discount may be deducted from the amount owing.

Consider the sale of the vehicle for $2,900 ($3,000 less the $100 allowance for damage). Payment within 10 days entitles the customer to a $58 discount ($2,900 x 2% = $58). If payment is made on May 21 and therefore within the discount period, Excel receives $2,842 cash ($2,900 - 58) and prepares the following entry:

May 21	Cash	101	2,842	
	Sales Discounts	509	58	
	Accounts Receivable	110		2,900
	To record payment on account and sales discount applied.			

Cash	
2,842	

Sales Discounts	
58	

Accounts Receivable	
2,900	
	2,900
-0-	

This entry reduces the accounts receivable amount to zero which is the desired result. If payment is not made within the discount period, the customer pays the full amount owing of $2,900.

The Sales Allowances and Sales Discounts contra accounts are deducted from sales on the income statement to arrive at net sales. Cost of goods sold is deducted from net sales. If Excel purchased and sold only this one vehicle, the partial income statement for the period from January 1 to May 31 would show:

Excel Cars Corporation
Partial Income Statement
For the Five Month Period Ended May 31, 2018

Sales		$3,000
Less: Sales returns and allowances	$100	
Sales discounts	58	158
Net sales		2,842
Cost of goods sold		1,808
Gross profit		1,034

As was the case for Sales Returns and Allowances, the balance in the Sales Discounts account is deducted from Sales on the income statement to arrive at Net Sales. Merchandizers often report only the net sales amount on the income statement. Details from sales returns and allowances, and sales discounts, are often omitted because they are immaterial in amount relative to total sales. However, separate general ledger accounts for each of sales returns and allowances, and sales discounts, are useful in helping management identify potential problems that require investigation.

D. Adjustments to Merchandize Inventory Using the Perpetual Inventory System

LO4 – Record adjustments to merchandize inventory.

In the simple example above, Excel did not have any merchandize inventory on hand at either the start of the year or at the end of May. It purchased and sold one vehicle during the month.

Now assume that Excel Cars Corporation purchased five vehicles from its supplier for $2,000 each on June 2, 2018. The company sold three of these for $3,000 each on June 16. On June 30, ending inventory would consist of two vehicles valued at $2,000 each, or $4,000 in total. (Note that inventory is valued at cost, not estimated selling price.) Assume there are no applicable transportation, purchase allowances or discounts expenditures.

The journal entry to record the purchase of the vehicles on June 2 would be:

June 2	Merchandize Inventory	150	10,000	
	Accounts Payable	210		10,000
	To record purchase of five vehicles.			

Merch Inventory

-0-	
10,000	
10,000	

Accounts Payable

	-0-
	10,000
10,000	

The summary journal entry to record the sale of the vehicles on June 16 would be:

June 16	Accounts Receivable	110	9,000	
	Sales	500		9,000
	Cost of Goods Sold	570	6,000	
	Merchandize Inventory	550		6,000

To record sale of three vehicles and related cost of goods sold.

Accounts Receivable	
-0-	
9,000	
9,000	

Sales	
	3,000
	9,000
	12,000

Cost of Goods Sold	
1,808	
6,000	
7,808	

Merch. Inventory	
10,000	
	6,000
4,000	

Assume the purchases and sales of vehicles in May and June were the only activity of the company during its fiscal year ended December 31, 2018, and the only opening general ledger account balances were Cash - $5,000 and Share Capital - $5,000. After the May and June transactions are recorded, the general ledger T-accounts would appear as follows:

Cash

5,000	1,683[3]
[7]2,842	125[4]
6,034	

Accounts Payable

[2]300	2,000[1]
[3]1,700	10,000[8]
	10,000

Share Capital

	5,000

Sales

	3,000[5]
	9,000[9]
	12,000

Accounts Rec.

[5]3,000	100[6]
[9]9,000	2,900[7]
9,000	

Sales Ret. & Allow.

[6]100	

Sales Discounts

[7]58	

Merchandize Inv.

[1]2,000	300[2]
[4]125	17[3]
1,808	
	1,808[5]
-0-	
[8]10,000	6,000[9]
4,000	

Cost of Goods Sold

[5]1,808	
[9]6,000	
7,808	

Summary of transactions

[1] Purchased one vehicle on credit, May 2
[2] Adjustment by supplier for wrong colour
[3] Paid supplier May 9; purchase discount taken
[4] Paid transportation costs
[5] Sold one vehicle on May 15
[6] Customer credited for delivery damage May 17
[7] Payment received from customer on May 21; sales discount applied
[8] Purchased five vehicles on credit, June 2
[9] Sold three vehicles on June 16

At the end of the fiscal year, an unadjusted trial balance would be prepared based on this information, as follows:

Excel Cars Corporation
Unadjusted Trial Balance
December 31, 2018

Account No.	*Account Title*	*Account Balance*	
		Debit	*Credit*
101	Cash	$ 6,034	
110	Accounts Receivable	9,000	
150	Merchandize Inventory	4,000	
210	Accounts Payable		$ 10,000
320	Share Capital		5,000
500	Sales		12,000
508	Sales Returns and Allowances	100	
509	Sales Discounts	58	
570	Cost of Goods Sold	7,808	
		$27,000	$27,000

Shrinkage

There is one adjusting entry that may need to be made at year-end related to merchandize inventory. Usually, a physical count of inventory is conducted at the fiscal year-end. Costs are attached to these items and all are totalled. This total is then compared to the Merchandize Inventory account balance. These should agree, unless inventory has been lost for some reason. This discrepancy is called **shrinkage**. Theft and deterioration of goods held for re-sale are the most common examples of shrinkage.

Assume that one of the two vehicles remaining on Excel's vehicle lot is stolen prior to the year-end and that this has (somehow) gone unnoticed by staff. A physical count at December 31 would reveal one vehicle on hand. This vehicle would be traced to the related purchase invoice and valued at $2,000. Comparing this amount to the balance in the Merchandize Inventory account would reveal a discrepancy of $2,000 ($4,000 – 2,000), and the theft would be revealed. This ability to compare accounting records with actual items on hand can be a valuable means for management to safeguard assets of the company, especially when there are thousands of goods purchased for resale. The system alerts managers to possible shrinkage problems.

At the year-end, the loss of one vehicle must be reflected in the accounting records. The following adjusting entry would be made:

Dec. 31	Cost of Goods Sold	570	2,000	
	Merchandize Inv.	550		2,000

To adjust merchandize inventory to physical count at year-end: vehicle stolen

Cost of Goods Sold

Debit	Credit
1,808	
6,000	
2,000	
9,808	

Merch. Inventory

Debit	Credit
10,000	
	6,000
4,000	
	2,000
2,000	

Generally, shrinkage is recorded as part of cost of goods sold. If the amounts are abnormally large, however, a separate general ledger account can be maintained called, say, Inventory Shrinkage. The amount is still combined with cost of goods sold and not disclosed separately on the income statement, as it is considered information to be used only internally (to spur investment in the protection of physical inventory, for instance). However, it does provide information to management about the cost of shrinkage and may alert them to the need to provide better physical protection for inventory assets.

As there are no more adjustments at year-end in this example, an adjusted trial balance is prepared, as follows:

Excel Cars Corporation
Adjusted Trial Balance
December 31, 2018

Acct. No.	*Account*	*Account Balance*	
		Debit	*Credit*
101	Cash	$ 6,034	
110	Accounts Receivable	9,000	
150	Merchandize Inventory	2,000	
210	Accounts Payable		$ 10,000
320	Share Capital		5,000
500	Sales		12,000
508	Sales Returns and Allowances	100	
509	Sales Discounts	58	
570	Cost of Goods Sold	9,808	
		$27,000	$27,000

The financial statements for the year ended December 31 would be prepared from this information, as follows:

Excel Cars Corporation
Income Statement
For the Year Ended December 31, 2018

Sales		$12,000
Less: Sales returns and allowances	$100	
Sales discounts	58	158
Net sales		11,842
Cost of goods sold		9,808
Gross profit and net income		$ 2,034

In this case, sales consists of four vehicles sold for $3,000 each, or $12,000 in total. Cost of goods sold of $9,808 consists of four vehicles that were originally purchased for $2,000 each, or $8,000 in total, plus transportation costs of $125 and the loss of one vehicle ($2,000), less a purchase allowance of $300 and a purchase discount of $17 related to the May sale ($8,000 + 125 + 2,000 – 300 – 17 = $9,808). Gross profit therefore equals $2,034. Since there are no other expenses, net income is also $2,034.

The statement of changes in equity would show:

Excel Cars Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total equity*
Balance at January 1, 2018	$5,000	$ -0-	$5,000
Net income		2,034	2,034
Balance at December 31, 2018	$5,000	$2,034	$7,034

The statement of financial position at year-end would show:

Excel Cars Corporation
Statement of Financial Position
At December 31, 2018

	Assets	
Current assets		
Cash		$ 6,034
Accounts receivable		9,000
Merchandize inventory		**2,000**
Total assets		$17,034
	Liabilities	
Accounts payable		$10,000
	Shareholders' Equity	
Share capital	$5,000	
Retained earnings	2,034	7,034
Total liabilities and shareholders' equity		$17,034

The one vehicle remaining in inventory at December 31 is valued at $2,000. This is the amount that remains in the Merchandize Inventory general ledger account, verified by physical count at year-end. It is appropriately shown as an asset on the statement of financial position at December 31.

E. Merchandizing Income Statement

LO5 – Explain and prepare a classified multiple-step income statement for a merchandizer.

Businesses are required to show expenses on the income statement based on either the *nature* or the *function* of the expense. The **nature of an expense** is determined by its basic characteristics (what it is). For example, when expenses are listed on the income statement as interest, depreciation, income taxes, or salaries, this identifies the nature of each expense. In contrast, the **function of an expense** describes the grouping of expenses based on their purpose (what they relate to). For example, an income statement that shows cost of goods sold, selling expenses, and general and administrative expenses has grouped expenses by their function. When expenses are grouped by function, additional information must be disclosed to show the nature of expenses within each group. *Full disclosure* is the generally accepted accounting principle that requires financial statements to report all relevant information about the operations and financial position of the entity. Information that is relevant but not included in the body of the statements is provided in the notes to the financial statements.

A merchandizing income statement can be prepared in different formats. For this course, only one format will be used—the *classified multiple-step format.* This format is generally used only for internal reporting because of its detail. Most external financial statement users would find this detail excessive and distracting.

An example of a classified multiple-step income statement is shown below using assumed data for XYZ Inc. for its month ended December 31, 2017.

XYZ Inc.
Income Statement
Month Ended December 31, 2017

Sales		$100,000
Less: Sales discounts	$1,000	
Sales returns and allowances	500	1,500
Net sales		98,500
Cost of goods sold		50,000
Gross profit		48,500
Operating expenses		
Selling		
Sales salaries	$11,000	
Rent, store	12,000	
Advertizing	5,000	
Total selling	28,000	
General and administrative		
Office salaries	9,000	
Rent, office	3,000	
Supplies	2,500	
Insurance	1,000	
Total general and administrative	15,500	
Total operating expenses		43,500
Income from operations		5,000
Other revenues (expenses)		
Rent revenue	12,000	
Interest expense	(1,500)	10,500
Income before income taxes		15,500
Income taxes		2,000
Net income		$13,500

These are *function* categories.

These are *nature* categories.

These are not part of ordinary operations.

Notice that the classified multiple-step income statement shows expenses by both function and nature. The broad categories that show expenses by function include operating expenses, selling expenses, general and administrative expenses, and income taxes. Within each category, the nature of expenses is disclosed including sales salaries, advertizing, depreciation, supplies, and insurance. Notice that Rent Expense has been divided between two groupings because it applies to both selling (store) and general (office) expenses.

The normal operating activity for XYZ Inc. is merchandizing. Revenues and expenses that are not part of normal operating activities are listed under Other Revenues and Expenses. XYZ Inc. shows Rent Revenue under Other Revenues and Expenses because this type of revenue is not part of its merchandizing operations. Interest earned, dividends earned, and gains on the sale of property, plant, and equipment are more examples of other revenues not related to merchandizing operations. XYZ Inc. deducts interest expense under Other Revenues and Expenses. Interest expense does not result from operating activities; it is a financing activity because it is associated with the borrowing of money. Other examples of non-operating expenses include losses on the sale of property, plant, and equipment. Finally, income taxes expense is deducted. Income tax is a government levy, and considered unrelated to normal business operations.

F. Closing Entries for a Merchandizer Using the Perpetual Inventory System

LO6 – Explain the closing process for a merchandizer.

The process of recording closing entries for service companies was illustrated in Chapter 3. The closing procedure for merchandizing companies is the same as for service companies—all income statement accounts are transferred to the Income Summary account, the Income Summary is closed to Retained Earnings, and Dividends are closed to Retained Earnings.

When preparing closing entries for a merchandizer, the income statement accounts unique for merchandizers need to be considered—Sales, Sales Discounts, Sales Returns and Allowances, and Cost of Goods Sold. Sales is a revenue account so has a normal credit balance. To close Sales, it must be debited with a corresponding credit to the income summary. Sales Discounts and Sales Returns and Allowances are both contra revenue accounts so each has a normal debit balance. Cost of Goods Sold has a normal debit balance because it is an expense. To close these debit balance accounts, a credit is required with a corresponding debit to the income summary.

All accounts listed in the income statement columns are transferred to the income summary account, and then the income summary is closed to retained earnings. The same three-step process is used, as shown in chapter 3, as applied to the financial information of Excel Cars Corporation for the year ended December 31, 2018:

Entry 1

All income statement accounts with credit balances are debited to bring them to zero. Their balances are transferred to the income summary account.

		(a)		
Dec. 31	Sales	150	12,000	
	Income Summary	360		12,000
	To close all income statement accounts with credit balances to the income summary.			

Entry 2

All income statement accounts with debit balances are credited to bring them to zero. Their balances are transferred to the income summary account.

		(b)		
Dec. 31	Income Summary	360	9,966	
	Cost of Goods Sold	570		9,808
	Sales Returns and Allow.	508		100
	Sales Discounts	509		58
	To close all income statement accounts with credit balances to income summary.			

Entry 3

The Income Summary account is closed to the Retained Earnings account. The effect is to transfer temporary (income statement) account balances in the income summary totalling $4,034 to the permanent (statement of financial position) account, Retained Earnings.

		(c)		
Dec. 31	Income Summary	360	2,034	
	Retained Earnings	340		2,034
	To close income summary account to retained earnings.			

After these closing entries are posted, the general ledger T-accounts would appear as follows:

Cash	
5,000	1,683[3]
[7]2,842	125[4]
6,034	

Accounts Payable	
[2]300	2,000[1]
[3]1,700	10,000[8]
	10,000

Share Capital	
	5,000

Sales	
	3,000[5]
	9,000[9]
	12,000
[a]12,000	
-0-	

Retained Earnings	
	2,034[c]

The balance in the Income Summary is transferred to Retained Earnings.

Accounts Rec.	
[5]3,000	100[6]
[9]9,000	2,900[7]
9,000	

Income Summary	
[b]9,966	12,000[a]
[c]2,034	
-0-	

Sales Ret. & Allow.	
[6]100	
	100[b]
-0-	

Sales Discounts	
[7]58	
	58[b]
-0-	

Merchandize Inventory	
[1]2,000	300[2]
[4]125	17[3]
1,808	
	1,808[5]
-0-	
[8]10,000	6,000[9]
4,000	
	2,000
2,000	

Adjusting entry for inventory shrinkage

Cost of Goods Sold	
[5]1,808	
[9]6,000	
7,808	
2,000	
9,808	
	9,808[b]
-0-	

All income statement accounts and the income summary account are reduced to zero and net income for the year of $2,034 is transferred to retained earnings.

Appendix: The Periodic Inventory System

LO7 – Explain and identify the entries to record purchase and sales transactions in a periodic inventory system.

The perpetual inventory system maintains a continuous, real-time balance in both Merchandize Inventory, a statement of financial position account, and Cost of Goods Sold, an income statement account. As a result, the Merchandize inventory general ledger account balance should always equal the value of physical inventory on hand at any point in time. Additionally, the Cost of goods sold general ledger account balance should always equal the total cost of merchandize inventory sold for the accounting period. The accounts should perpetually agree; hence the name. An alternate system is considered below, called the *periodic* inventory system.

Description of the Periodic Inventory System

The periodic inventory system does not maintain a constantly-updated merchandize inventory balance. Instead, ending inventory is determined by a physical count and valued at the end of an accounting period. The change in inventory is recorded only periodically. Additionally, a Cost of goods sold account is not maintained in a periodic system. Instead, cost of goods sold is calculated at the end of the accounting period.

When goods are purchased using the periodic inventory system, the cost of merchandize is recorded in a **Purchases** account in the general ledger, rather than in the Merchandize Inventory account as is done under the perpetual inventory system. The Purchases account is an income statement account that accumulates the cost of merchandize acquired for resale.

Recall that Excel purchased a vehicle on account from its supplier on May 2 for $2,000. The journal entry and general ledger T-account effects using the periodic inventory system would be as follows:

May 2	Purchases	550	2,000	
	Accounts Payable	210		2,000
	To record purchase of vehicle.			

Purchases	
2,000	

Accounts Payable	
	2,000

Other types of activities related to the purchase of merchandize, like allowances for damaged items, purchase discounts, and transportation and handling charges, are not recorded in the Merchandize Inventory account either. Rather, they are recorded in special income statement accounts. Accounting for each type of transaction is explained below.

Purchase returns and Allowances

Recall that the price of the vehicle purchased on May 2 was reduced from $2,000 to $1,700 because it was the wrong colour. Under the periodic inventory system, the amount of the reduction is accumulated in a separate **Purchase returns and Allowances**, an income statement account. Excel would record the transaction as follows:

May 3	Accounts Payable	210	300	
	Purch. Ret. and Allow.	558		300
	To record reduction in account payable: vehicle damaged.			

Accounts Payable	
	2,000
300	

Purch. Ret. & Allows.	
	300

The Purchase returns and Allowances amount of $300 is deducted from Purchases when calculating cost of goods sold on the income statement. It is a contra account.

Purchase discounts

Another contra account, **Purchase discounts**, accumulates reductions in the purchase price of merchandize if payment is made within a time period specified in the supplier's invoice. Recall that if amount owing on the vehicle is paid within 15 days, the supplier's terms entitle Excel to deduct $17 [($2,000 - 300) = $1,700 x 1% = $17].

Under the periodic inventory system, the $1,683 cash payment to the supplier on May 9 is recorded as follows:

May 9	Accounts Payable	210	1,700	
	Purchase discounts	559		17
	Cash	101		1,683
	To record payment on account in full and purchases discount applied.			

Accounts Payable	
	1,700
1,700	

Purchase discounts	
	17

Cash	
1,683	1,683

The discount of $17 is deducted when calculating cost of goods sold on the income statement.

Transportation

Under the perpetual inventory system, the cost of transporting the vehicle to Excel's premises was added to the Merchandize Inventory account on the statement of financial position. Under the periodic inventory system, a **Transportation-in** account is used to accumulate freight charges on merchandize purchased for re-sale. Like the Purchases and Purchase discounts accounts, this is also an income statement account which is used to calculate cost of goods sold directly on the income statement.

Recall the cost of shipping the vehicle is $125 and it is paid in cash to the truck driver. Payment would be recorded as follows:

May 9	Transportation-In	560	125	
	Cash	101		125
	To record transportation costs on vehicle.			

Transportation-In	
125	

Cash	
	125

The vehicle is then sold for $3,000 on May 15. A $100 allowance is granted for damage to the vehicle during delivery. A $58 sales discount is granted because the customer paid the balance owing to Excel within the discount period. The sales transactions are recorded in the same manner under both the perpetual and periodic inventory systems.

The summary of these transactions is:

May 15	Accounts Receivable	110	3,000	
	Sales	500		3,000
May 17	Sales Ret. and Allowances	508	100	
	Accounts Receivable	110		100
May 21	Cash	101	2,842	
	Sales Discounts	509	58	
	Accounts Receivable	110		2,900

Note, however, that there is no entry made to adjust Merchandize Inventory and cost of goods sold when recording the May 15 sales. This is different from the perpetual inventory system. There have been no entries made to the Merchandize Inventory account to date using the periodic inventory system.

The same transactions also occur in June as described earlier. Five vehicles are purchased for $2,000 each, or $10,000 in total. The entry to record the purchase of the vehicles is:

Date	Account	Ref.	Debit	Credit
June 2	Purchases	550	10,000	
	Accounts Payable	210		10,000

Purchases

Debit	Credit
2,000	
10,000	
12,000	

Accounts Payable

Debit	Credit
	-0-
	10,000
	10,000

Three vehicles are sold during June for $3,000 each, or $9,000 in total. The entry to record the sale of the vehicles is:

Date	Account	Ref.	Debit	Credit
June 16	Accounts Receivable	110	9,000	
	Sales	500		9,000

Accounts Receivable

Debit	Credit
-0-	
9,000	
9,000	

Sales

Debit	Credit
	3,000
	9,000
	12,000

Again, note that there are no adjustments to the Merchandize Inventory or Cost of Goods Sold accounts in the general ledger at this point, unlike the perpetual inventory system. After the June transactions are recorded, the general ledger T-accounts would appear as follows:

Cash	
5,000	1,683[3]
[7]2,842	125[4]
6,034	

Accounts Payable	
[2]300	2,000[1]
[3]1,700	10,000[8]
	10,000

Share Capital	
	5,000

Sales	
	3,000[5]
	9,000[9]
	12,000

Accounts Rec.	
[5]3,000	100[6]
[9]9,000	2,900[7]
9,000	

Sales Ret. & Allow.	
[6]100	

Sales Discounts	
[7]58	

Merchandize Inventory	
-0-	

Using the periodic inventory system, no transactions are recorded during the year in the Merchandize Inventory account. Purchases are recorded in a separate general ledger account.

Purchases	
[1]2,000	
[9]10,000	
12,000	

Purch. Ret. & Allows.	
	300[2]

Purchase Discounts	
	17[3]

Transportation-In	
[4]125	

Summary of transactions
[1] Purchased one vehicle on credit, May 2
[2] Adjustment by supplier for wrong colour
[3] Paid supplier May 9; purchase discount taken
[4] Paid transportation costs
[5] Sold one vehicle on May 15
[6] Customer credited for delivery damage May 17
[7] Payment received from customer on May 21; sales discount applied
[8] Purchased five vehicles on credit, June 2
[9] Sold three vehicles on June 16

Assume again that no other transactions occur during the year. When financial statements are prepared at December 31, a physical count of inventory is taken. Purchase invoices are referenced to determine the value of the items counted. The resulting amount is inserted into the income statement to determine the cost of goods sold for the year.

In the case of Excel, a physical count should show that there is one vehicle left on the lot. Referring to the purchase documents, this vehicle would be valued at its purchase price - $2,000. The value of ending inventory would thus be calculated as $2,000. This information is inserted directly into the income statement of Excel for the year ended December 31, 2018. Combined with the information in the general ledger T-accounts, the income statement would show:

Excel Cars Corporation
Income Statement
For the Year Ended December 31, 2018

Sales		$12,000
Less: Sales returns and allowances	$100	
Sales discounts	58	158
Net sales		11,842
Cost of goods sold:		
Opening inventory	-0-	
Purchases	12,000	
Transportation-in	125	
Less: Purchase returns and allow.	(300)	
Purchase discounts	(17)	
Cost of goods available for sale	11,808	
Less: Ending inventory	(2,000)	
Cost of goods sold		9,808
Gross profit and net income		$ 2,034

Ending inventory is counted and valued. The total amount is inserted into the income statement to determine cost of goods sold.

Net income remains the same under either the perpetual or periodic inventory system ($2,034). The periodic method is simpler to use than the perpetual inventory system, and is often used by small businesses because the costs of inventory recordkeeping are reduced. However, a perpetual inventory system enables management to compare inventory records to actual goods on hand at a period end to determine if any shrinkage has occurred. This security feature is not present with the periodic inventory system. The extra costs of recordkeeping using a perpetual inventory system are offset by the added control over a high-value asset like inventory, especially when there are thousands of items that a business may buy for re-sale each year and where shrinkage can be a significant issue.

Closing Entries – Periodic Inventory System

The process of closing the general ledger temporary accounts to retained earnings at the end of an accounting year is the same under the perpetual or periodic system, with one exception. Under the periodic system, an entry must be made in the Merchandize Inventory account to adjust this balance to the amount of inventory counted and valued at year-end. Otherwise, the steps are the same:

Entry 1

All income statement accounts with credit balances are debited to bring them to zero. Their balances are transferred to the income summary account. *At the same time, the ending inventory balance ($2,000 in this case) is debited to the Merchandize Inventory account.*

	(a)			
Dec. 31	Merchandize Inv. (ending)	150	2,000	
	Sales	500	12,000	
	Purchase Ret. and Allow.	558	300	
	Purchase Discounts	559	17	
	Income Summary	360		14,317
	To close all income statement accounts with credit balances to income summary and record ending inventory balance in Merchandize Inventory account.			

Entry 2

All income statement accounts with debit balances are credited to bring them to zero. Their balances are transferred to the Income Summary account. *At the same time, the opening inventory balance (zero in this case) is credited to the Merchandize Inventory account:*

(b)

Dec. 31	Income Summary	360	12,283	
	Merch. Inv. (opening)	150		-0-
	Sales Return and Allows.	508		100
	Sales Discounts	509		58
	Purchases	550		12,000
	Transportation-In	560		125
	To close all income statement accounts with credit balances to income summary and remove opening inventory from the Merchandize Inventory account.			

The combined effect of entries 1 and 2 on the Merchandize Inventory account is to adjust it to the actual ending balance at December 31 of $2,000. At the end of this process, the account will show:

		Merchandize Inventory	
Jan. 1	Opening balance	-0-	
	Add: Ending inventory (closing entry posted)	2,000	
	Less: Opening inventory (closing entry posted)		-0-
Dec. 31	Ending balance	2,000	

Entry 3

The income summary account is closed to the Retained Earnings account. The effect is to transfer temporary account balances in the income summary totalling $2,034 to the permanent general ledger account, Retained Earnings.

(c)

Dec. 31	Income Summary	360	2,034	
	Retained Earnings	340		2,034
	To close the Income Summary account to the Retained Earnings account.			

After these closing entries are posted, the general ledger T-accounts would appear as follows:

Cash

5,000	1,683[3]
[7]2,842	125[4]
6,034	

Accounts Payable

[2]300	2,000[1]
[3]1,700	10,000[8]
	10,000

Share Capital

	5,000

Retained Earnings

	2,034[c]

Sales

	3,000[5]
	9,000[9]
	12,000
[a]12,000	
-0-	

Accounts Rec.

[5]3,000	100[6]
[9]9,000	2,900[7]
9,000	

Income Summary

[b]12,283	14,317[a]
[c]2,034	
-0-	

Sales Ret. & Allow.

[6]100	
	100[b]
-0-	

Sales Discounts

[7]58	
	58[b]
-0-	

Merchandize Inventory

-0-	
[a]2,000	
	-0-[b]
2,000	

Purchases

[1]2,000	
[9]10,000	
12,000	
	12,000[b]
-0-	

Purch. Ret. & Allows.

	300[2]
[a]300	
-0-	

Purchase Discounts

	17[3]
[a]17	
-0-	

Transportation-In

[4]125	
	125[b]
-0-	

Opening Inventory

Under the periodic inventory system, the ending inventory of one accounting time period becomes the opening inventory of the next accounting time period. Opening inventory is added to purchases each period and ending inventory is deducted to calculate cost of goods sold.

Assume that Excel Cars Corporation had the following transactions in 2019, its next accounting year:

Opening inventory	1 vehicle at $2,000
Plus: Purchases	6 vehicles at $2,000 each
Less: Sales	(5) vehicles at $3,000 each
Equals ending inventory	2 vehicles at $2,000 each

Journal entries are omitted in this example. The gross profit and net income calculations disclosed on the income statement for 2018 and 2019 are shown below. Note that the ending inventory at December 31, 2018 becomes the opening inventory at January 1, 2019.

Excel Cars Corporation
Income Statement
For the Year Ended December 31, 2019

	2018	*2019*
Sales	$12,000	$15,000
Less: Sales returns and allowances	(100)	-0-
Sales discounts	(58)	-0-
Net sales	11,842	15,000
Cost of goods sold		
Opening inventory	-0-	2,000
Purchases	12,000	12,000
Transportation-in	125	-0-
Less: Purchase returns and allow.	(300)	-0-
Purchase discounts	(17)	-0-
Cost of goods available for sale	11,808	14,000
Less: ending inventory	(2,000)	(4,000)
Cost of goods sold	9,808	10,000
Gross profit and net income	$ 2,034	$ 5,000

Ending inventory for 2018 becomes the opening inventory for 2019.

In 2019, seven vehicles are available for sale – one remaining from 2018 and now included as opening inventory at January 1, 2019 plus six purchased in 2019. Cost of goods available for sale therefore equals $14,000 for the 2019 fiscal year (7 x $2,000). Two vehicles are not sold so are shown as ending inventory at December 31, 2019. Their total cost of $4,000 is deducted from cost of goods available for sale to arrive at cost of goods sold for 2019 of $10,000. As was done on 2018, ending inventory amounts would be determined by counting the vehicles on the lot at December 31, 2019 and determining from purchase invoices how much was paid for these.

The interrelationship of inventory disclosed in the income statement and statement of financial position using the periodic inventory system can be illustrated as follows:

Excel Car Corporation
Income Statement
For the Year Ended December 31, 2019

Sales		$15,000
Cost of goods sold		
Opening inventory (Jan. 1, 2019)	$2,000	
Cost of goods purchased	12,000	
Cost of goods available	14,000	
Less: Ending inventory (Dec. 31)	(4,000)	
Cost of goods sold		10,000
Gross profit and net income		$ 5,000

Excel Car Corporation
Statement of Financial Position
At December 31

	2018	*2019*
Assets		
Cash	$A,000	$C,000
Accounts receivable	B,000	D,000
Merchandize inventory	2,000	4,000

Closing entries for 2019 would be prepared using the same process as previously described.

Entry 1

		(a)		
Dec. 31	Merchandize Inv. (ending)	150	4,000	
	Sales	500	15,000	
	Income Summary	360		19,000
	To close all income statement accounts with credit balances to the income summary and record ending inventory balance.			

Entry 2

		(b)		
Dec. 31	Income Summary	360	14,000	
	Merch. Inv. (opening)	150		2,000
	Purchases	550		12,000
	To close all income statement accounts with credit balances to the income summary and remove opening inventory from the Merchandize Inventory account.			

The combined effect of entries 1 and 2 on the Merchandize Inventory account is to adjust it to the actual ending balance at December 31, 2019 of $4,000. At the end of this process, the Merchandize Inventory account in the general ledger will show:

		Merchandize Inventory	
Jan. 1	Opening balance	2,000	
	Add: Ending Inventory (closing entry posted)	4,000	
	Less: Opening Inventory (closing entry posted)		2,000
Dec. 31	Ending balance	4,000	

The usual entry is made to close the Income Summary account to the Retained Earnings account.

Entry 3

		(c)		
Dec. 31	Income Summary	360	5,000	
	Retained Earnings	340		5,000
	To close the Income Summary account to the Retained Earnings account.			

Summary of Chapter 5 Learning Objectives

LO1 – Describe merchandizing and explain the financial statement components of sales, cost of goods sold, merchandize inventory, and gross profit; differentiate between the perpetual and periodic inventory systems.

Merchandizers buy and resell products. Merchandize inventory, an asset, is purchased from suppliers and resold to customers to generate sales revenue. The cost of the merchandize inventory sold is an expense called cost of goods sold. The profit realized on the sale of merchandize inventory before considering any other expenses is called gross profit. Gross profit may be expressed as a dollar amount or as a percentage. To track merchandize inventory and cost of goods sold in real time, a perpetual inventory system is used; the balance in each of Merchandize Inventory and Cost of Goods Sold is always up-to-date. In a periodic inventory system, a physical count of the inventory must be performed in order to determine the balance in Merchandize Inventory and Cost of Goods Sold.

LO2 – Analyze and record purchase transactions for a merchandizer.

In a perpetual inventory system, a merchandizer debits Merchandize Inventory regarding the purchase of merchandize for resale from a supplier. Any purchase returns and allowances or purchase discounts are credited to Merchandize Inventory as they occur to keep the accounts up-to-date.

LO3 – Analyze and record sales transactions for a merchandizer.

In a perpetual inventory system, a merchandizer records two entries at the time of sale: one to record the sale and a second to record the cost of the sale. Sales returns that are returned to inventory also require to entries: one to reverse the sale by debiting a sales returns and allowances account and a second to restore the merchandize to inventory by debiting Merchandize Inventory and crediting Cost of Goods Sold. Sales returns not restored to inventory as well as sales allowances are recorded with one entry: debit sales returns and allowances and credit cash or accounts receivable. Sales discounts are recorded when a credit customer submits their payment within the discount period specified.

LO4 – Record adjustments to merchandize inventory.

A physical count of merchandize inventory is performed and the total compared to the general ledger balance of Merchandize Inventory. Discrepancies are recorded as an adjusting entry that debits cost of goods sold and credits Merchandize Inventory.

LO5 – Explain and prepare a classified multiple-step income statement for a merchandizer.

A classified multiple-step income statement for a merchandizer is for internal use because of the detail provided. Sales, less sales returns and allowances and sales discounts, results in net sales. Net sales less cost of goods sold equals gross profit. Expenses are shown based on both their function and nature. The functional or group headings are: operating expenses, selling expenses, and general and administrative expenses. Within each grouping, the nature of expenses is detailed including: depreciation, salaries, advertizing, wages, and insurance. A specific expense can be divided between groupings.

LO6 – Explain the closing process for a merchandizer.

The steps in preparing closing entries for a merchandizer are the same as for a service company. The difference is that a merchandizer will need to close income statement accounts unique to merchandizing such as: Sales, Sales Returns and Allowances, Sales Discounts, and Cost of Goods Sold.

LO7 – (Appendix) Explain and identify the entries to record purchase and sales transactions in a periodic inventory system.

A periodic inventory system maintains a Merchandize Inventory account but does not have a Cost of Goods Sold account. The Merchandize Inventory account is updated at the end of the accounting period as a result of a physical inventory count. Because a merchandizer using a period system does not use a Merchandize Inventory account to record purchase or sales transactions during the accounting period, it maintains accounts that are different than under a perpetual system, namely, Purchases, Purchase Returns and Allowances, Purchase Discounts, and Transportation-in.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answer

1. How does the income statement prepared for a company that sells goods differ from that prepared for a service business?
2. How is gross profit calculated? What relationships do the gross profit and gross profit percentage calculations express? Explain, using an example.
3. What is a perpetual inventory system?
4. How is the purchase of merchandize inventory on credit recorded in a perpetual system?
5. How is a purchase return recorded in a perpetual system?
6. What does the credit term of “1/15, n30” mean?
7. How is a purchase discount recorded in a perpetual system?
8. How is the sale of merchandize inventory on credit recorded in a perpetual system?
9. How is a sales return recorded in a perpetual system?
10. What is a sales discount and how is it recorded in a perpetual inventory system?
11. Why does merchandize inventory need to be adjusted at the end of the accounting period and how is this done in a perpetual inventory system?
12. What types of transactions affect merchandize inventory in a perpetual inventory system?
13. How are the closing entries for a merchandizer using a perpetual inventory system different than for a service company?
14. When reporting expenses on multi-step income statement, how is the function of an expense reported? The nature of an expense?
15. On a classified multiple-step income statement, what is reported under the heading ‘Other revenues and expenses’ and why?
16. (Appendix) Compare the perpetual and periodic inventory systems. What are some advantages of each?
17. (Appendix) What contra accounts are used in conjunction with purchases using the periodic inventory system?
18. (Appendix) How is cost of goods available for sale calculated using the periodic inventory system?
19. (Appendix) How is cost of goods sold calculated using the periodic inventory system?

20. (Appendix) Explain how ending inventory is recorded in the accounts of a business that sells goods using a periodic inventory system.

Comprehension Problems

CP 5–1

View Answer

Consider the following information of Jones Corporation over four years:

	2021	*2020*	*2019*	*2018*
Sales	$10,000	$9,000	$?	$7,000
Cost of goods sold	?	6,840	6,160	?
Gross profit	2,500	?	1,840	?
Gross profit percentage	?	?	?	22%

Required:
1. Calculate the missing amounts for each year.
2. What does this information indicate about the company?

CP 5–2

View Answer

Reber Corp. uses the perpetual inventory system. Its transactions during July 2018 are as follows:

July	6	Purchased $600 of merchandize on account (for credit) from Hobson Corporation for terms 1/10, net 30
	9	Returned $200 of defective merchandize
	15	Paid the amount owing to Hobson.

Required: Prepare journal entries to record the above transactions. Include general ledger account numbers and brief descriptions.

CP 5–3

View Answer

Boucher Corporation uses the perpetual inventory system. Its transactions during June 2017 are as follows:

June 1	Boucher purchased $1,200 of merchandize inventory from a supplier for terms 1/10, n 60.
3	Boucher sold all of the inventory purchased on June 1 for $1,500 on credit to Wright Inc. for terms 2/10, net 30.
8	Wright returned $800 of defective merchandize purchased June 3 (cost to Boucher: $600).
13	Boucher received payment from Wright Inc. for the balance owed.

Required: Prepare journal entries to record the above transactions. Include general ledger account numbers and brief descriptions.

CP 5–4

View Answer

Horne Inc. and Sperling Renovations Ltd. both sell goods and use the perpetual inventory system. The company had $3,000 of merchandize inventory at the start of its fiscal year, January 1, 2018. During the year, the company had only the following transactions:

May 5	Horne sold $4,000 of merchandize on account to Sperling Renovations Ltd. for terms 2/10, net 30. Cost of merchandize to Horne from its supplier was $2,500.
7	Sperling returned $500 of merchandize; Horne issued a credit memo. (Cost of merchandize to Horne was $300)
15	Horne received the amount due from Sperling Renovations Ltd.

A physical count and valuation of merchandize inventory at May 31, the fiscal year-end, showed $700 of goods on hand.

Required: Prepare journal entries to record the above transactions and adjustment(include general ledger account numbers and brief descriptions):

1. In the records of Horne Inc.
2. In the records of Sperling Renovations Ltd.

CP 5–5

View Answer

The following information is taken from the records of Smith Corp. at June 30, 2018, the fiscal year-end:

Advertizing expense	$ 1,500
Commissions expense	4,000
Cost of goods sold	50,000
Delivery expense	1,000
Insurance expense	1,000
Rent expense	2,500
Salaries expense	5,000
Sales (gross)	72,000
Sales returns and allowances	2,000

Required:

1. Prepare a classified income statement. Assume all expenses not related to cost of goods sold are selling expenses.
2. Compute gross profit percentage.

CP 5–6

View Answer

Refer to the information in CP 5-5.

Required: Prepare all closing entries. Include general ledger account numbers as shown in the chapter – for example, Cost of Goods Sold: 570. Include a brief description for each entry.

CP 5–7 (Appendix)

View Answer

Consider the information for each of the following four companies.

	A	*B*	*C*	*D*
Opening inventory	$?	$ 184	$ 112	$ 750
Purchases	1,415	?	840	5,860
Transportation-in	25	6	15	?
Cost of goods available	1,940	534	?	6,620
Ending inventory	340	200	135	?
Cost of goods sold	?	?	?	5,740

Required: Calculate the missing amounts.

CP 5–8 (Appendix)

View Answer

Consider the following information:

Opening inventory	$ 375
Purchases	2,930
Purchase discounts	5
Purchase returns and allowances	20
Transportation-in	105

Ending inventory amounts to $440.

Required: Calculate cost of goods sold.

CP 5–9 (Appendix)

The following information is taken from the records of four different companies in the same industry:

View Answer

	A	*B*	*C*	*D*
Sales	$ 300	$ 150	$?	$ 90
Opening inventory	?	40	40	12
Purchases	240	?	?	63
Cost of goods available	320	?	260	?
Less: Ending inventory	?	(60)	(60)	(15)
Cost of goods sold	?	100	200	60
Gross profit	$ 100	$?	$ 100	$?
Gross profit percentage	?	?	?	?

Required:
1. Calculate the missing amounts.
2. Which company seems to be performing best? Why?

CP 5–10 (Appendix)

View Answer

The following balances are taken from the records of Mohan Corp. at December 31, 2018, its first year–end:

Transportation-in	$ 500
Delivery expense	1,200
Sales	25,000
Purchases	20,000
Sales returns and allowances	2,000
Purchase returns and allowances	1,000
Sales Discounts	400
Purchase discounts	300
Interest expense	4,000

The inventory at December 31, 2018 amounted to $7,900.

Required:
1. Calculate the gross profit.
2. What is the gross profit percentage?

CP 5–11 (Appendix)

View Answer

The following information is taken from the records of O'Donnell Corp. at June 30, 2018, its fiscal year-end:

Advertizing expense	$ 1,500
Commissions expense	4,000
Delivery expense	1,000
Insurance expense	1,000
Opening inventory	6,000
Purchases	35,000
Purchase returns and allowances	2,000
Rent expense	2,500
Salaries expense	5,000
Sales (gross)	72,000
Sales returns and allowances	2,000
Transportation-in	1,000

The merchandize inventory at June 30, 2018 amounted to $10,000.

Required:
1. Prepare a classified income statement. Assume all expenses not related to cost of goods sold are selling expenses.
2. Compute gross profit percentage.

CP 5–12 (Appendix)

View Answer

Refer to the information in CP 5-11.

Required: Prepare all closing entries. Include general ledger account numbers as shown in the chapter – for example, Purchases: 550. Include brief descriptions for each entry.

CP 5–13 (Appendix)

View Answer

Sherman Stores Ltd. had the following transactions:

Oct.	8	Purchased $2,800 of merchandize on account from Morris Wholesalers Corp. for terms 1/10, net 30
	12	Received a credit memo from Morris Wholesalers Corp. for $800 of defective merchandize included in the October 8 purchase and subsequently returned to Morris.

Additional Information: Morris Wholesalers Corp. uses the periodic inventory system.

Required:

1. Prepare journal entries in the records of Sherman, assuming that it paid the amount due on
   a. October 8
   b. October 25.
2. Prepare journal entries in the records of Morris Wholesalers Corp., assuming that it received payment on
   a. October 18
   b. October 25.

Omit general ledger account numbers and descriptions from the journal entries.

Problems

P 5–1

View Answer

Salem Corp. was incorporated on July 2, 2018 to operate a merchandizing business. Salem uses the perpetual inventory system. All its sales on account are made according to the following terms: 2/10, n30. Its transactions during July 2018 are as follows:

July	2	Issued share capital for $5,000 cash to George Salem, the incorporator and sole shareholder of the corporation
	2	Purchased $3,500 merchandize on account from Blic Pens Ltd. for terms 2/10, n30
	2	Sold $2,000 of merchandize on account to Spellman Chair Rentals Inc. (Cost to Salem: $1,200)
	3	Paid Sayer Holdings Corp. $500 for July rent
	5	Paid Easton Furniture Ltd. $1,000 for equipment
	8	Collected $200 for a cash sale made today to Ethan Matthews Furniture Ltd. (Cost: $120)
	8	Purchased $2,000 merchandize on account from Shaw Distributors Inc. for terms 2/15, n30
	9	Received the amount due from Spellman Chair Rentals Inc. for the July 2 sale (less discount)
	10	Paid Blic Pens Ltd. for the July 2 purchase (less discount)
	10	Purchased $200 of merchandize on account from Peel Products Inc. for terms n30
	15	Sold $2,000 of merchandize on account to Eagle Products Corp. (Cost: $1,300)
	15	Purchased $1,500 of merchandize on account from Bevan Door Inc. for terms 2/10, n30
	15	Received a memo from Shaw Distributors Inc. to reduce its account payable by $100 for defective merchandize included in the July 8 purchase.
	16	Eagle Products Corp. returned $200 of merchandize: reduced related Account Payable. (Cost to Salem: $150)
	20	Sold $3,500 of merchandize on account to Aspen Promotions Ltd. (Cost: $2,700)
	20	Paid Shaw Distributors Inc. for half the purchase made July 8 (less memo amount, less discount on payment)

24	Received half the amount due from Eagle Products Corp. in partial payment for the July 15 sale (less discount on payment)
24	Paid Bevan Doors Ltd. for the purchase made July 15 (less discount)
26	Sold $600 merchandize on account to Longbeach Sales Ltd. (Cost: $400)
26	Purchased $800 of merchandize on account from Silverman Co. for terms 2/10, n30
31	Paid Speedy Transport Co. $350 for transportation to Salem's warehouse during the month (all purchases are fob shipping point).

Required:

1. Prepare journal entries to record the July transactions. Include general ledger account numbers and a brief description.
2. Calculate the ending balance in merchandize inventory.
3. Assume the merchandize inventory is counted at July 31 and assigned a total cost of $2,400. Prepare the July 31 adjusting entry. Show calculations.

P 5–2

View Answer

Randall Sales Corp. was incorporated on May 1, 2018 to operate a merchandizing business. All its sales on account are made according to the following terms: 2/10, n30. Its transactions during May 2018 are as follows:

May	1	Issued share capital for $2,000 cash to Harry Randall, the incorporator and sole shareholder of the corporation
	1	Received $10,000 from the First Chance Bank as a demand bank loan
	1	Paid Viva Corp. $1,500 for 3 months' rent in advance—$500 for each of May, June, and July (recorded as an asset)
	1	Paid Avanti Equipment Ltd. $5,000 for equipment
	1	Purchased $5,000 of merchandize on account from Renaud Wholesalers Ltd. for terms 2/10, n30
	1	Sold $2,500 of merchandize on account to North Vancouver Distributors. (Cost to Randall: $1,700)
	2	Purchased $1,800 of merchandize on account from Lilydale Products Ltd. for terms n30
	2	Sold $2,000 of merchandize on account to Tarrabain Sales Inc. (Cost: $1,400)
	3	Collected $500 for a cash sale made today to Smith Weston Ltd.

5 Paid All West Insurance Inc. $1,200 for a 1-year insurance policy, effective May l (recorded as an asset)
5 Sold $1,000 of merchandize on account to Trent Stores Corporation. (Cost: $700)
6 Tarrabain Sales Inc. returned $500 of merchandize: reduced the related Account Payable. (Cost: $300)
8 Received a memo from Renaud Wholesalers Ltd. to reduce its account payable by $300 for defective merchandize included in the May 1 purchase and returned subsequently to Renaud
8 Purchased $2,800 of merchandize on account from Pinegrove Novelties Ltd. for terms 2/15, n30
9 Received the amount due from North Vancouver Distributors from the May 1 sale (less discount)
9 Paid Renaud Wholesalers Corp. for the May 1 purchase (less discount)
10 Sold $400 of merchandize on account to Eastern Warehouse. (Cost: $250)
11 Received the amount due from Tarrabain Sales Inc. (less the May 6 memo and discount)
13 Paid Fast Delivery Corporation $100 for Transportation-In
15 Purchased $1,500 of merchandize on account from James Bay Distributors Inc. for terms 2/10, n30
15 Sold $1,500 of merchandize on account to Ransom Outlets Inc. (Cost: $1,100)
15 Paid $500 in commissions to Yvonne Smith, *re:* sales invoices nos. 1, 2, and 3
19 Paid Lilydale Products Inc. for the May 2 purchase
19 Purchased $1,200 of merchandize on account from Midlife Stores Corp. for terms 1/10, n30
22 Purchased $600 of merchandize on account from Speedy Sales Co. for terms n30
22 Paid to Pinegrove Novelties Inc. for the May 8 purchase (less discount)
24 Paid to In Transit Corporation $150 for Transportation-In (fob shipping point)
25 Sold $900 of merchandize on account to Timmins Centres Ltd. (Cost: $650)
26 Received the amount due from Trent Stores Corporation
27 Paid $200 to Intown Deliveries Ltd. for deliveries made to customers

28	Collected $300 for a cash sale made today to Betty Regal. (Cost: $250)
28	Made a $200 cash purchase from Joe Balla Sales Inc.
28	Sold $900 of merchandize on account to Sault Rapids Corp. . (Cost: $700)
29	Purchased $100 of merchandize on account from Amigos Inc.
29	Paid Intown Deliveries Ltd. $300 for deliveries to customers (debited account 620)
29	Paid Main Force Advertizing Agency $400 for advertizing materials used during May
29	Paid State Hydro $100 for electricity
29	Paid Yvonne Smith $350 commission, *re:* sales invoices nos. 4, 5, 6, and 7
30	Collected $l,000 on account from Ransom Outlets Inc.
31	Paid Midlife Stores Corp. $700 on account

Inventory on hand at May 31 was counted and valued at $6,500.

Required: Prepare journal entries to record the May transactions and any month-end adjusting entries needed. Show calculations for shrinkage. Include general ledger account numbers and a brief description for each entry.

P 5–3

View Answer

The following closing entries were prepared for Whirlybird Products Inc. at December 31, 2018, the end of its fiscal year.

Dec. 31	Sales	510	37,800	
	Income Summary	360		37,800
31	Income Summary	360	32,800	
	Cost of Goods Sold	570		26,800
	Sales Returns and Allowances	508		690
	Sales Discounts	509		310
	Salaries Expenses	656		5,000
31	Income Summary	360	5,000	
	Retained Earnings	340		5,000

Required:

1. Post the closing entries to general ledger T-accounts and calculate balances.
2. Calculate gross profit.

P 5–4

View Answer

Southern Cross Corporation supplies you with the following information applicable to the current year, December 31, 2018. The company uses the perpetual inventory system.

Delivery expense	$ 2,000
Sales	100,000
Merchandize inventory (Dec. 31)	15,000
Cost of goods sold	70,000
Office supplies expense	7,000
Sales returns and allowances	10,000
Salaries expense	4,000
Unused supplies	5,000

Required:

1. Prepare an income statement. List expenses other than cost of goods sold as other expenses. Assume all accounts have normal balances.
2. Prepare all required closing entries. Include general ledger account numbers and a brief description for each entry.

P 5–5

View Answer

The following trial balance has been extracted from the records of Acme Automotive Inc. at December 31, 2017, its fiscal year-end. The company uses the perpetual inventory system.

	Account Balances	
Account	*Dr.*	*Cr.*
Cash	750	
Accounts receivable	12,000	
Merchandize inventory	56,000	
Unused supplies	-0-	
Equipment	4,400	
Bank loan (due May, 2018)		5,000
Accounts payable		12,540
Income taxes payable		2,400
Share capital		2,000
Retained earnings		600
Sales		100,000
Sales returns and allowances	1,500	
Sales discounts	500	
Cost of goods sold	34,000	
Advertizing expense	1,700	
Commissions expense	4,800	
Delivery expense	650	
Insurance expense	450	
Interest expense	600	
Office supplies expense	250	
Rent expense	1,950	
Telephone expense	300	
Utilities expense	290	
Income taxes expense	2,400	
	$122,540	$122,540

Required:

1. Prepare adjusting entries, including general ledger account numbers and brief descriptions, for the following:
   a. $1,000 of sales on account has not been recorded. (Cost to Acme: $700)
   b. A physical count indicates that $100 of office supplies is still on hand at year-end.
   c. A telephone bill for $60 owing at December 31 has not yet been recorded.
   d. A physical count indicates that $53,000 of merchandize inventory is on hand at December 31, 2017.

2. Prepare a multi-step income statement and statement of changes in equity for the year ended December 31, 2017, and a classified statement of financial position at December 31.
3. Prepare closing entries.

P 5–6 (Appendix)

View Answer

Providence Corp. was incorporated on July 2, 2018 to operate a merchandizing business. All its sales on account are made according to the following terms: 2/10, n30. Its transactions during July 2018 are as follows:

July	2	Issued share capital for $5,000 cash to Pam Providence, the incorporator and sole shareholder of the corporation
	2	Purchased $3,500 merchandize on account from Blic Pens Ltd. for terms 2/10, n30
	2	Sold merchandize on account to Spellman Chair Rentals Inc. for $2,000
	3	Paid Sayer Holdings Corp. $500 for July rent
	5	Paid Easton Furniture Ltd. $1,000 for equipment
	8	Collected $200 for a cash sale made today to Ethan Matthews Furniture Ltd.
	8	Purchased $2,000 merchandize on account from Shaw Distributors Inc. for terms 2/15, n30
	9	Received the amount due from Spellman Chair Rentals Inc. for the July 2 sale (less discount)
	10	Paid Blic Pens Ltd. for the July 2 purchase (less discount)
	10	Purchased $200 of merchandize on account from Peel Products Inc. for terms n30
	15	Sold merchandize on account to Eagle Products Corp. for $2,000
	15	Purchased $1,500 of merchandize on account from Bevan Door Inc. for terms 2/10, n30
	15	Received a memo from Shaw Distributors Inc. to reduce its account payable by $100 for defective merchandize included in the July 8 purchase.
	16	Eagle Products Corp. returned $200 of merchandize: reduced related Account Payable.
	20	Sold merchandize on account to Aspen Promotions Ltd. for $3,500
	20	Paid Shaw Distributors Inc. for half the purchase made July 8 (less memo amount, less discount on payment)
	24	Received half the amount due from Eagle Products Corp. in partial payment for the July 15 sale (less discount on payment)

24	Paid Bevan Doors Inc. for the purchase made July 15 (less discount)
26	Sold merchandize on account to Longbeach Sales Ltd. for $600
26	Purchased $800 of merchandize on account from Silverman Co. for terms 2/10, n30
31	Paid Speedy Transport Co. $350 for transportation to Salem's warehouse during the month (all purchases are fob shipping point).
31	Inventory on hand was counted and valued at $2,000

Assume Providence uses the periodic inventory system.

Required: Prepare journal entries to record the July transactions.

P 5–7 (Appendix)

View Answer

Robert Sales Corp. was incorporated on May 1, 2018 to operate a merchandizing business. All its sales on account are made according to the following terms: 2/10, n30. Its transactions during May 2018 are as follows:

May	1	Issued share capital for $2,000 cash to Rob Robert, the incorporator and sole shareholder of the corporation
	1	Received $10,000 from the First Chance Bank as a demand bank loan
	1	Paid Viva Corp. $1,500 for 3 months' rent in advance—$500 for each of May, June, and July (recorded as an asset)
	1	Paid Avanti Equipment Ltd. $5,000 for equipment
	1	Purchased $5,000 of merchandize on account from Renaud Wholesalers Ltd. for terms 2/10, n30
	1	Sold merchandize on account to North Vancouver Distributors for $2,500
	2	Purchased $1,800 of merchandize on account from Lilydale Products Ltd. for terms n30
	2	Sold merchandize on account to Tarrabain Sales Inc. for $2,000
	3	Collected $500 for a cash sale made today to Smith Weston Ltd.
	5	Paid All West Insurance Inc. $1,200 for a 1-year insurance policy, effective May l (recorded as an asset)
	5	Sold merchandize on account to Trent Stores Corporation for $1,000
	6	Tarrabain Sales Inc. returned $500 of merchandize: reduced the related Account Receivable

8 Received a memo from Renaud Wholesalers Ltd. to reduce its account payable by $300 for defective merchandize included in the May 1 purchase and returned subsequently to Renaud
8 Purchased $2,800 of merchandize on account from Pinegrove Novelties Ltd. for terms 2/15, n30
9 Received the amount due from North Vancouver Distributors from the May 1 sale (less discount)
9 Paid Renaud Wholesalers Corp. for the May 1 purchase (less discount)
10 Sold merchandize on account to Eastern Warehouse for $400
11 Received the amount due from Tarrabain Sales Inc. (less the May 6 memo and discount)
13 Paid Fast Delivery Corporation $100 for Transportation-In
15 Purchased $1,500 of merchandize on account from James Bay Distributors Inc. for terms 2/10, n30
15 Sold merchandize on account to Ransom Outlets Inc. for $1,500
15 Paid $500 in commissions to Yvonne Smith, *re:* sales invoices nos. 1, 2, and 3
19 Paid Lilydale Products Inc. for the May 2 purchase
19 Purchased $1,200 of merchandize on account from Midlife Stores Corp. for terms 1/10, n30
22 Purchased $600 of merchandize on account from Speedy Sales Co. for terms n30
22 Paid to Pinegrove Novelties Inc. for the May 8 purchase (less discount)
24 Paid to In Transit Corporation $150 for Transportation-In (fob shipping point)
25 Sold merchandize on account to Timmins Centres Ltd. for $900
26 Received the amount due from Trent Stores Corporation
27 Paid $200 to Intown Deliveries Ltd. for deliveries made to customers
28 Collected $300 for a cash sale made today to Betty Regal
28 Made a $200 cash purchase from Joe Balla Sales Inc. today; issued cheque #11 (debited purchases)
28 Sold merchandize on account to Sault Rapids Corp. for $900
29 Purchased $100 of merchandize on account from Amigos Inc.
29 Paid Intown Deliveries Ltd. $300 for deliveries to customers (debited account 620)
29 Paid Main Force Advertizing Agency $400 for advertizing materials used during May
29 Paid State Hydro $100 for electricity
29 Paid Yvonne Smith $350 commission, *re:* sales invoices nos. 4, 5, 6, and 7
30 Collected $l,000 on account from Ransom Outlets Inc.

31	Paid Midlife Stores Corp. $700 on account
31	Inventory on hand was counted and valued at $5,000

Assume Robert uses the periodic inventory system.

Required: Prepare journal entries to record the May transactions and any month-end adjusting entries needed. Include general ledger account numbers and a brief description for each entry.

P 5–8 (Appendix)

View Answer

The following closing entries were prepared for Zenith Products Inc. at December 31, 2018, the end of its fiscal year.

Dec. 31	Merchandize Inventory	6,000	
	Sales	31,000	
	Purchase returns and Allowances	575	
	Purchase discounts	225	
	Income Summary		37,800
31	Income Summary	32,800	
	Merchandize Inventory		4,000
	Sales Returns and Allowances		690
	Sales Discounts		310
	Purchases		22,500
	Transportation-In		300
	Salaries Expenses		5,000
31	Income Summary	5,000	
	Retained Earnings		5,000

Required:

1. Post the closing entries to general ledger T-accounts and calculate balances.
2. Prepare a classified, partial income statement, showing sales, cost of goods sold calculations, and gross profit.

P 5–9 (Appendix)

View Answer

Northern Lights Corporation supplies you with the following information applicable to the current year, December 31, 2018.

Transportation-in	$ 3,000
Delivery expense	2,000
Sales	100,000
Merchandize inventory (Jan. 1)	12,000
Merchandize inventory (Dec. 31)	15,000
Purchases	70,000
Office supplies expense	7,000
Purchase discounts	4,000
Purchase returns and allowances	6,000
Sales returns and allowances	10,000
Unused supplies	5,000

Required:

1. Prepare in proper form a classified, partial income statement including sales, cost of goods sold, and gross profit.
2. Prepare closing entries.
3. What is net income for the year?

P 5–10 (Appendix)

View Answer

The following trial balance has been extracted from the records of Tom's Trucks Inc. at December 31, 2017, its fiscal year-end.

Account	*Account Balances*	
	Debit	*Credit*
Cash	750	
Accounts receivable	12,000	
Merchandize inventory (Jan. 1, 2017)	56,000	
Prepaid rent	-0-	
Unused supplies	-0-	
Equipment	4,400	
Bank loan (due Dec. 31, 2021)		5,000
Accounts payable		12,540
Income taxes payable		2,400
Share capital		2,000
Retained earnings		600
Sales		100,000
Sales returns and allowances	1,500	
Sales discounts	500	
Purchases	35,000	
Purchase returns and allowances		1,700
Purchase discounts		300
Transportation-in	1,000	
Advertizing expense	1,700	
Commissions expense	4,800	
Delivery expense	650	
Insurance expense*	450	
Interest expense	600	
Supplies expense	250	
Rent expense*	1,950	
Telephone expense	300	
Utilities expense	290	
Income taxes expense	2,400	
	$124,540	$124,540

*selling expenses

Required:

1. Prepare adjusting entries, including general ledger account numbers and a brief description for each entry, for the following:
   a. A telephone bill for $60 owing at December 31 has not yet been recorded.
   b. $600 of sales on account has not been recorded.

c. A physical count indicates that $100 of office supplies is still on hand at year-end.
d. A physical count indicates that $58,000 of merchandize inventory is on hand at December 31, 2017.

2. Prepare a classified income statement and statement of changes in equity for the year ended December 31, 2017, and a classified statement of financial position at December 31.
3. Prepare all required closing entries. Include general ledger account numbers and a brief description for each entry.

CHAPTER SIX

Assigning Costs to Merchandize

Recording transactions related to the purchase and sale of merchandize inventory was introduced and discussed in Chapter 5. This chapter reviews how the cost of goods sold is calculated using various inventory cost flow assumptions. Additionally, issues related to merchandize inventory that remains on hand at the end of an accounting period are also explored.

Chapter 6 Learning Objectives

LO1 – Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions, using the perpetual inventory system.

LO2 – Explain the impact on financial statements of inventory cost flow assumptions and errors.

LO3 – Explain and calculate lower of cost and net realizable value inventory adjustments.

LO4 – Estimate merchandize inventory using the gross profit method and the retail inventory method.

LO5 – (Appendix) Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions, using the periodic inventory system.

A. Inventory Cost Flow Assumptions

LO1 – Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions using the perpetual inventory system.

Determining the cost of each unit of inventory, and thus the total cost of ending inventory on the balance sheet, can be challenging. Why? We know from Chapter 5 that the cost of inventory can be affected by discounts, returns, transportation costs, and shrinkage. Additionally, the purchase cost of an inventory item can be different from one purchase date to the next. For example, the cost of raw coffee beans purchased by a manufacturer could be $5.00 a kilogram in October and $7.00 a kilogram in November because of changes in weather conditions in South America. Therefore, each kilo of coffee inventory may have a different cost depending on which kilo is assumed to be unsold. Also, some types of inventory physically flow into and out of a warehouse in a specific sequence, while others do not. For instance, a retail grocer needs to manage vegetable sales so that the oldest produce is sold first. On the other hand, a car dealership has no control over which vehicles are sold because customers make specific choices based on their preferences. Finally, a company that sells many low-value, similar items like pencils may want to merely choose the easiest method to calculate ending inventory. So how is the cost of a unit in merchandize inventory determined? There are several methods that can be used, as described in the following sections.

Assume a company sells only one product and uses the perpetual inventory system. It has no beginning inventory at June 1, 2018. The company purchased five units during June as shown in Figure 6-1.

	Purchase Transaction	
Date	*Number of units*	*Price per unit*
June 1	1	$ 1
5	1	2
7	1	3
21	1	4
28	1	5
	5	$15

Figure 6-1 June Purchases and Purchase Price per Unit

At June 28, there are 5 units in inventory with a total cost of $15 ($1 + $2 + $3 + $4 + $5). Assume four units are sold on June 30 for $10 each. The cost of the four units sold could be determined based on identifying the cost associated with the specific units sold, like a car dealership, especially if the value of one unit of inventory is large.

Alternatively, a company might assume that the oldest purchases are sold first. Finally, if a company sells large quantities of similar low dollar value items such as pencils, an average cost might be used to calculate ending inventory because it is simpler. These methods are called respectively, *specific identification*; *first-in, first-out* (*FIFO)*; and *weighted average*.

Specific Identification

Under **specific identification**, each inventory item that is sold is matched with its purchase cost. This method is most practical when inventory consists of relatively few, expensive items, particularly when individual units can be identified with serial numbers—for example, motor vehicles sold by a dealership.

Assume the four units sold on June 30 are those purchased on June 1, 5, 7, and 28. The fourth unit purchased on June 21 remains in ending inventory. Cost of goods sold would total $11 ($1 + $2 + $3 + $5). Sales would total $40 (4 @ $10). As a result, gross profit would be $29 ($40 – 11). Ending inventory would be $4, the cost of the unit purchased on June 21.

The general ledger T-accounts for Merchandize Inventory and Cost of Goods Sold would show:

Merchandize Inventory

Jun. 1	$1		
5	2		
7	3		
21	4		
28	5		
		11	Jun. 30
End. Bal.	4		

Cost of Goods Sold

11	

Figure 6-2 Cost of Goods Sold using Specific Identification

The entry to record the June 30 sale on account would be:

Accounts Receivable	110	40	
Sales	500		40
To record the sale of merchandize on account.			
Cost of Goods Sold	570	11	
Merchandize Inventory	150		11
To record the cost of the sale.			

It is not possible to use specific identification when inventory consists of a large number of similar, inexpensive items that cannot be easily differentiated. Consequently, a method of assigning costs to inventory items based on an assumed flow of goods can be adopted. Two such generally accepted methods, known as **cost flow assumptions**, are discussed next.

The First-in, First-out (FIFO) Cost Flow Assumption

First-in, first-out (FIFO) assumes that the first goods purchased are the first ones sold. A FIFO cost flow assumption makes sense when inventory consists of perishable items such as groceries and other time-sensitive goods.

Using the information from the previous example, the first four units purchased are assumed to be the first four units sold under FIFO. The cost of the four units sold is $10 ($1 + $2 + $3 + $4). Sales still equal $40, so gross profit under FIFO is $30 ($40 – $10). The cost of the one remaining unit in ending inventory would be the cost of the fifth unit purchased ($5).

The general ledger T-accounts for Merchandize Inventory and Cost of Goods Sold as illustrated in Figure 6-3 would show:

Merchandize Inventory

Jun. 1	$1		
5	2		
7	3		
21	4		
28	5		
		10	Jun. 30
End. Bal.	5		

Cost of Goods Sold

10	

Figure 6-3 Cost of Goods Sold using FIFO

The entry to record the sale would be:

Accounts Receivable	110	40	
Sales	500		40
To record the sale of merchandize on account.			
Cost of Goods Sold	570	10	
Merchandize Inventory	150		10
To record the cost of the sale.			

The Weighted Average Cost Flow Assumption

A **weighted average** cost flow is used when low-value, similar items are sold, or when inventory is in the form of a gas or liquid – example, when several crude oil shipments are stored in one large holding tank. The weighted average cost assumption is popular in practice because it is easy to calculate.

To calculate a weighted average, the total cost of all purchases of a particular inventory type is divided by the number of units purchased. In our example, the purchase prices for all five units are totalled ($1 + $2 + $3 + $4 + $5 = $15) and divided by the total number of units purchased (5). The weighted average cost for each unit is $3 ($15/5). The weighted average cost of goods sold would be $12 (4 units @ $3). Sales still equal $40 resulting in a gross profit under weighted average of $28 ($40 – $12). The cost of the one unit remaining in ending inventory is $3.

The general ledger T-accounts for Merchandize Inventory and Cost of Goods Sold are:

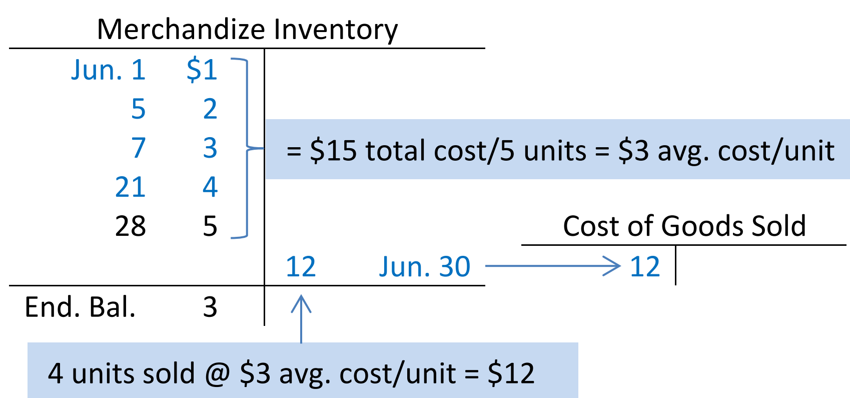

Figure 6-4 Cost of Goods Sold using Weighted Average

The entry to record the sale would be:

Accounts Receivable	110	40	
Sales	500		40
To record the sale of merchandize on account.			
Cost of Goods Sold	570	12	
Merchandize Inventory	150		12
To record the cost of the sale.			

Cost Flow Assumptions: A Comprehensive Example

Recall that under the perpetual inventory system, cost of goods sold is calculated and recorded in the accounting system at the time when sales are recorded. In our simplified example, all sales occurred on June 30 after all inventory had been purchased. In reality, the purchase and sale of merchandize is continous. To demonstrate the calculations when purchases and sales occur continuously throughout the accounting period, let's review a more comprehensive example.

Assume the same example as above, except that sales of units occur as follows during June:

Date	*Number of units sold*
June 3	1
8	1
23	1
29	1

To help with the calculation of cost of goods sold, an **inventory record card** will be used to track the individual transactions. This card records information about purchases such as the date, number of units purchased, and purchase cost per unit. It also records cost of goods sold information: the date of sale, number of units sold, and the cost of each unit sold. Finally, the card records the balance of units on hand, the cost of each unit held, and the total cost of the units on hand.

A partially-completed inventory record card is shown in Figure 6-5 below:

The card tracks the flow of *each type* of inventory.

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
June 1	1						1		
3				1			0		
5	1						1		
7	1						2		
8				1			1		
21	1						2		
23				1			1		
28	1						2		
29				1			**1**		

Ending Inventory is 1 unit.

Figure 6-5 Inventory Record Card

In Figure 6-5, the inventory at the end of the accounting period is one unit. This is the number of units on hand according to the accounting records. A **physical inventory count** must still be done, generally at the end of the fiscal year, to verify the quantities actually on hand. As discussed in Chapter 5, any discrepancies identified by the physical inventory count are adjusted for as shrinkage.

As purchases and sales are made, costs are assigned to the goods using the chosen cost flow assumption. This information is used to calculate the cost of goods sold amount for each sales transaction at the time of sale. These costs will vary depending on the inventory cost flow assumption used. As we will see in the next sections, the cost of sales may also vary depending on *when* sales occur.

Comprehensive Example—Specific Identification

To apply specific identification, we need information about which units were sold on each date. Assume that specific units were sold as detailed below.

Date of Sale	*Specific Unit Sold*
June 3	The unit purchased on June 1 was sold on June 3
8	The unit purchased on June 7 was sold on June 8
23	The unit purchased on June 5 was sold on June 23
29	The unit purchased on June 28 was sold on June 29

Using the information above to apply specific identification, the resulting inventory record card appears in Figure 6-6.

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
June 1	1	$1	$1				1	$1	$1
3				1	$1	$1	0	$0	$0
5	1	$2	$2				1	$2	$2
7	1	$3	$3				2	1@$2 1@$3	$5
8				1	$3	$3	1	$2	$2
21	1	$4	$4				2	1@$2 1@$4	$6
23				1	$2	$2	1	$4	$4
28	1	$5	$5				2	1@$4 1@$5	$9
29				1	$5	$5	**1**	**$4**	**$4**

Figure 6-6 Inventory Record Card using Specific Identification

Notice in Figure 6-7 below that the number of units sold plus the units in ending inventory equals the total units that were available for sale (4 + 1 = 5 units). As well, the cost of goods sold plus the cost of items in ending inventory equals the cost of goods available for sale ($11 + $4 = $15). This relationship will always be true for each of specific identification, FIFO, and weighted average.

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
June 1	1	$1	$1				1	$1	$1
3				1	$1	$1	0	$0	$0
5	1	$2	$2				1	$2	$2
7	1	$3	$3				2	1@$2 1@$3	$5
8				1	$3	$3	1	$2	$2
21	1	$4	$4				2	1@$2 1@$4	$6
23				1	$2	$2	1	$4	$4
28	1	$5	$5				2	1@$4 1@$5	$9
29				1	$5	$5	**1**	**$4**	**$4**

Total number of units available for sale: **5 units** = Total number of units sold: **4 units** + Total number of units in ending inventory: **1 unit**

Total cost of goods available for sale: **$15** = Total cost of goods sold: **$11** + Total cost of ending inventory: **$4**

Figure 6-7 Total Number (or Cost) of Units Sold plus Total Number (or Cost) of Units in Ending Inventory equals Total Number (or Cost) of Units Available for Sale

Comprehensive Example—FIFO (Perpetual)

Using the same information, we now apply the FIFO cost flow assumption as shown in Figure 6-8.

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
June 1	1	$1	$1				1	$1	$1
3				1	$1	$1	0	$0	$0
5	1	$2	$2				1	$2	$2
7	1	$3	$3				2	1@$2 1@$3	$5
8				1	$2	$2	1	$3	$3
21	1	$4	$4				2	1@$3 1@$4	$7
23				1	$3	$3	1	$4	$4
28	1	$5	$5				2	1@$4 1@$5	$9
29				1	$4	$4	**1**	**$5**	**$5**

Total number of units available for sale: **5 units** = Total number of units sold: **4 units** + Total number of units in ending inventory: **1 unit**

Total cost of goods available for sale: **$15** = Total cost of goods sold: **$10** + Total cost of ending inventory: **$5**

Figure 6-8 Inventory Record Card using FIFO (Perpetual)

When calculating the cost of the units sold in FIFO, the oldest unit in inventory will always be the first unit removed. For example, in Figure 6-8, on June 8, one unit is sold when the previous balance in inventory consisted of 2 units: 1 unit purchased on June 5 that cost $2 and 1 unit purchased on June 7 that cost $3. Because the unit costing $2 was in inventory first (before the June 8 unit costing $3), the cost assigned to the unit sold on June 8 is $2. Under FIFO, the first units into inventory are assumed to be the first units removed from inventory when calculating cost of goods sold. Therefore, under FIFO, ending inventory will always be the most recent units purchased. In Figure 6-8, there is one unit in ending inventory and it is assigned the $5 cost of the most recent purchase which was made on June 28.

Comprehensive Example—Weighted Average (Perpetual)

The inventory record card transactions using weighted average costing are detailed in Figure 6-9. *For consistency, all weighted average calculations will be rounded to two decimal places.* When a perpetual inventory system is used, the weighted average is calculated each time a purchase is made. For example, after the June 7 purchase, the balance in inventory is 2 units with a total cost of $5.00 (1 unit at $2.00 + 1 unit at $3.00) resulting in an average cost per unit of $2.50 ($5.00 ÷ 2 units = $2.50). When a sale occurs, the cost of the sale is based on the most recent average cost per unit. For example, the cost of the sale on June 3 uses the $1.00 average cost per unit from June 1 while the cost of the sale on June 8 uses the $2.50 average cost per unit from June 7.

	Purchased			*Sold*			*Balance in Inventory*				*Average Cost Calc.*	
Date	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*		*Tot. $ /Tot. units*	*Avg. cost /unit*
June 1	1	$1	$1				1	$1.00	$1.00		$1.00/1	$1.00
3				1	$1.00	$1.00	0	$0.00	$0.00		$0.00/0	$0.00
5	1	$2	$2				1	$2.00	$2.00		$2.00/1	$2.00
7	1	$3	$3				2	$2.50	$5.00		$5.00/2	$2.50
8				1	$2.50	$2.50	1	$2.50	$2.50		$2.50/1	$2.50
21	1	$4	$4				2	$3.25	$6.50		$6.50/2	$3.25
23				1	$3.25	$3.25	1	$3.25	$3.25		$3.25/1	$3.25
28	1	$5	$5				2	$4.13*	$8.25		$8.25/2	$4.13*
29				1	$4.13	$4.13	1	$4.12	$4.12		$2.12/1	$4.12

*rounded

Figure 6-9 Inventory Record Card using Weighted Average Costing (Perpetual)

A common error made by students when applying weighted average occurs when the unit costs are rounded. For example, on June 28, the average cost per unit is rounded to $4.13 ($8.25 ÷ 2 units = $4.125/unit rounded to $4.13). On June 29, the cost of the unit sold is $4.13, the June 28 average cost per unit. Care must be taken to recognize that the total remaining balance in inventory after the June 29 sale is $4.12, calculated as the June 28 ending inventory total dollar amount of $8.25 less the June 29 total cost of goods sold of $4.13. Students will often incorrectly use the average cost per unit, in this case $4.13, to calculate the ending inventory balance. This produces an incorrect result. The cost of goods sold plus the balance in inventory must equal the goods available for sale ($4.12 + $4.13 = $8.25).

Figure 6-10 compares the results of the three cost flow methods. Goods available for sale, units sold, and units in ending inventory are the same regardless of which method is used. Because each cost flow method allocates the cost of goods available for sale in a particular way, the cost of goods sold and ending inventory values are different for each method.

Cost flow assumption	*Total cost of goods available for sale*	*Total units available for sale*	*Total cost of goods sold*	*Total units sold*	*Total cost of ending inventory*	*Total units in ending inventory*
Specific identification	$15.00	5	$11.00	4	$4.00	1
FIFO	15.00	5	10.00	4	5.00	1
Weighted average	15.00	5	10.88	4	4.12	1

Figure 6-10 Comparing Specific Identification, FIFO, and Weighted Average

Journal Entries

In Chapter 5 the journal entries to record the sale of merchandize were introduced. Chapter 5 showed how the dollar value included in these journal entries is determined. We now know that the information in the inventory record is used to prepare the journal entries in the general journal. For example, the credit sale on June 23 using weighted average costing would be recorded as follows (refer to Figure 6-9).

Accounts Receivable	110	10.00	
Sales	500		10.00
To record the sale of merchandize on account at $10 per unit.			

Cost of Goods Sold	570	3.25	
Merchandize Inventory	150		3.25
To record the cost of the sale.			

Perpetual inventory incorporates an internal control feature that is lost under the periodic inventory system. Losses resulting from theft and error can easily be determined when the actual quantity of goods on hand is counted and compared with the quantities shown in the inventory records as being on hand. It may seem that this advantage is offset by the time and expense required to continuously update inventory records, particularly where there are thousands of different items of various sizes on hand. However, computerization makes this record keeping easier and less expensive because the inventory accounting system can be tied in to the sales system so that inventory is updated whenever a sale is recorded.

Inventory Record Card

In a company such as a large drugstore or hardware chain, inventory consists of thousands of different products. For businesses that carry large volumes of many inventory types, the general ledger merchandize inventory account contains only summarized transactions of the purchases and sales. The detailed transactions for each type of inventory would be recorded in the underlying inventory record cards. The inventory record card is an example of a **subsidiary ledger***,* more commonly called a **subledger**. The *merchandize inventory subledger* provides a detailed listing of type, amount, and total cost of all types of inventory held at a particular point in time. The sum of the balances on each inventory record card in the subledger would always equal the ending amount recorded in the Mechandize Inventory general ledger account. So a subledger contains the detail for each product in inventory while the general ledger account shows only a summary. In this way, the general ledger information is streamlined while allowing for detail to be available through the subledger.

B. Financial Statement Impact of Different Inventory Cost Flows

LO2 – Explain the impact on financial statements of inventory cost flow assumptions and errors.

Purchase prices may change as a result of larger economic or political phenomenon. For example, the cost of a barrel of oil can be affected by a decision made by a large producer like the government of Saudi Arabia. Changes in the purchasing power of a national currency over time can also affect the costs of purchased inventory. When costs of purchases are increasing, as in a period of *inflation* (or decreasing, as in a period of *deflation*), each cost flow assumption results in a different value for cost of goods sold and the resulting ending inventory, gross profit, and net income.

Using information from the preceding comprehensive example, the effects of each cost flow assumption on net income and ending inventory for the month are shown in Figure 6-11.

	Spec. ident.	FIFO	Wtd. avg.
Sales (4 units @ $10)	$40.00	$40.00	$40.00
Cost of goods sold	11.00	10.00	10.88
Gross profit and net income	$29.00	$30.00	$29.12
Ending inventory (on the balance sheet)	$ 4.00	$ 5.00	$ 4.12

Figure 6-11 Effects of Different Cost Flow Assumptions

FIFO *maximizes* net income and ending inventory amounts when costs are rising. FIFO *minimizes* net income and ending inventory amounts when purchase costs are decreasing.

Because different cost flow assumptions can affect the financial statements, GAAP requires that each company disclose the inventory cost flow method it uses in a note to the financial statements. Additionally, GAAP requires that once a method is adopted, it must be used every accounting period consistently thereafter unless there is a justifiable reason to change. However, if a company carries a variety of inventory items, it may choose a different cost flow assumption for each type of item, as long as these are applied consistently and disclosed. For example, Wal-Mart might use weighted average to account for its sporting goods items and specific identification for each of its various major appliances.

Effect of Inventory Errors on the Financial Statements

There are two components necessary to determine the inventory value disclosed on a corporation's balance sheet. The first component involves calculating the quantity of inventory on hand at the end of an accounting period by performing a physical inventory count. The second requirement involves assigning the most appropriate cost to this quantity of inventory.

An error in calculating either the quantity or the cost of ending inventory will misstate reported income for two time periods. Assume merchandize inventory at December 31, 2017, 2018, and 2019 was reported as $2,000 and that merchandize purchases during each of 2018 and 2019 were $20,000. There were no other expenditures. Assume further that sales each year amounted to $30,000 with cost of goods sold of $20,000 resulting in gross profit of $10,000. These transactions are summarized below.

Merchandize Inventory			
Beg. Bal.	2,000		
2018 Purch.	20,000	20,000	2018 COGS
2018 Bal.	2,000		
2019 Purch.	20,000	20,000	2019 COGS
2019 Bal.	2,000		

	2018	*2019*
Sales	$30,000	$30,000
COGS	20,000	20,000
Gross profit	$10,000	$10,000

Figure 6-12 Income Statement Effects, No Errors in Ending Inventory

Assume now that ending inventory was misstated at December 31, 2018. Instead of the $2,000 that was reported, the correct value should have been $1,000. The effect of this error was to understate cost of goods sold on the income statement—cost of goods sold should have been $21,000 in 2018 as shown below instead of $20,000 as originally reported above. Because of the 2018 error, the 2019 beginning inventory was incorrectly reported above as $2,000 and should have been $1,000 as shown below. This caused the 2019 gross profit to be understated by $1,000—cost of goods sold in 2019 should have been $19,000 as illustrated below but was originally reported above as $20,000.

Merchandize Inventory			
Op. Bal.	2,000		
2018 Purch.	20,000	20,000	2018 COGS
		1,000	Inv. Adj.
2018 Bal.	**1,000**		
2019 Purch.	20,000		
Inv. Adj	1,000	20,000	2019 COGS
2019 Bal.	2,000		

Ending inventory is incorrectly stated.

	2018	*2019*
Sales	$30,000	$30,000
COGS	21,000	19,000
Gross profit	$ 9,000	$11,000

Figure 6-13 Income Statement Effects, Error in 2018 Ending Inventory

As can be seen, income is misstated in both 2018 and 2019 because cost of goods sold in both years is affected by the adjustment to ending inventory needed at the end of 2018 and 2019. The opposite effects occur when inventory is understated at the end of an accounting period.

An error in ending inventory is offset in the next year because one year's ending inventory becomes the next year's opening inventory. This process can be illustrated by comparing gross profits for 2018 and

2019 in the above example. The sum of both years' gross profits is the same.

	Overstated inventory	*Correct inventory*
Gross profit for 2018	$10,000	$ 9,000
Gross profit for 2019	10,000	11,000
Total	$20,000	$20,000

Figure 6-14 Gross Profit Effects Balance Out Over Two Years

C. Lower of Cost and Net Realizable Value (LCNRV)

LO3 – Explain and calculate lower of cost and net realizable value inventory adjustments.

In addition to the adjusting entry to record the shrinkage of merchandize inventory (discussed in Chapter 5), there is an additional adjusting entry to be considered at the end of the accounting period when calculating cost of goods sold and ending inventory values for the financial statements. Generally accepted accounting principles require that inventory be valued at the lesser amount of its **laid-down cost** and the amount for which it can likely be sold—its **net realizable value (NRV)**. This concept is known as the **lower of cost and net realizable** value, or **LCNRV**. Laid-down cost includes the invoice price of the goods (less any purchase discounts) plus transportation in, insurance while in transit, and any other expenditure made by the purchaser to get the merchandize to the place of business and ready for sale.

As an example of LCNRV, a change in consumer demand may mean that inventories become obsolete and need to be reduced in value below the purchase cost. This often occurs in the electronics industry as new and more popular products are introduced.

The lower of cost and net realizable value can be applied to individual inventory items or groups of similar items. Assume two types of inventory for a paper supply company, as shown in Figure 6-15 below.

			LCNRV	
	Total cost	*Total NRV*	*Unit basis*	*Group basis*
White paper	$1,250	$1,200	$1,200	
Coloured paper	1,400	1,500	1,400	
Total	$2,650	$2,700	$2,600	$2,650
Ending inventory (LCNRV)			$2,600	$2,650

Figure 6-15 LCNRV Calculations

Depending on the calculation used, the valuation of ending inventory will be either $2,600 or $2,650. Under the unit basis, the lower of cost and net realizable value is selected for each item: $1,200 for white paper and $1,400 for coloured paper, for a total LCNRV of $2,600. Because the LCNRV is lower than cost, an adjusting entry must be recorded as follows.

Cost of Goods Sold	570	50	
Merchandize Inventory	150		50
To adjust inventory to LCNRV.			

The purpose of the adjusting entry is to ensure that inventory is not overstated on the balance sheet and that net income is not overstated on the income statement.

If white paper and coloured paper are considered a similar group, the calculations in Figure 6-15 above show they have a combined cost of $2,650 and a combined net realizable value of $2,700. LCNRV would therefore be $2,650. In this case, the cost is equal to the LCNRV so no adjusting entry would be required if applying LCNRV on a group basis.

D. Estimating the Balance in Merchandize Inventory

LO4 – Estimate merchandize inventory using the gross profit method and the retail inventory method.

A physical inventory count determines the quantity of items on hand. When costs are assigned to these items and these individual costs are added, a total inventory amount is calculated. Is this dollar amount correct? Should it be larger? How can one tell if the physical count is accurate? Being able to estimate this amount provides a check on the reasonableness of the physical count and valuation.

The two methods used to estimate the inventory dollar amount are the *gross profit method* and the *retail inventory method*. Both methods are based on a calculation of the gross profit percentage in the income statement. Assume the following information:

Sales		$15,000	100%
Cost of goods sold:			
Opening inventory	$ 4,000		
Purchases	12,000		
Cost of goods available for sale	16,000		
Less: Ending inventory	(6,000)		
Cost of goods sold		10,000	67%
Gross profit		$ 5,000	33%

The gross profit percentage, rounded to the nearest whole percent, is 33% ($5,000/15,000). This means that for each dollar of sales, an average of $.33 is left to cover other expenses after deducting cost of goods sold.

Estimating ending inventory requires an understanding of the relationship of ending inventory with cost of goods sold.

Review the following cost of goods sold calculations.

Cost of goods sold	
Opening inventory	$ 4,000
Purchases	12,000
Cost of goods available for sale	16,000
Less: Estimated ending inventory	?
Cost of goods sold	$10,000

How much of the $16,000 of goods that the company had available to sell is still not sold at December 31 (in other words, what is ending inventory)? You can calculate this as:

Available for sale	$16,000
Less inventory that was sold	10,000
Equals what must still be on hand	$ 6,000

Cost of goods sold	
Opening inventory	$ 4,000
Purchases	12,000
Cost of goods available for sale	16,000
Less: Estimated ending inventory	6,000
Cost of goods sold	?

How much of the $16,000 of goods that were available to be sold have been sold? Use the dollar amount of ending inventory to calculate this:

Available for sale	$16,000
Less inventory on hand	6,000
Equals what must have been sold	$10,000

The sum of cost of goods sold and ending inventory is always equal to cost of goods available for sale. Knowing any two of these amounts enables the third amount to be calculated. Understanding this relationship is the key to estimating inventory using either the gross profit or retail inventory methods, discussed below.

Gross Profit Method

The **gross profit method** of estimating ending inventory assumes that the percentage of gross profit on sales remains approximately the same from period to period. Therefore, if the gross profit percentage is known, the dollar amount of ending inventory can be estimated. First, gross profit is estimated by applying the gross profit percentage to sales. From this, cost of goods sold can be derived, namely the difference between sales and gross profit. Cost of goods available for sale can be determined from the accounting records (opening inventory + purchases). The difference between cost of goods available for sale and cost of goods sold is the estimated value of ending inventory.

To demonstrate, assume that Pete's Products Ltd. has an average gross profit percentage of 40%. If opening inventory at January 1, 2019 was $200, sales for the six months ended June 30, 2019 were $2,000, and inventory purchased during the six months ended June 30, 2019 was $1,100, the cost of goods sold and ending inventory can be estimated as follows.

Sales (given)		$2,000
Cost of goods sold		
Opening inventory (given)	$ 200	
Purchases (given)	1,100	
Cost of goods available for sale	1,300	
Less: Estimated ending inventory	(100)	
Cost of goods sold		1,200
Gross profit		$ 800

Step 3: Ending inventory can be estimated ($1,300 – 1,200 = 100)

Step 2: Cost of goods sold can be derived ($2,000 – 800 = $1,200)

Step 1: Gross profit is estimated at $800 ($2,000 x 40%).

The estimated ending inventory at June 30 must be $100—the difference between the cost of goods available for sale and cost of goods sold.

The gross profit method of estimating inventory is useful in situations when goods have been stolen or destroyed by fire or when it is not cost-effective to make a physical inventory count.

Retail Inventory Method

The **retail inventory method** is another means to estimate cost of goods sold and ending inventory. It can be used when items are consistently valued at a known percentage of cost, known as a *mark-up*. A **mark-up** is the ratio of retail value (or selling price) to cost. For example, if an inventory item had a cost of $10 and a retail value of $12, it was marked up to 120% (12/10 x 100). Mark-ups are commonly used in clothing stores.

First, the cost of goods available for sale is converted to its retail value (the selling price). To do this, the mark-up must be known. Assume the same information as above for Pete's Products Ltd., except that now every item in the store is marked up to 160% of its purchase price. That is, if an item is purchased for $100, it is sold for $160. Based on this, opening inventory, purchases, and cost of goods available can be re-stated at retail. Cost of goods sold can then be valued at retail, meaning that it will equal sales for the period. From this, ending inventory (at retail) can be determined, then converted back to cost using the mark-up. These steps are illustrated below.

Step 1: Opening inventory and purchases (and therefore cost of goods available for sale) are restated at retail (cost x 160%).

	Six Months Ended June 30, 2019			
	At retail		*At cost*	
Sales (given)		$2,000		$2,000
Cost of goods sold				
Opening inventory (from records)	$ 320		$ 200	
Purchases (from records)	1,760		1,100	
Cost of goods available for sale	2,080		1,300	
Less: Estimated ending inventory	(80)		(50)	
Cost of goods sold		2,000		1,250
Gross profit		$ -0-		$ 750

Step 2: Cost of goods sold is restated at retail (equal to sales).

Step 3: Ending inventory can be derived ($2,080 – 2,000 = $80).

Step 4: Ending inventory is restated at cost (that is, divided by 160%). Cost of goods sold and gross profit can then be determined.

The retail inventory method of estimating ending inventory is easy to calculate and produces a relatively accurate cost of ending inventory, provided that no change in the average mark-up has occurred during the period.

Appendix: Inventory Cost Flow Assumptions Under the Periodic System

LO5 – Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions, using the periodic inventory system.

Recall from Chapter 5 that the *periodic inventory system* does not maintain detailed records to calculate cost of goods sold each time a sale is made. Rather, when a sale is made, the following entry is made:

Date	Accounts Receivable	110	XX	
	Sales	550		XX

No entry is made to record cost of goods sold and to reduce Merchandize Inventory, as is done under the perpetual inventory system. Instead, all purchases are expenses and recorded in the general ledger account "Purchases." A physical inventory count is conducted at year-end. An amount for ending inventory is calculated based on this count and the valuation of the items in inventory, and cost of goods sold is calculated in the income statement based on this total amount. The income statement format is:

Sales		$10,000
Cost of goods sold		
Opening inventory	$ 1,000	
Purchases	5,000	
Goods available for sale	6,000	
Less: Ending inventory	(2,000)	
Cost of goods sold		4,000
Gross profit		$6,000

Even under the periodic inventory system, however, inventory cost flow assumptions need to be made (specific identification, FIFO, weighted average) when purchase prices change over time, as in a period of inflation. Further, different inventory cost flow assumptions produce different cost of goods sold and ending inventory values, just as they did under the perpetual inventory system. These effects have been explained earlier in this chapter. *Under the periodic inventory system, cost of goods sold and ending inventory values are determined as if the sales for the period all take place at the end of the period.* These calculations were demonstrated in our earliest example in this chapter.

Our original example using units assumed there was no opening inventory at June 1, 2018 and that purchases were made as follows.

	Purchase Transaction	
Date	*Number of units*	*Price per unit*
June 1	1	$ 1
5	1	2
7	1	3
21	1	4
28	1	5

When recorded in the general ledger T-account "Purchases" (an income statement account), these transactions would be recorded as follows:

Purchases		No. 570
Jun. 1	$1	
5	2	
7	3	
21	4	
28	5	

Sales of four units are all assumed to take place on June 30. Ending inventory would then be counted at the end of the day on June 30. One unit should be on hand. It would be valued as follows under the various inventory cost flow assumptions, as discussed in the first part of the chapter:

Specific identification	$4
FIFO	5
Weighted average	3

These values would be used to calculate cost of goods sold and gross profit on the income statement, as shown in Figure 6-16 below:

	Spec. ident.	*FIFO*	*Wtd. avg.*
Sales	$40	$40	$40
Cost of goods sold			
Opening inventory	-0-	-0-	-0-
Purchases	15	15	15
Goods available for sale	15	15	15
Less: Ending inventory	(4)	(5)	(3)
Cost of goods sold	11	10	12
Gross profit and net income	$29	$30	$28
Ending inventory (balance sheet)	$ 4	$ 5	$ 3

Figure 6-16 Effects of Different Cost Flow Assumptions: Periodic Inventory System

Note that these results are the same as those calculated using the perpetual inventory system and assuming all sales take place on June 30 using specific identification (Figure 6-2), FIFO (Figure 6-3), and weighted average (Figure 6-4) cost flow assumptions, respectively.

As discussed in the appendix to Chapter 5, the ending inventory amount will be recorded in the accounting records when the income statement accounts are closed to the Income Summary general ledger account at the end of the year. The amount of the closing entry for ending inventory is obtained from the income statement.

Using the example above and assuming no other revenue or expense items, the closing entries to adjust ending inventory to actual under the each inventory cost flow assumption would be as follows.

Entry 1

			Spec. Ident.		*FIFO*		*Wtd. Avg*	
Dec. 31	Merchandize Inventory (ending)	150	4		5		3	
	Sales	500	40		40		40	
	Income Summary	360		44		45		43
	To close all income statement accounts with credit balances to the Income Summary and record the ending inventory balance.							

Summary of Chapter 6 Learning Objectives

LO1 – Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions, using the perpetual inventory system.

Cost of goods available for sale must be allocated between cost of goods sold and ending inventory using a cost flow assumption. Specific identification allocates cost to units sold by using the actual cost of the specific unit sold. FIFO (first-in first-out) allocates cost to units sold by assuming the units sold were the oldest units in inventory. Weighted average allocates cost to units sold by calculating a weighted average cost per unit at the time of sale.

LO2 – Explain the impact on financial statements of inventory cost flow assumptions and errors.

As costs of each unit of inventory purchased change, particular inventory methods will assign different cost of goods sold and ending inventory to the financial statements. Specific identification achieves the exact matching of revenues and costs while weighted average smooths out price changes. The use of FIFO results in a more current cost of inventory appearing on the balance sheet as ending inventory. The cost flow method in use must be disclosed in the notes to the financial statements and be applied consistently from period to period. An error in ending inventory in one period impacts the balance sheet (inventory and shareholders' equity) and the income statement (COGS and net income) for that accounting period and the next. However, inventory errors in one period reverse themselves in the next.

LO3 – Explain and calculate lower of cost and net realizable value inventory adjustments.

Inventory must be evaluated, at minimum, each accounting period to determine whether the net realizable value (NRV) is lower than cost, known as the lower of cost and net realizable value (LCNRV) of inventory. An adjustment is made if the NRV is lower than cost. LCNRV can be applied to groups of similar items or by item.

LO4 – Estimate merchandize inventory using the gross profit method and the retail inventory system.

Estimating inventory using the gross profit method requires that estimated cost of goods sold be calculated by, first, multiplying net sales by the gross profit ratio. Estimated ending inventory at cost is then arrived at by taking goods available for sale at cost less the estimated cost of goods sold. To apply the retail inventory method, three calculations are required:

- retail value of goods available for sale less retail value of net sales equals retail value of ending inventory,
- goods available for sale at cost divided by retail value of goods available for sale equals cost to retail ratio, and
- retail value of ending inventory multiplied by the cost to retail ratio equals estimated cost of ending inventory.

LO5 – (Appendix) Calculate cost of goods sold and merchandize inventory under specific identification, first-in first-out (FIFO), and weighted average cost flow assumptions, using the periodic inventory system.

Periodic systems assign cost of goods available for sale to cost of goods sold and ending inventory at the end of the accounting period. Specific identification and FIFO give identical results in each of periodic and perpetual. The weighted average cost, periodic, will differ from its perpetual counterpart because in periodic, the average cost per unit is calculated at the end of the accounting period based on total goods that were available for sale.

ASSIGNMENT MATERIALS

Concept Self-check

View Answers

1. What three inventory cost flow assumptions can be used in perpetual inventory systems?
2. What impact does the use of different inventory cost flow assumptions have on financial statements?
3. How do rising costs affect ending inventory and cost of goods sold values using FIFO and weighted average cost flow assumptions?
4. Assume that you are the president of your company and paid a year-end bonus according to the amount of net income earned during the year. When prices are rising, would you choose a FIFO or weighted average cost flow assumption? Explain, using an example to support your answer. Would your choice be the same if prices were falling?
5. The ending inventory of CBCA Inc. is overstated by $5,000 at December 31, 2017. What is the effect on 2017 net income? What is the effect on 2018 net income assuming that no other inventory errors have occurred during 2018?
6. What is meant by the laid-down cost of inventory?
7. When should inventory be valued at less than cost? What does the term *net realizable value* mean?
8. What is the primary reason for using the LCNRV method of inventory valuation?
9. Why is estimating inventory useful?
10. How does the estimation of ending inventory differ between the gross profit method and the retail inventory method? Use examples to illustrate.
11. When is the gross profit method particularly useful?
12. Does the retail inventory method assume any particular inventory cost flow assumption?
13. (Appendix) Contrast the journal entries required under the periodic and perpetual inventory systems.

Comprehension Problems

CP 6-1

View Answer

Laplante Inc. uses the perpetual inventory system. The following transactions took place during January 2019

Date		*Units*	*Unit Cost*
Jan. 1	Opening Inventory	100	$1
7	Purchase #1	10	2
9	Sale #1	80	
21	Purchase #2	20	3
24	Sale #2	40	

Required: Using the table below, calculate cost of goods sold for the January 9 and 24 sales, and ending inventory under the following inventory cost flow assumptions:

1. FIFO
2. Weighted average.

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1	$100
7									
9									
21									
24									

CP 6-2

View Answer

ABBA uses the perpetual inventory system. The following transactions took place in January 2017.

Date		*Units*	*Unit Selling Price/ Cost*
Jan. 1	Opening Inventory	2,000	$0.50
5	Sale #1	1,200	5.00
6	Purchase #1	1,000	2.00
10	Purchase #2	500	1.00
16	Sale #2	2,000	6.00
21	Purchase #3	1,000	2.50

Assume all sales are made on account.

Required:

1. Assume ABBA uses the FIFO inventory cost flow assumption
   a. Record the journal entry for the January 5 sale. Show calculations for cost of goods sold.
   b. Record the journal entry for the January 16 sale. Show calculations for cost of goods sold.
   c. Calculate ending inventory in units, cost per unit, and total cost.
2. Assume ABBA uses the weighted average inventory cost flow assumption
   a. Record the journal entry for the January 5 sale. Show calculations for cost of goods sold.
   b. Record the journal entry for the January 16 sale. Show calculations for cost of goods sold.
   c. Calculate ending inventory in units, cost per unit, and total cost.

CP 6-3

View Answer

The following information is taken from the records of East Oak Distributors Inc. The company uses the perpetual inventory system.

Date		*Units*	*Unit Cost*
May 1	Opening Inventory	100	$1
5	Sale #1	80	
6	Purchase #1	200	2
12	Purchase #2	125	3
13	Sale #2*	300	
19	Purchase #3	350	2
29	Purchase #4	150	1
30	Sale #3**	400	

*for specific identification, sold 175 units of purchase #1 and all units of purchase #2.

**for specific identification, sold 20 units of opening inventory, 300 units of purchase #3, and 80 units of purchase #4.

Required:

1. Calculate cost of goods sold and the cost of ending inventory under each of the following inventory cost flow assumptions:
   a. FIFO
   b. Specific identification
   c. Weighted average.
2. Assume each unit was sold for $5. Complete the following partial income statements :

	FIFO	*Spec. Ident.*	*Wtd. Avg.*
Sales	$	$	$
Cost of goods sold			
Gross profit			

3. Which costing method would you choose if you wished to maximize net income? Maximize ending inventory value?

CP 6-4

View Answer

Required: Choose the method of inventory valuation that corresponds to each of the statements that follow:

1. FIFO
2. Weighted average.
3. Specific identification

___ Matches actual flow of goods with actual flow of costs in most cases
___ Matches old costs with new sales prices
___ Results in the lowest net income in periods of falling prices
___ Does not assume any particular flow of goods
___ Best suited for situations in which inventory consists of perishable goods
___ Values ending inventory at approximate replacement cost

CP 6-5

View Answer

Listed below are four common accounting errors. Using the format shown, indicate the effect, if any, of each of the errors on the company's financial statements for the items shown. Assume the company uses the perpetual inventory system and that the ending inventory balance will be adjusted to the physical count at year-end.

	2017 Statements				*2018 Statements*			
Errors	*Opening invent.*	*Ending invent.*	*2017 Total assets*	*2017 Net income*	*Opening invent.*	*Ending invent.*	*2018 Total assets*	*2018 Net income*
1. Goods purchased in 2017 were included in December 31 inventory, but the transaction was not recorded until early 2018.	-0-							
2. Goods purchased in 2017 were included in December 31, 2017 inventory, and the transaction was recorded in 2017.	-0-							
3. Goods were purchased in 2017 and the transaction recorded in that year; however, the goods were not included in the December 31 inventory as they should have been.	-0-							
4. Goods purchased in 2017 were excluded from December 31 inventory, and the transaction was recorded early in 2018.	-0-							

Required: Use a + (plus sign) to denote that an item is too high as a *result* of the error, a – (minus sign) to denote that it is too low, and a -0- (zero) to indicate no effect. The answer for the 2017 opening inventory is shown.

CP 6-6

View Answer

Partial income statements of Lilydale Products Inc. are reproduced below:

	2019	*2020*	*2021*
Sales	$30,000	$40,000	$50,000
Cost of Goods Sold	20,000	23,000	25,000
Gross Profit	$10,000	$17,000	$25,000

Required:

1. Calculate the impact of the two errors listed below on the gross profit calculated for the three years:
   a. The 2019 ending inventory was understated by $2,000.
   b. The 2021 ending inventory was overstated by $5,000.
2. What is the impact of these errors on total assets?

CP 6-7

View Answer

Erndale Products Ltd. has the following items in inventory at year-end:

Item	*Units*	*Cost (FIFO)*	*NRV*
X	2	$ 50	$60
Y	3	150	75
Z	4	25	20

Required: Calculate the cost of ending inventory using LCNRV on

1. A unit-by-unit basis
2. A group inventory basis.

CP 6-8

View Answer

Windy City Insurance Ltd. has received a fire-loss claim of $45,000 from Balton Corp. A fire destroyed Balton's inventory on May 25, 2018. Balton has an average gross profit of 33 1/3 per cent. You have obtained the following information:

Inventory, May 1, 2018	$ 80,000
Purchases, May 1 - May 25	150,000
Sales, May 1 - May 25	300,000

Required:

1. Calculate the estimated amount of inventory lost in the fire.
2. How reasonable is Balton's claim?

CP 6-9

View Answer

The records of Renault Corporation showed that sales during the period were $276,000, Opening inventory amounted to $26,000 at cost, Purchases were $90,000 at cost. The company paid $4,000 for transportation-in. Mark-up on all items sold is 300%.

Required:

1. Calculate:
   a. Cost of goods available for sale at retail
   b. Cost of goods sold at retail
   c. Ending inventory at retail
   d. Ending inventory at cost
   e. Cost of goods sold at cost
   f. Gross profit at cost.
2. Demonstrate that your results maintain a 300% mark-up.

CP 6-10

View Answer

Midlife Corp. is in the process of preparing its financial statements as at May 31, 2018. It has a consistent mark-up of 200% on goods it sells. The following information is available for the five months ended May 31:

Opening inventory	$ 10,000
Net purchases	140,000
Sales	250,000

Required: Estimate the cost of ending inventory at May 31.

View Answer

CP 6-11 (Appendix)

On March 15, 2017, Sudden Sales Co. purchased $5,000 of merchandize for cash.

Required: Assuming that Sudden Sales uses the periodic inventory system, calculate the cost of goods sold in each of the following circumstances:

1. Opening inventory, -0-; ending inventory, $2,000
2. Opening inventory, $3,000; ending inventory, $4,000
3. Opening inventory, $1,000; ending inventory, $1,500
4. Opening inventory, $2,000; ending inventory, -0-.

View Answer

CP 6-12 (Appendix)

Bouchard Inc. uses a periodic inventory system. The following transactions took place during January 2019. For specific identification purposes, items sold were:

100 units of opening inventory
30 units of purchase #3
30 units of purchase #4
40 units of purchase #5

	Units	*Unit Cost*
Opening inventory	100	$1
Purchase #1	10	1
Purchase #2	20	2
Purchase #3	30	3
Purchase #4	40	4
Purchase #5	50	5

The company sold 200 units during the month at $6 per unit.

Required: Using the income statement format shown below, calculate gross profit for each of:

1. FIFO
2. Specific identification
3. Weighted average.

	FIFO		*Spec. ident.*		Wtd. average	
Sales		$1,500		$1,500		$1,500
Cost of goods sold						
Opening inventory						
Purchases						
Cost of goods available						
Less: Ending inventory						
Cost of goods sold						
Gross profit						

CP 6-13 (Appendix)

The following transactions took place in ABBA Limited in 2017.

View Answer

Opening Inventory	2,000 units @ $0.50
Purchase #1	1,000 units @ $2.00
Purchase #2	500 units @ $1.00
Purchase #3	1,000 units @ $2.50
Sales	2,000 units

Assume a periodic inventory system is used. For specific identification purposes, items sold were:

800 units of opening inventory
200 units of purchase #2
1,000 units of purchase #3

Required: Calculate

1. Ending inventory under specific identification.
2. Ending inventory under FIFO.
3. Ending inventory under weighted average.
4. Cost of goods sold under specific identification.
5. Cost of goods sold under FIFO.
6. Cost of goods sold under weighted average.

CP 6-14 (Appendix)

View Answer

The following information is taken from the records of West End Distributors Inc. The company uses the periodic inventory system.

			Units	*Unit cost*
May	1	Opening Inventory	100	$1
	6	Purchase #1	200	1
	12	Purchase #2	125	2
	19	Purchase #3	350	2
	29	Purchase #4	150	3

At May 31, 200 units remain unsold. For specific identification purposes, items on hand were:

100 units of purchase #1
100 units of purchase #4

The other units were sold on May 31 for $2 each.

Required:

1. Calculate the cost of ending inventory under each of the following costing methods:
   a. FIFO
   b. Specific identification
   c. Weighted average.
2. Complete the following partial income statements:

	FIFO		*Spec. ident.*		Wtd. average	
Sales		$1,450		$1,450		$1,450
Cost of goods sold						
Opening inventory						
Purchases						
Cost of goods available						
Less: Ending inventory						
Cost of goods sold						
Gross profit						

Problems

P 6-1

View Answer

The following sales and purchases of the same product were made during 2020 at Yang Corporation. The opening inventory consisted of 50 units at $1 each.

Purchases				*Sales*		
		Units	$ per unit		Units	Total $
Apr. 15	Purch. #1	200	$2	Apr. 25	Sale #1*	$250
Oct. 15	Purch. #2	600	$5	Oct. 25	Sale #2**	$500

*for specific identification, sold 50 units of opening inventory and 200 units of purchase #1

**for specific identification, sold 500 units of purchase #2

Required:

1. Calculate cost of goods sold and the cost of ending inventory under each of FIFO, specific identification, and weighted average inventory cost flow assumptions. Set up a table as follows:

	Purchased			*Sold*			*Balance in inventory*		
Date	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*
							50	$1	$50

2. Prepare calculations comparing the effect on gross profit of the three inventory cost flow assumptions.
3. The president wants to maximize the company's net income this year. What would you suggest that is in accordance with GAAP?

P 6-2

View Answer

Palermo Inc. uses the perpetual inventory system. All sales are made on account. The following data are taken from the company's for the year ended December 31, 2020:

Purchases				*Sales*			
		Units	*Unit cost*			*Units*	*Unit sell. price*
Jan. 1	Op. Inv.	25	$1				
Feb. 15	Purchase #1	15	$2	Feb. 28	Sale #1	30	$2
Mar. 14	Purchase #2	10	$3	Apr. 9	Sale #2	15	$4
Oct. 28	Purchase #3	35	$4	Dec. 21	Sale #3	50	$6
Dec. 4	Purchase #4	40	$5				

Required:

1. Show the journal entries to record the December 21 sale under a) FIFO and b) weighted average inventory cost flow assumptions.
2. Calculate the amount of gross profit for the year under FIFO and weighted average inventory cost flow assumptions. Which method matches cost of goods sold more closely with revenues? Why?
3. Given your answer to (2), what inventory cost flow assumption would be picked if management wanted to minimize income taxes?

P 6-3

View Answer

Southern Cross Company Limited made the following purchases and sales of Products A and B during the year ended December 31, 2018:

Product A

		Units	*Unit cost/ selling price*
Jan. 07	Purchase #1	8,000	$12.00
Mar. 30	Sale #1	9,000	16.00
May 10	Purchase #2	12,000	12.10
Jul. 04	Sale #2	14,000	17.00

Product B

		Units	Unit cost/ selling price
Jan. 13	Purchase #1	5,000	$13.81
Jul. 15	Sale #1	1,000	20.00
Oct. 23	Purchase #2	7,000	14.21
Dec. 14	Sale #2	8,000	21.00

Opening inventory at January 1 amounted to 4,000 units at $11.90 per unit for Product A and 2,000 units at $13.26 per unit for Product B.

Required:

1. Prepare inventory record cards for Products A and B for the year using the weighted average inventory cost flow assumption.
2. Calculate total cost of ending inventory at December 31, 2018.
3. Assume now that Southern Cross keeps over 1,000 types of inventory on hand. Why might staff prefer to use computerized accounting software if a perpetual inventory system is used?
4. (Appendix) What recommendations might you make to the president of Southern Cross regarding the use of the perpetual inventory system if only Products A and B are sold?

P 6-4

View Answer

Northgate Products Corp. sells gadgets and uses the perpetual inventory system. During the month of January 2018, the number of gadgets purchased and sold was as follows:

	Purchased			*Sold*			*Balance in inventory*		
Date	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*	*Units*	*Unit cost*	*Total $*
Jan. 1							100	$1	
3	100	$1							
8	200	$2							
10				200*					
15	300	$3							
20				400**					
27	400	$1							

Assume the January 10 units were sold on account for $3 each, and the January 20 units were sold on account for $5 each.

*for specific identification, sold 50 units of opening inventory and 150 units of purchase #2

**for specific identification, sold 100 units of purchase #1 and 300 units from purchase #3

Required:

1. Complete the inventory record card, and calculate cost of goods sold and the cost of ending inventory under each of the following inventory cost flow assumptions:
   a. FIFO
   b. Specific identification
   c. Weighted average.
2. Prepare the journal entries required to record purchases and sales using the FIFO inventory cost flow assumption.
3. Calculate the sum of cost of goods sold and ending inventory balances under each of the three assumptions. Explain the results.

P 6-5

View Answer

Partial income statements of Schneider Products Inc. are reproduced below:

	2017	*2018*
Sales	$50,000	$50,000
Cost of goods sold	20,000	23,000
Gross profit	$30,000	$27,000

The 2017 ending inventory was overstated by $2,000 during the physical count. The 2018 physical inventory count was done properly.

Required:

1. Calculate the impact of this error on the gross profit calculated for 2017 and 2018.
2. What is the impact of this error on total assets at the end of 2017 and 2018? Net assets?

P 6-6

View Answer

The year-end inventory of Goodall Inc. consisted of the following similar groups of items, priced at cost and at net realizable value:

Item	*Cost*	*NRV*
A	$60	$63
B	40	40
C	80	78
D	50	42

Required: Calculate ending inventory based on:

1. Cost
2. LCNRV (unit basis)
3. LCNRV (group basis).

P 6-7

View Answer

Reflex Corporation sells three products. The inventory valuation of these products is shown below for years 2018 and 2019.

	2018			*2019*		
	Cost	*Market*	*Unit basis (LCNRV)*	*Cost*	*Market*	*Unit basis (LCNRV)*
Product X	$14,000	$15,000	?	$15,000	$16,000	?
Product Y	12,500	12,000	?	12,000	11,500	?
Product Z	11,000	11,500	?	10,500	10,000	?
Total	?	?	?	?	?	?

The partial comparative income statements for the two years follow:

	2018		*2019*	
Sales		$1,500		$1,500
Cost of goods sold				
Opening inventory				
Purchases				
Cost of goods available				
Ending inventory				
Cost of goods sold				
Gross profit				

Required:

1. If Reflex values its inventory using LCNRV/unit basis, complete the 2018 and 2019 cost, net realizable value, and LCNRV calculations.
2. Complete the partial income statements for 2018 using cost, LCNRV/unit basis, and LCNRV/group basis to calculate ending inventory and cost of goods sold.
3. Complete the partial income statements for 2019 using cost, LCNRV/unit basis, and LCNRV/group basis to calculate ending inventory and cost of goods sold.
4. Which inventory valuation would yield the same gross profits for 2018 and 2019?
   a. Cost and LCNRV/unit basis
   b. Cost and LCNRV/group basis
   c. Cost basis.
5. Which methods yield the maximum combined profits for both years?

P 6-8

View Answer

The gross profit of Bellevue Widget Company Ltd. has consistently averaged 39%. The company's records were recently destroyed by fire. The following data are available:

Sales	$305
Purchases	175
Opening inventory	25
Sales returns and allowances	5
Purchases returns and allowances	5
Delivery expenses	8
Transportation-in	3
Truck operating expenses	3
Selling commissions expense	6
Administrative expenses	3

Required: Calculate the estimated ending inventory.

P 6-9

View Answer

The president of Luna Sea Corporation is concerned that the year-end inventory amounting to $5,000 at cost is less than expected. Although a physical count was made and the costing was accurately calculated using FIFO, the president asks you to estimate the year-end inventory using the following information for the year:

	At retail	*At cost*
Sales	$160,000	
Sales returns and allowances	10,000	
Purchases	164,000	$80,000
Purchases returns and allowances	4,000	2,000
Transportation-in		1,000
Opening inventory	20,000	11,000

Required:

1. Calculate the estimated ending inventory at cost using the retail inventory method. Assume mark-up is 200%.
2. Calculate the amount of inventory discrepancy at cost.
3. Why might this discrepancy occur?
4. What changes to the inventory system might you suggest to the president?

P 6-10 (Appendix)

View Answer

Zebra Corporation uses specific identification to cost inventory. During the first three years of operation ended December 31, 2018, the year-end inventory, computed by different methods for comparative purposes, was as follows:

	Ending inventory		
	2018	*2019*	*2020*
Spec. ident.	$360	$400	$320
FIFO	300	320	280
Weighted average	340	420	300

Opening inventory on January 1, 2018 was zero. Sales and purchases for the three years were as follows:

	2018	*2019*	*2020*
Sales	$1,000	$1,200	$1,150
Purchases	1,280	1,100	1,010

There were no other expenses or revenues.

Required: Using the format of the table below, determine net income under each method. Show calculations. Partial results using specific identification are shown:

	2018	2019	2020
Sales	$1,000	$1,200	$1,150
Cost of goods sold			
Opening inventory	-0-	?	?
Purchases	1,280	?	?
Less: Ending inventory	(360)	?	?
Cost of goods sold	920	?	?
Gross profit/net income	$ 80	$ 140	$ 60

P 6-11 (Appendix)

View Answer

The opening inventory of Tan Corporation at January 1, 2020 consisted of 50 units at $1 each. The company uses the periodic inventory system. The following purchases were made during 2020.

		Units	Unit Cost
Apr.	15	200	$2
May	25	200	$3
June	7	200	$4
Oct.	15	200	$5

Required:

1. Calculate the number of units available for sale. Then calculate the dollar amount of cost of goods available for sale at December 31, 2020. Set up a column for each of FIFO, specific identification, and weighted average inventory cost flow assumptions as follows:

	Units	*FIFO*	*Spec. ident.*	*Wtd. avg.*
Opening inventory				
Purchases				
Cost of goods available				

2. If there are 200 units on hand at December 31, 2020, calculate the cost of ending inventory under each of FIFO, specific identification, and weighted average inventory cost flow assumptions. . For specific identification purposes, items sold were:
   50 units of the April 15 purchases
   200 units of the May 25 purchases
   200 units of the June 7 purchases
   200 units of the October 15 purchases

3. Calculate the cost of goods sold under each of FIFO, specific identification, and weighted average inventory cost flow assumptions. Set up a table as follows:

	Units	*FIFO*	*Spec. ident.*	*Wtd. avg.*
Cost of goods available				
Ending inventory	________	________	________	________
Cost of goods sold	========	========	========	========

4. Based on the calculations in (3), the president of Tan Corporation has asked you to prepare some calculations comparing the effect on income of
   a. Using a weighted average cost flow method instead of specific identification;
   b. Using a FIFO cost flow method instead of specific identification.
5. What method of cost flow would you recommend in this case? Why?

P 6-12 (Appendix)

View Answer

Western Produce Inc. uses the periodic inventory system. The following data are taken from the records of the company for the month of January 2020.

Goods available for sale			*Sales*		
	Units	*Unit cost*		*Units*	*Unit sell. price*
Opening Inventory	25	$5			
Purchase #1	15	$4	Sale #1	30	$6
Purchase #2	10	$3	Sale #2	20	$4
Purchase #3	35	$2	Sale #3	50	$2
Purchase #4	40	$1			

Required:

1. Calculate the amount of inventory at the end of January assuming that inventory cost is calculated using FIFO.
2. How would the ending inventory differ if the weighted average cost method is used?
3. Calculate the amount of gross profit under each of the above costing methods. Which method matches inventory costs more closely with revenues? Why?

4. Would more income tax be payable under the FIFO or weighted average method in a period of rising prices? Explain why.

P 6-13 (Appendix)

View Answer

Southern Cross Company Limited made the following purchases during the year:

Jan.	7	8,000 units	@	$12.00	=	$	96,000
Mar.	30	9,000 units	@	$12.40	=	$	111,600
May	10	12,000 units	@	$12.00	=	$	144,000
Jul.	4	16,000 units	@	$12.60	=	$	201,600
Sept.	2	6,000 units	@	$12.80	=	$	76,800
Dec.	14	7,000 units	@	$12.70	=	$	88,900

Opening inventory at January 1 amounted to 4,000 units at $11.90 per unit. Closing inventory at December 31 amounted to 15,000 units . For specific identification purposes, this consisted of 4,000 units of opening inventory, 8,000 units of the January 7 purchase, and 3,000 units of the March 30 purchase. Selling price during the year was stable at $16 per unit.

Required:

1. Prepare a schedule of inventory as at December 31 based on FIFO, specific identification, and weighted average inventory cost flow assumptions. Assume a periodic inventory system is used.
2. Prepare an income statement showing sales, cost of goods sold, and gross profit based on each of these three assumptions.
3. Which method of inventory valuation matches revenues more closely with costs in this company under current conditions? Why?

P 6-14 (Appendix)

View Answer

The comptroller of Exeter Services Ltd. has asked you to forecast the effect of rising and falling prices on income when FIFO and weighted average costing methods are used. The following inventory data are made available:

Opening inventory	100 units at $10 = $1,000
Purchases	500 units at $12 = $6,000
Ending inventory	250 units

Partially completed income statements are as follows:

	Rising prices				Falling prices			
		FIFO		Wtd. avg.		FIFO		Wtd. avg.
Sales		$5,000		$5,000		$5,000		$5,000
Cost of goods sold								
Opening inventory	$1,000							
Purchases	6,000							
Cost of goods avail.	7,000		?		?		?	
Ending inventory*	3,000							
Cost of goods sold		4,000		?		?		?
Gross profit		$1,000		$?		$?		$?

* 250 units at $12 = $3,000.

Required:

1. Complete the statement for weighted average rising prices using the data provided. (*Hint:* you need to recalculate the ending inventory cost.)
2. Complete the statement for FIFO falling prices. Assume that purchases were made at $8 per unit.
3. Complete the statement for weighted average falling prices by assuming that purchases were made at $8 per unit. (Note that this changes cost of purchases and ending inventory cost.)
4. Assume that income tax expense is calculated at 50 per cent of income before income taxes. Which costing method would be most tax-advantageous from the company's point of view when prices are rising? when prices are falling?

CHAPTER SEVEN

Cash and Receivables

This chapter focuses on two types of current assets – cash and receivables. Internal control over cash involves processes and procedures that include the use of a petty cash fund and the preparation of a bank reconciliation. Receivables may be uncollectible. To match the cost of uncollectible accounts and the related revenue, bad debts must be estimated using either the income statement method or statement of financial position method. Actual account receivables are written off when judged to be uncollectible. Write-offs can be subsequently recovered. The journalizing of short-term notes receivable and related interest revenue is also discussed in this chapter.

Chapter 7 Learning Objectives

LO1 – Define internal control and explain how it is applied to cash.

LO2 – Explain and journalize petty cash transactions.

LO3 – Explain the purpose of and prepare a bank reconciliation, and record related adjustments.

LO4 – Explain, calculate, and record estimated uncollectible accounts receivable and subsequent write-offs and recoveries.

LO5 – Explain and record short-term notes receivable and calculate related interest.

A. Internal Control

LO1 – Define internal control and explain how it is applied to cash.

Assets are the lifeblood of a company. As such, they must be protected. This duty falls to managers of a company. The policies and procedures implemented by management to protect assets are collectively referred to as *internal controls.* An effective internal control program not only protects assets, but also aids in accurate recordkeeping, produces financial statement information in a timely manner, ensures compliance with laws and regulations, and promotes efficient operations. Effective internal control procedures ensure that adequate records are maintained, transactions are authorized, duties among employees are divided between recordkeeping functions and control of assets, and employees' work is checked by others. The use of electronic recordkeeping systems does not decrease the need for good internal controls.

The effectiveness of internal controls is limited by human error and fraud. Human error can occur because of negligence or mistakes. Fraud is the intentional decision to circumvent internal control systems for personal gain. Sometimes, employees cooperate in order to avoid internal controls. This *collusion* is often difficult to detect, but fortunately, it is not a common occurrence when adequate controls are in place.

Internal controls take many forms. Some are broadly based, like mandatory employee drug testing, video surveillance, and scrutiny of company email systems. Others are specific to a particular type of asset or process. For instance, internal controls need to be applied to a company's accounting system to ensure that transactions are processed efficiently and correctly to produce reliable records in a timely manner. Procedures should be documented to promote good recordkeeping, and employees need to be trained in the application of internal control procedures.

Financial statements prepared according to generally accepted accounting principles are useful not only to external users in evaluating the financial performance and financial position of the company, but also for internal decision making. There are various internal control mechanisms that aid in the production of timely and useful financial information. For instance, using a chart of accounts is necessary to ensure transactions are consistently recorded in the appropriate account.

The design of accounting records and documents is another important means to provide financial information. Financial data is entered and summarized in records and transmitted by documents. A good system of internal control requires that these records and documents be prepared at the time a transaction takes place or as soon as possible afterward, since they become less credible and the possibility of error increases as time passes. Documents supporting financial transactions – for example, sales invoices – should also be consecutively pre-numbered, to indicate whether any are missing.

Internal control also promotes the protection of assets. Cash is particularly vulnerable to misuse. A good system of internal control for cash should provide adequate procedures for protecting cash receipts and cash disbursements. Procedures to exercize control over cash vary from company to company and depend upon such variables as company size, number of employees, and cash sources. However, effective cash control generally requires the following:

- Separation of duties: People responsible for handling cash should not be responsible for maintaining cash records. By separating the custodial and record-keeping duties, theft of cash and its concealment is less likely.
- Same-day deposits: All cash receipts should be deposited daily in the company's bank account. This prevents theft and personal use of the money before deposit.
- Payments made using non-cash means: Cheques or electronic funds transfer (EFT) provide separate external records to verify cash disbursements. For example, many businesses pay their employees using electronic funds transfer because it is more secure and efficient than using cash or even cheques.

Two forms of internal control over cash will be discussed in this chapter: the use of a petty cash account and the preparation of bank reconciliations.

B. Petty Cash

LO2 – Explain and journalize petty cash transactions.

The payment of small amounts by cheque may be inconvenient and costly. For example, using cash to pay for postage on an incoming package might be less than the total cost of processing a cheque. A small amount of cash kept on hand to pay for small, infrequent expenses is referred to as a **petty cash fund**.

Establishing and Reimbursing the Petty Cash Fund

To set up the petty cash fund, a cheque is prepared for the amount of the fund. The custodian of the fund cashes the cheque and places the coins and currency in a locked box. Responsibility for the petty cash fund should be delegated to only one person, who should be held accountable for its contents. Cash payments, supported by receipts, are made by this petty cash custodian out of the fund as required. When the amount of cash has been reduced to a pre-determined level, the receipts are compiled and submitted for entry into the accounting system. A cheque is then issued to reimburse the petty cash fund for the total amount of the receipts. At any given time, the petty cash amount should consist of cash and supporting receipts, all totalling the petty cash fund amount. To demonstrate the management of a petty cash fund, assume that a $200 cheque is issued for the purpose of establishing a petty cash fund.

The journal entry is:

Petty Cash	100	200	
Cash	101		200
To establish the $200 petty cash fund.			

Petty Cash is a current asset account. When reporting Cash on the financial statements, the balances in Petty Cash and Cash are usually added together and reported as one amount.

Assume the petty cash custodian has receipts totalling $190 and $10 in coin and currency remaining in the petty cash box. The receipts consist of the following: delivery charges, $100; postage, $35; and office supplies, $55. The petty cash custodian submits the receipts to the accountant who records the following entry and issues a cheque for $190.

Delivery Expense	620	100	
Postage Expense	652	35	
Office Supplies Expense[1]	650	55	
Cash	101		190
To reimburse the petty cash fund.			

[1] An expense is debited instead of an asset like Unused Office Supplies. The need to purchase supplies through petty cash assumes the immediate use of the items.

As an added internal control, petty cash receipts should be cancelled at the time of reimbursement in order to prevent their reuse for duplicate reimbursements. The petty cash custodian cashes the $190 cheque. The $190 plus the $10 of coin and currency in the locked box immediately prior to reimbursement equals the $200 total maintained in the petty cash fund.

Sometimes, the receipts plus the coin and currency in the petty cash locked box do not equal the required petty cash balance. To demonstrate, assume the same information above except that the coin and currency remaining in the petty cash locked box was $8. This amount plus the receipts for $190 equals $198 and not $200, indicating a shortage in the petty cash box. The entry at the time of reimbursement reflects the shortage and is recorded as:

Delivery Expense	620	100	
Postage Expense	652	35	
Office Supplies Expense	650	55	
Cash Over/Short Expense	614	2	
Cash	101		192

To reimburse the petty cash fund and account for the $2 shortage.

Notice that the $192 credit to Cash plus the $8 of coin and currency remaining in the petty cash box immediately prior to reimbursement equals the $200 required total in the petty cash fund.

Assume, instead, that the coin and currency in the petty cash locked box was $14. This amount plus the receipts for $190 equals $204 and not $200, indicating an overage in the petty cash box. The entry at the time of reimbursement reflects the overage and is recorded as:

Delivery Expense	650	100	
Postage Expense	652	35	
Office Supplies Expense	650	55	
Cash Over/Short Exp.	614		4
Cash	101		186

To reimburse the petty cash fund and account for the $4 overage.

Again, notice that the $186 credit to Cash plus the $14 of coin and currency remaining in the petty cash box immediately prior to reimbursement equals the $200 required total in the petty cash fund.

The size of the petty cash fund should not be large enough to become a potential theft issue. If a petty cash fund is too large, it may be an indicator that transactions that should be paid by cheque are not being processed in accordance with company policy.

C. Cash Collections and Payments

LO3 – Explain the purpose of and prepare a bank reconciliation, and record related adjustments.

The widespread use of banks facilitates cash transactions between entities and provides a safeguard for the cash assets being exchanged. This involvement of banks as intermediaries between entities has accounting implications. At any point in time, the cash balance in the accounting records of a particular company usually differs from the bank cash balance of that company. Differences occur because some cash transactions recorded in the accounting records have not yet been recorded by the bank and, conversely, some cash transactions recorded by the bank have not yet been recorded in the company's accounting records.

The use of a **bank reconciliation** is one method of internal control over cash. A bank reconciliation proves the accuracy of both the company's and the bank's records, and reveals any errors made by either party. The bank reconciliation is a tool that can help detect attempts at theft and manipulation of records. An example of a bank reconciliation for Big Dog Carworks Corp. is shown in Figure 7-1:

Big Dog Carworks Corp.
Bank Reconciliation
At March 31, 2017

This balance is taken from the company's general ledger Cash account.

This balance is taken from the company's bank statement at March 31.

Unreconciled general ledger Cash balance at March 31	$20,673	Unreconciled bank statement balance Mar. 31			$24,927
Adjustments	-0-	Less: Outstanding cheques			
		Cheque No.	*Amount*		
		580	$4,051		
		599	196		
		600	7		
					(4,254)
Adjusted general ledger Cash balance at Mar. 31	$20,673	Adjusted bank balance at Mar. 31			$20,673

These cheques have been issued by the company, but have not yet cleared the bank. They are called reconciling items.

These balances must agree.

Figure 7-1 Big Dog's Bank Reconciliation at March 31, 2017

The bank reconciliation provides a simple method to show why the **bank statement** issued by the company's bank and the Cash balance in a company's general ledger differ on a given date like a month-end, and whether these differences are acceptable. In the example above, the difference ($20,673 versus $24,927) occurs because there are three cheques that have been recorded in BDCC's general ledger Cash account totalling $4,254 that have not yet been presented and accepted for payment (or been *cleared*) by the bank. Cheques that are recorded in the company's general ledger but are not paid out of its bank account when the bank statement is prepared are referred to as **outstanding cheques**. Outstanding cheques cause the bank statement balance to be overstated compared to the company's records. These cheques must be subtracted from the bank balance on the bank reconciliation so that the Cash general ledger account and bank statement balances agree.

These outstanding cheques will likely be cashed by the bank a few days after the month end and will appear on the next month's bank statement. As a result, these differences are reasonable, occurring only because of slight timing differences between transactions being recorded in the general ledger and on the bank statement.

The steps needed to prepare a bank reconciliation are discussed below.

The Bank Reconciliation

Discrepancies between the cash balance reported on the bank statement and the cash balance reported in a business's Cash account in the general ledger at a particular date are known as **reconciling items** and are added or subtracted to either the general ledger Cash balance or the amount of cash shown at the end of the period on the bank statement. The cash balance prior to reconciliation is called the unreconciled cash balance. The balance after adding and subtracting the reconciling items is called the reconciled cash balance. The following is a list of potential reconciling items and their impact on the bank reconciliation.

General ledger reconciling items
- Collection of notes receivable (added)
- NSF cheques (subtracted)
- Bank charges (subtracted)
- Book errors (added or subtracted, depending on the nature of the error)

Bank reconciling items
- Outstanding deposits (added)
- Outstanding cheques (subtracted)
- Bank errors (added or subtracted, depending on the nature of the error)

General Ledger Reconciling Items

The collection of notes receivable[2] may be made by a bank on behalf of the company. These collections are often unknown to the company until they appear as an addition on the bank statement. They cause the general ledger Cash account to be understated. As a result, the collection of a notes receivable is added to the unreconciled general ledger Cash balance on the bank reconciliation.

Cheques returned to the bank because there were not sufficient funds (NSF) in a customer's bank account to cover them appear on the bank statement as a reduction of cash. The company must then request that the customer pay the amount again. As a result, the general ledger Cash account is overstated by the amount of the NSF cheque. NSF cheques must be subtracted from the unreconciled general ledger Cash balance of cash on the bank reconciliation.

Cheques received by a company and deposited into its bank account may be returned by the customer's bank for a number of other reasons (for example, the cheque was "stale-dated" – issued too long ago; was unsigned or illegible; or shows the wrong account number). Returned cheques cause the general ledger Cash account to be overstated compared to the bank statement. These returned cheques must be deducted from the unreconciled general ledger Cash balance on the bank reconciliation.

Bank service charges are also deducted from the customer's bank account. Since the service charges have not yet been recorded by the company, the general ledger Cash account is overstated. Therefore, service charges are subtracted from the unreconciled general ledger Cash balance on the bank reconciliation.

A business may incorrectly record journal entries involving cash. For instance, a deposit or cheque may be recorded for the wrong amount in the company records. These errors are often detected when amounts recorded by the company are compared to the bank statement. Depending on the nature of the error, it will be either added to or subtracted from the unreconciled general ledger Cash balance on the bank reconciliation. For example, if the company issued a cheque for $250 but recorded it in the records as $520, the $270

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[2] Recall that a note receivable is a formalized document arising from an account receivable transaction. It specifies the terms of repayment of the amount owing to the company by a customer, as well as any interest that will be paid.

difference would be added to the unreconciled general ledger Cash balance of Cash on the bank reconciliation to correct the error, because the general ledger Cash balance is too low. As another example, if the company recorded a deposit as $520 when the correct amount of the deposit was $250, the $270 difference would be subtracted from the unreconciled general ledger Cash balance on the bank reconciliation to correct the error because the general ledger Cash balance is too high. Each error must be analyzed to determine whether it will be added to or subtracted from the unreconciled general ledger Cash balance on the bank reconciliation.

Bank Reconciling Items

Cash receipts are recorded as an increase of cash in the company's accounting records when they are received. These cash receipts are deposited by the company into its bank. The bank records an increase in cash only when these amounts are actually deposited with the bank. Not all cash receipts recorded by the company may have been recorded by the bank when the bank statement is prepared. There may be outstanding deposits (also called *deposits in transit*). Outstanding deposits cause the bank statement cash balance to be understated. Therefore, outstanding deposits are a reconciling item that must be added to the unreconciled bank balance on the bank reconciliation.

On the date that a cheque is prepared by a company, it is recorded as a reduction of cash in a company's general ledger. A bank statement will not record a cash reduction until a cheque clears the bank. Outstanding cheques mean that the bank statement balance is overstated. Therefore, outstanding cheques are a reconciling item that must be subtracted from the unreconciled bank balance on the bank reconciliation as shown in Figure 7-1 above.

Bank errors sometimes occur and are not revealed until the transactions on the bank statement are compared to the company's accounting records. When an error is identified, the company notifies the bank to have it corrected. Depending on the nature of the error, it is either added to or subtracted from the unreconciled bank balance on the bank reconciliation. For example, if the bank cleared a cheque as $520 that was correctly written for $250, the $270 difference would be added to the unreconciled bank balance on the bank reconciliation. The cash balance reported on the bank statement is understated by $270 as a result of this error. As another example, if the bank recorded a deposit as $520 when the correct amount was actually $250, the $270 difference would be subtracted from the unreconciled bank balance on the bank reconciliation. The cash balance reported on the bank statement is overstated by $270 as a result of this specific error. Each error must be carefully analyzed to determine how it will be treated on the bank reconciliation.

Illustrative Problem—Bank Reconciliation

Now, a bank reconciliation will be prepared for BDCC for the next month-end, April 30. The general ledger Cash account shows an opening balance of $20,673 at April 1 (note that this is the amount that is shown in Figure 7-1 as the March 31 ending Cash balance. Assume cash receipts (debits) amount to $9,482 in April and that cash disbursements (credits) amount to $8,226. The ending balance general ledger Cash balance at April 30 is $21,929. The general ledger for April is shown in Figure 7-2.

The opening balance agrees to the March 31 general ledger balance shown on the bank reconciliation in Fig. 7-1

GENERAL LEDGER

Cash — Acct. No. 101

Date 2017		Description	Folio	Debit	Credit		Balance
Mar.	31	Balance				DR	20,673
Apr.	30	April cash receipts	CRJ6	9,482		DR	30,155
	30	April cash payments	CDJ18		8,226	DR	21,929

The ending balance is used as the unreconciled general ledger balance on the April 30 bank reconciliation.

Figure 7-2 Big Dog's General Ledger 'Cash' Account for April 30, 2017

Assume further that April deposits made and cheques issued are as follows:

Deposits		*Cheques*	
Date	*Amount*	*No.*	*Amount*
April 5	$1,570	601	$ 24
10	390	602	1,720
23	5,000	603	230
28	1,522	604	200
30	1,000	605	2,220
		606	287
		607	1,364
		608	100
		609	40
		610	1,520
		611	124
		612	397
Total	$9,482	Total	$8,226

These totals agree to the Cash general ledger account debits and credits in Figure 7-2.

The bank statement issued by BDCC's bank is as follows:

Second Chartered Bank *Big Dog Carworks Corp.* *Bank Statement* *Month Ended April 30, 2017*				
Date	*Type*	*Out*	*In*	*Balance*
Apr. 1				$24,927
2	Deposit		1,570	26,497
3	Ck. 580	(4,051)		22,446
4	Deposit		390	22,836
6	Ck. 599	(196)		22,640
7	Ck. 601	(24)		22,616
9	Ck. 603	(230)		22,386
11	Ck. 604	(200)		22,186
16	Ck. 611	(124)		22,062
17	Ck. 612	(397)		21,665
18	Ck. 600	(7)		21,658
19	Deposit		5,000	26,658
21	Ck. 605	(2,220)		24,438
22	NSF	(180)		24,258
24	Deposit		1,522	25,780
26	Ck. 602	(1,720)		24,060
28	Ck. 115	(31)		24,029
30	SC	(6)		24,023
Ck. = cheque SC = service charge NSF = not sufficient funds				

The opening balance agrees to the March 31 bank statement balance shown in Fig. 7-1

The ending balance is used as the unreconciled bank statement balance on the April 30 bank reconciliation.

Figure 7-3 Big Dog's Bank Statement for the month of April, 2017

There are nine steps to follow in preparing a bank reconciliation:

Step 1

a. List the unreconciled April 30 general ledger cash balance ($21,929 from Figure 7-2) on the left side of the bank reconciliation, similar to that shown in Figure 7-1.
b. List the ending cash balance on the bank statement ($24,023 from Figure 7-3) on the right side of the bank reconciliation, similar to that shown in Figure 7-1.

The bank reconciliation should show:

Big Dog Carworks Corp. Bank Reconciliation At April 30, 2017			
Unreconciled general ledger Cash balance at Apr. 30	$21,929	Unreconciled bank statement balance at Apr. 30	$24,023

Step 2

Compare clearing cheques shown on the bank statement with cheques recorded as cash disbursements in the company's records.

a. Review the prior month's bank reconciliation and ensure that outstanding cheques have cleared the bank in the subsequent month.

In the company records:
These cheques were recorded in March; therefore, the cash balance per the general ledger is correctly stated.

In the bank statement:
These outstanding March cheques may not have cleared the bank in April. If some of the cheques have not yet been paid, the bank's balance is overstated at April 30 by the amount of these cheques.

The outstanding cheques on the March 31 bank reconciliation are shown in Figure 7-1 and reproduced below.

Cheques clearing the bank are marked with an 'x' on the prior month's outstanding cheque list and on the April bank statement, as follows:

Cheque No.	*Amount*	
580	$4,051	x
599	196	x
600	7	x

Date	*Type*	*Out*		*In*	*Balance*
Apr. 1					$24,927
2	Deposit			1,570	26,497
3	Ck. 580	(4,051)	x		22,446
4	Deposit			390	22,836
6	Ck. 599	(196)	x		22,640
7	Ck. 601	(24)			22,616
9	Ck. 603	(230)			22,386
11	Ck. 604	(200)			22,186
16	Ck. 611	(124)			22,062
17	Ck. 612	(397)			21,665
18	Ck. 600	(7)	x		21,658
19	Deposit			5,000	26,658
21	Ck. 605	(2,220)			24,438
22	NSF	(180)			24,258
24	Deposit			1,522	25,780
26	Ck. 602	(1,720)			24,060
28	115	(31)			24,029
30	SC	(6)			24,023

All the March outstanding cheques (# 580, 599, and 600) were paid by the bank in April; no adjustment is required in the April 30 bank reconciliation—the cash balance per the company's general ledger and the bank statement at April 30 are correctly stated in relation to these March outstanding cheques.

b. Compare the cheques clearing the bank in April with the cheques recorded as April cash disbursements. Cleared items are marked with an 'x' on the April cheque list and the April bank statement:

Cheque No.	*Amount*	
601	$ 24	x
602	1,720	x
603	230	x
604	200	x
605	2,220	x
606	287	
607	1,364	
608	100	
609	40	
610	1,520	
611	124	x
612	397	x
Total	$8,226	

These April cheques are still outstanding.

Date	*Type*	*Out*		*In*	*Balance*
Apr. 1					$24,927
2	Deposit			1,570	26,497
3	Ck. 580	(4,051)	x		22,446
4	Deposit			390	22,836
6	Ck. 599	(196)	x		22,640
7	Ck. 601	(24)	x		22,616
9	Ck. 603	(230)	x		22,386
11	Ck. 604	(200)	x		22,186
16	Ck. 611	(124)	x		22,062
17	Ck. 612	(397)	x		21,665
18	Ck. 600	(7)	x		21,658
19	Deposit			5,000	26,658
21	Ck. 605	(2,220)	x		24,438
22	NSF	(180)			24,258
24	Deposit			1,522	25,780
26	Ck. 602	(1,720)	x		24,060
28	Ck. 115	(31)			24,029
30	SC	(6)			24,023

In the company records:
These cheques were recorded in April; therefore, the general ledger Cash balance is correctly stated.

In the bank statement:
These outstanding cheques were not paid by the bank in April. Therefore, the unreconciled bank balance on April 30 of $24,023 is overstated.

The outstanding cheques must be deducted from the unreconciled bank statement balance on the bank reconciliation, as follows:

Big Dog Carworks Corp.
Bank Reconciliation
At April 30, 2017

Unreconciled general ledger Cash balance at Apr. 30	$21,929	Unreconciled bank statement balance at Apr. 30		$24,023
		Less: Outstanding cheques		
		Cheque No.	*Amount*	
		606	$ 287	
		607	1,364	
		608	100	
		609	40	
		610	1,520	(3,311)

Step 3

Other disbursements made by the bank but not recorded in the company records are identified and marked with an 'x'.

Date	*Type*	*Out*		*In*	*Balance*
Apr. 1					$24,927
2	Deposit			1,570	26,497
3	Ck. 580	(4,051)	x		22,446
4	Deposit			390	22,836
6	Ck. 599	(196)	x		22,640
7	Ck. 601	(24)	x		22,616
9	Ck. 603	(230)	x		22,386
11	Ck. 604	(200)	x		22,186
16	Ck. 611	(124)	x		22,062
17	Ck. 612	(397)	x		21,665
18	Ck. 600	(7)	x		21,658
19	Deposit			5,000	26,658
21	Ck. 605	(2,220)	x		24,438
22	NSF	(180)	x		24,258
24	Deposit			1,522	25,780
26	Ck. 602	(1,720)	x		24,060
28	Ck. 115	(31)	x		24,029
30	SC	(6)	x		24,023

a. An examination of the April bank statement shows that the bank had deducted the NSF cheque of John Donne for $180.

In the company records:
The cheque of John Donne had originally been recorded as a cash receipt (a payment on account). During April, no entry was made regarding this returned cheque; therefore, the cash balance in the general ledger is overstated at April 30.

In the bank statement:
The bank has already made a deduction from the cash balance shown on the bank statement for this NSF cheque.

In reconciling the cash balances shown in the general ledger and on the bank statement, this returned cheque must be deducted from the unreconciled general ledger Cash balance of $21,929 shown on the bank reconciliation. It also should be set up as an account receivable and a notice should be sent to Donne requesting payment again. The journal entry to do this will be discussed below.

b. An examination of the April 30 bank statement also shows that the bank has deducted a service charge of $6 during April.

> *In the company records:*
> This service charge was not deducted from the cash balance in the general ledger during April. Therefore, the cash balance is overstated at April 30.
>
> *In the bank statement:*
> The service charges have already been deducted from the cash balance shown on the bank statement.

To reconcile the cash balance in the company records with the bank statement, this service charge must be deducted from the unreconciled general ledger Cash balance shown on the bank reconciliation.

c. An examination of the April bank statement shows that the bank deducted a cheque issued by another company for $31 from the BDCC bank account in error. (Assume that when notified, the bank indicated it would make a correction in May's bank statement.)

> *In the company records:*
> This cheque does not belong to Big Dog and does not require any change in its accounting records.
>
> *In the bank statement:*
> The cheque should not have been deducted from Big Dog's bank account. Therefore, the cash balance shown on the bank statement balance on the April 30 bank reconciliation is understated.

To reconcile the cash balance in the company records with the bank statement, the cheques deducted in error must be added to the unreconciled bank statement balance of $24,023 shown on the bank reconciliation.

These three reconciling items are included on the bank reconciliation as follows:

Big Dog Carworks Corp. Bank Reconciliation At April 30, 2017						
Unreconciled general ledger Cash balance at Apr. 30		$21,929	Unreconciled bank statement balance at Apr. 30			$24,023
			Add: Cheque deducted in error			31
Less: Bank charges	$ 6		Less: Outstanding cheques			
NSF Cheque – J. Donne	180	(186)		*Cheque No.*	*Amount*	
				606	$ 287	
				607	1,364	
				608	100	
				609	40	
				610	1,520	(3,311)

Step 4

Compare clearing deposits shown on the bank statement with deposits recorded as cash receipts in the company's records.

a. Review the prior month's bank reconciliation and ensure that outstanding deposits have cleared the bank in the subsequent month.

In the company records:
The March cash receipts have been recorded correctly.

In the bank statement:
All of the March cash receipts have been deposited and recorded on the bank statement. There are no outstanding deposits at March 31.

b. Compare the deposits clearing the bank in April with the deposits recorded as April cash receipts. Cleared items are marked with an 'x' on the April deposits list and the April bank statement:

Date	*Amount*	
April 5	$1,570	x
10	390	x
23	5,000	x
28	1,522	x
30	1,000	
Total	$9,482	

This April deposit is still outstanding.

Date	*Type*	*Out*		*In*		*Balance*
Apr. 1						$24,927
2	Deposit			1,570	x	26,497
3	Ck. 580	(4,051)	x			22,446
4	Deposit			390	x	22,836
6	Ck. 599	(196)	x			22,640
7	Ck. 601	(24)	x			22,616
9	Ck. 603	(230)	x			22,386
11	Ck. 604	(200)	x			22,186
16	Ck. 611	(124)	x			22,062
17	Ck. 612	(397)	x			21,665
18	Ck. 600	(7)	x			21,658
19	Deposit			5,000	x	26,658
21	Ck. 605	(2,220)	x			24,438
22	NSF	(180)	x			24,258
24	Deposit			1,522	x	25,780
26	Ck. 602	(1,720)	x			24,060
28	Ck. 115	(31)				24,029
30	SC	(6)	x			24,023

This comparison indicates that the April 30 cash receipt amounting to $1,000 has not yet been included as a deposit in the bank statement.

In the company records:
The April cash receipts have been recorded correctly.

In the bank statement:
The April cash receipts have been deposited and recorded on the bank statement, except for the April 30 deposit.

To reconcile the cash balance in the company records with the bank statement, the outstanding deposit must be added to the bank statement ending cash balance of $24,023 on the bank reconciliation, as follows:

Big Dog Carworks Corp.
Bank Reconciliation
At April 30, 2017

Unreconciled general ledger Cash balance at Apr. 30		$21,929	Unreconciled bank statement balance at Apr. 30			$24,023
			Add: Cheque deducted in error			31
			Outstanding deposit			1,000
						25,054
Less: Bank charges	$ 6		Less: Outstanding cheques			
NSF Cheque – J. Donne	180	(186)	*Cheque No.*	*Amount*		
			606	$ 287		
			607	1,364		
			608	100		
			609	40		
			610	1,520		(3,311)

Step 5

Total both sides of the bank reconciliation. The result should be that the reconciled general ledger Cash balance and the bank statement balances are equal.

The completed bank reconciliation is shown in Figure 7-4.

Big Dog Carworks Corp.
Bank Reconciliation
At April 30, 2017

Unreconciled general ledger Cash balance at Apr. 30		$21,929
Less: Bank charges	$ 6	
NSF Cheque – J. Donne	180	(186)
Adjusted general ledger Cash balance at Apr. 30		$21,743

Unreconciled bank statement balance at Apr. 30		$24,023
Add: Cheque deducted in error		31
Outstanding deposit		1,000
		25,054
Less: Outstanding cheques		
Cheque No.	*Amount*	
606	$ 287	
607	1,364	
608	100	
609	40	
610	1,520	(3,311)
Adjusted bank balance at Apr. 30		$21,743

These balances must agree.

Reconciling items in this section require journal entries to be made in the general journal to adjust the unreconciled Cash balance of $21,929 in the general ledger to the reconciled balance of $21,743.

Reconciling items in this section do not require journal entries. The outstanding deposits and cheques should clear the bank in May. The $31 cheque deducted in error must be reported to the bank so it can make the necessary corrections to Big Dog's account in the next month.

Figure 7-4 BDCC's April 30 Bank Reconciliation

Step 6

The adjusted balance of $21,743 calculated in the bank reconciliation must be reflected in the company's general ledger Cash account. Adjusting entries must be prepared. The adjusting entries are based on the reconciling item on the left-hand side of the bank reconciliation and are as follows:

Bank Charges Expense	632	6	
Cash	101		6
Accounts Receivable – Donne	110	180	
Cash	101		180
To record reconciling items from April 30 bank reconciliation.			

Once the adjustment is posted, the Cash general ledger account balance is correct, as illustrated in Figure 7-5.

GENERAL LEDGER

Cash — Acct. No. 101

Date 2017		Description	Folio	Debit	Credit		Balance
Mar.	31	Balance				DR	20,673
Apr.	30	April cash receipts	CRJ6	9,482		DR	30,155
	30	April cash payments	CDJ18		8,226	DR	21,929
	30	Bank charge expense	Adj.		6	DR	21,923
	30	NSF cheque	Adj.		180	DR	21,743

This adjusted Cash balance in the general ledger now agrees with the bank reconciliation.

Figure 7-5 Updated Cash Account in the General Ledger

Big Dog does not make any adjusting entries for the reconciling items on the right (bank) side of the bank reconciliation since these items should eventually clear the bank or be corrected by the bank on a later month's bank statement.

Debit and Credit Card Transactions

Debit and credit cards are commonly accepted by companies when customers make purchases. Because the cash is efficiently and safely transferred directly into a company's bank account by the debit or credit card company, such transactions enhance internal control over cash. However, the seller is typically charged a fee for accepting debit and credit cards. For example, assume BDCC makes a $1,000 sale to a customer who uses a credit card that charges BDCC a fee of 2%; the cost of the sale is $750.

BDCC would record the following entries:

Cash	101	980	
Bank Charges Expense	632	20	
Sales	500		1,000
To record sale and related credit card fee.			
Cost of Good Sold	570	750	
Merchandize Inventory	150		750
To record cost of sales.			

The credit card fee is calculated as the $1,000 sale x 2% = $20. This means that BDCC collects net cash proceeds of $980 ($1,000 - $20). The use of debit cards also involves fees. These entries are journalized in the same manner.

D. Accounts Receivable

LO4 – Explain, calculate, and record estimated uncollectible accounts receivable and subsequent write-offs and recoveries.

Recall that the revenue portion of the operating cycle, as shown in Figure 7-6, begins with a sale on credit and is completed with the collection of cash. Unfortunately, not all receivables are collected. This section discusses issues related to accounts receivable and their collection.

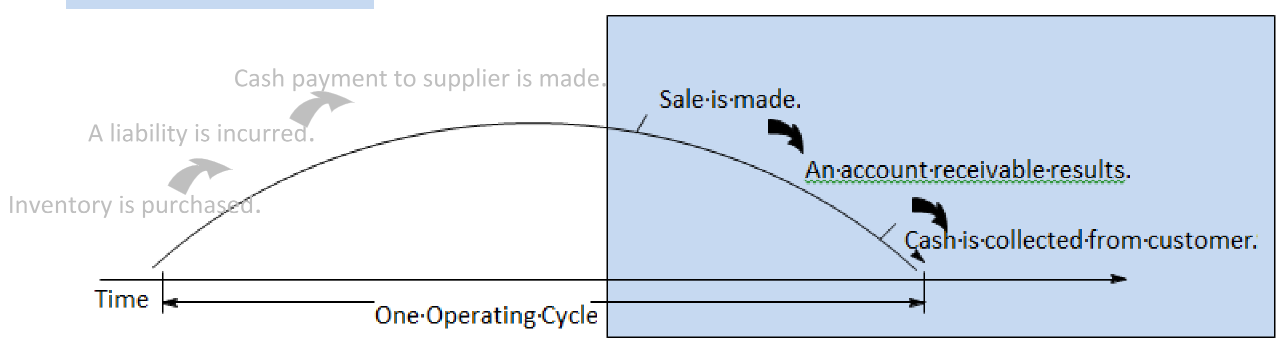

Figure 7-6 Revenue Portion of Operating Cycle

Uncollectible Accounts Receivable

Extending credit to customers results in increased sales and therefore profits. However, there is a risk that some accounts receivable will not be collected. A good internal control system is designed to minimize bad debt losses. One such control is to permit sales on account only to credit-worthy customers; this can be difficult to determine in advance. Companies with credit sales realize that some of these amounts may never be collected. These **uncollectible accounts**, commonly known as **bad debts**, are an expense associated with selling on credit.

Bad debt expenses should be matched to the credit sales of the same period. For example, assume BDCC recorded a $1,000 credit sale to XYA Company in April, 2017. Assume further that in 2018 it was determined that the $1,000 receivable from XYA Company would never be collected. The bad debt arising from the credit sale to XYA Company should be matched to the period in which the sale occurred, namely, April, 2017. But how can that be done if it is not known which receivables will become uncollectible until a future date? A means of estimating and recording the amount of sales that will not be collected in cash is needed. This is done by establishing a contra current asset account called **Allowance for Doubtful Accounts** in the general ledger to record estimated uncollectible receivables. This account is a contra account to accounts receivable and is disclosed on the statement of financial position as shown below using assumed values.

Accounts receivable	$25,000	
Less: Allowance for doubtful accounts	1,400	$23,600

OR

Accounts receivable (net of $1,400 allowance for doubtful accounts)	$ 23,600

The Allowance for Doubtful Accounts contra account reduces accounts receivable to the amount that is expected to be collected—in this case, $23,600.

Estimating Uncollectible Accounts Receivable

The allowance for doubtful accounts is used to reflect how much of the total Accounts Receivable is estimated to be uncollectible. To record estimated uncollectible accounts, the following adjusting entry is made.

Bad Debts Expense	613	xxx	
Allow. For Doubt. Acct.	111		xxx
To record estimated uncollectible accounts receivable.			

The bad debt expense is shown on the income statement. Allowance for doubtful accounts appears on the statement of financial position and is subtracted from accounts receivable resulting in the estimated net realizable accounts receivable.

Two different methods can be used to estimate uncollectible accounts. One method focuses on estimating Bad Debt Expense on the income statement, while the other focuses on estimating the desired balance in allowance for doubtful accounts on the statement of financial position.

The Income Statement Method

The objective of the **income statement method** is to estimate bad debt expense based on credit sales. Bad debt expense is calculated by applying an estimated loss percentage to credit sales for the period. The percentage is typically based on actual losses experienced in prior years. For instance, a company may have the following history of uncollected sales on account:

Year	*Credit sales*	*Amounts not collected*
2017	$150,000	$1,000
2018	200,000	1,200
2019	250,000	800
	$600,000	$3,000

The average loss over these years is $3,000/$600,000, or ½ of 1%. If management anticipates that similar losses can be expected in 2020 and credit sales for 2020 amount to $300,000, bad debts expense would be estimated as $1,500 ($300,000 x 0.005).

Under the income statement method, the $1,500 represents estimated bad debt expense and is recorded as:

Bad Debts Expense	613	1,500	
Allow. For Doubt. Acct.	111		1,500
To record estimated bad debts expense.			

This estimated bad debt expense is calculated without considering any existing balance in the allowance for doubtful accounts.

Allowance for doubtful account before posting adjustment	*Allowance for doubtful account after posting adjustment*
Assume the balance remaining in Allowance for doubtful accounts from the previous period is $250.	The adjustment estimating bad debt expense of $1,500 is posted to allowance for doubtful accounts to get an adjusted balance of $1,750.

Allowance for Doubtful Accounts

	Bal. 250

Allowance for Doubtful Accounts

	Bal.	250
	Adjust.	1,500
	Adj. bal.	1,750

The Statement of Financial Position Method

Estimated uncollectible accounts can also be calculated by using the **statement of financial position method** where a process called **aging of accounts receivable** is used. At the end of the period, the total of estimated uncollectible accounts is calculated by analyzing accounts receivable according to how long each account has been outstanding. An aging analysis approach assumes that the longer a receivable is outstanding, the less chance there is of collecting it. This process is illustrated in the following schedule.

		Number Of Days Outstanding				
Customer	*Total*	*1–30*	*31–60*	*61–90*	*91–120*	*Over 120*
Bendix Inc.	$1,000					$1,000
Devco Marketing Inc.	6,000	$1,000	$3,000	$2,000		
Horngren Corp.	4,000	2,000	1,000		$1,000	
Perry Co. Ltd.	5,000	3,000	1,000		1,000	
Others	9,000	4,000			5,000	
Totals	$25,000	$10,000	$5,000	$2,000	$7,000	$1,000

In this example, accounts receivable total $25,000 at the end of the period. These are classified into five time periods: those receivables that 1–30 days past due; 31–60 days past due; 61–90 days past due; 91–120 days past due; and over 120 days past due.

Based on past experience, assume management estimates a bad debt percentage for each time period as follows:

Number Of Days Outstanding				
1–30	*31–60*	*61–90*	*91–120*	*Over 120*
1%	3%	5%	10%	40%

The calculation of expected uncollectible accounts receivable at December 31, 2017 would be as follows:

Calculation of Uncollectible Amounts
December 31, 2017

Age (days)	*Accounts receivable*	*Estimated bad debt percentage*	*Estimated uncollectible amount*
1–30	$10,000	1%	$ 100
31–60	5,000	3%	150
61–90	2,000	5%	100
91–120	7,000	10%	700
Over 120	1,000	40%	400
Totals	$25,000		$1,450

A total of $1,450 of accounts receivable is estimated to be uncollectible at December 31, 2017.

Under the statement of financial position method, the estimated bad debt expense consists of the *difference* between the opening allowance for doubtful accounts balance ($250, as in the prior example) and the estimated uncollectible receivables ($1,450) required at year-end.

The balance remaining in the account is $250 from the previous period.

The total estimated uncollectible receivables is $1,450.

$1,200 must be recorded to bring the account to $1,450.

Allowance for Doubtful Accounts	
	Bal. 250

Allowance for Doubtful Accounts	
	Bal. 250
	Bal. 1,450

Allowance for Doubtful Accounts	
	Bal. 250
	1,200
	Bal. 1,450

The adjustment is recorded by the following journal entry:

Bad Debts Expense	613	1,200	
Allow. For Doubt. Acct.	111		1,200
To record estimated bad debts expense.			

As an alternative to using an aging analysis to estimate uncollectible accounts, a simplified statement of financial position method can be used. The **simplified statement of financial position method** calculates the total estimated uncollectible accounts as a percentage of the outstanding accounts receivables balance. For example, assume an unadjusted balance in the allowance for doubtful accounts of $250 as in the preceding example. Also assume the accounts receivable balance at the end of the period was $25,000 as in the previous illustration. If it was estimated that 6% of these would be uncollectible based on historical data, the adjustment would be:

Bad Debts Expense	613	1,250	
Allow. For Doubt. Acct.	111		1,250
To record estimated bad debts expense.			

The total estimated uncollectible accounts was $1,500 ($25,000 × 6%). Given an unadjusted balance in allowance for doubtful accounts of $250, the adjustment to allowance for doubtful accounts must be a credit of $1,250 ($1,500 - $250).

Regardless of whether the income statement method or statement of financial position method is used, the amount estimated as an allowance for doubtful accounts seldom agrees with the amounts that actually prove uncollectible. A credit balance remains in the allowance account if fewer bad debts occur during the year than are estimated. There is a debit balance in the allowance account if more bad debts occur during the year than are estimated. By monitoring the balance in the Allowance for Doubtful Accounts general ledger account at each year-end, though, management can determine whether the estimates of uncollectible amounts are accurate. If not, they can adjust these estimates going forward.

Writing Off Accounts Receivable

When recording the adjusting entry to estimate uncollectible accounts receivable at the end of the period, it is not known which specific receivables will become uncollectible. When a specific account is determined to be uncollectible, it must be removed from the accounts receivable account. This process is known as a **write-off**. To demonstrate the write-off of an account receivable, assume that on January 15, 2018 the $1,000 credit account for customer Bendix Inc. is identified as uncollectible because of the company's bankruptcy. The receivable is removed by this entry:

Allow. For Doubt. Acct.	111	1,000	
Acct. Rec. – Bendix Inc.	110		1,000
To write-off Bendix Inc.'s account receivable			

The $1,000 write-off reduces both the accounts receivable and allowance for doubtful accounts. The write-off does not affect net realizable accounts receivable, as demonstrated below.

	Before write-off	*Write-off*	*After write-off*
Accounts receivable	$25,000	Cr 1,000	$24,000
Less: Allowance for doubtful accounts	1,450	Dr 1,000	450
Net accounts receivable	$23,550		$23,550

A write-off does not affect bad debt expense. Recall that the adjusting entry to estimate uncollectible accounts was:

Bad Debts Expense	613	xxx	
Allow. For Doubt. Acct.	111		xxx
To record estimated uncollectible accounts receivable.			

This adjustment was recorded because GAAP requires that the bad debt expense be matched to the period in which the sales occurred even though it is not known which receivables will become uncollectible. Later, when an uncollectible receivable is identified, it is written off as:

Allow. For Doubt. Acct.	111	xxx	
Accounts Receivable	110		xxx
To record estimated uncollectible accounts receivable.			

The allowance for doubtful accounts entries cancel each other out so that the net effect is a debit to bad debt expense and a credit to accounts receivable. The use of the allowance for doubtful accounts contra account allows us to estimate uncollectible accounts in one period and record the write-off of bad receivables as they become known in a later period.

Recovery of a Write-Off

When Bendix Inc. went bankrupt, its debt to Big Dog Carworks Corp. was written off in anticipation that there would be no recovery of the amount owed. Assume that later, an announcement was made that 25% of amounts owed by Bendix would be paid. This new information indicates that BDCC will be able to recover a portion of the receivable previously written off. A recovery requires two journal entries. The first entry reinstates the amount *expected* to be collected by BDCC — $250 ($1,000 x 25%) in this case — and is recorded as:

Accounts Rec. – Bendix Inc.	110	250	
Allow. For Doubt. Acct.	111		250

To reverse write-off and reinstate collectible portion of account.

This entry reverses the collectible part of the receivable previously written off. The effect of the reversal is shown below.

Accounts Receivable

Debit		Credit	
Bal.	$25,000		
		Write-off	1,000
Recovery	250		

Allowance for Doubtful Accounts

Debit		Credit	
		Bal.	1,450
Write-off	1,000		
		Recovery	250

The second entry records the collection of the reinstated amount as:

Cash.	101	250	
Acct. Rec. – Bendix Inc.	110		250

To record recovery of collectible portion of account previously written off.

The various journal entries related to accounts receivable are summarized below.

Sale on account	Accounts Receivable	XXX	
	Sales		XXX
	COGS...	XXX	
	Merchandize Inventory		XXX
Adjusting entry estimating uncollectible accounts	Bad Debts Expense......................	XXX	
	Allow. For Doubt. Acct.............		XXX
Write-off of uncollectible account	Allow. For Doubt. Acct.	XXX	
	Accounts Receivable................		XXX
Partial recovery of account previously written off	Accounts Receivable	XXX	
	Allow. For Doubt. Acct.............		XXX
	Cash	XXX	
	Accounts Receivable................		XXX

E. Notes Receivable

LO5 – Explain and record short-term notes receivable and calculate related interest.

Notes receivable are formalized accounts receivable. They are recorded as current assets if they are due within twelve months of the date of issue. A note receivable is a signed, legally-enforceable document. The customer who owes the money promises to pay the company the *principal* plus *interest* on the due date. The **principal** is the amount of the account receivable. **Interest** is calculated as: (principal × annual Interest rate × length of time outstanding).

Notes receivable can arise at the time of sale or when a customer's account receivable becomes overdue. For example, assume that BDCC provided $4,000 of services to customer Woodlow on August 1, 2017, but this amount is still unpaid at November 30. Because of the length of time that has elapsed, BDCC and the customer agree to sign a 4%, 3-month note receivable on December 1. The journal entry on August 1 would be:

Account Rec. - Woodlow	110	4,000	
Service Revenue	470		4,000

To record service revenue from Woodlow.

Then entry on December 1 to record the conversion of the account receivable to a note receivable would be:

Note Receivable - Woodlow	120	4,000	
Account Rec. - Woodlow	110		4,000

To record conversion of the account receivable from Woodlow to a 4%, 3-month note receivable due February 28, 2018.

If a year-end occurred on December 31, 2017, an adjusting entry would be made to record accrued interest from December 1 to December 31:

Interest Receivable	116	13	
Interest Earned	430		13

To record interest accrued on the Woodlow note receivable at year-end ($4,000 x 4% x 1/12 mos. = $13).

The maturity date is three months from the date of issue, or February 28, 2018. On that date, BDCC would record the collection of the note receivable and related interest as:

Cash	101	4,040	
Note Rec. -Woodlow	120		4,000
Interest Receivable	116		13
Interest Earned	430		27

To record the collection of the note receivable and interest from January 1 to February 28, 2018 ($4,000 x 4% x 2/12 mos. = $27).

Summary of Chapter 7 Learning Objectives

LO1 – Define internal control and explain how it is applied to cash.

The purpose of internal controls is to safeguard the assets of a business. Since cash is a particularly vulnerable asset, policies and procedures specific to cash need to be implemented, such as the use of cheques and electronic funds transfer for payments, daily cash deposits into a financial institution, and the preparation of bank reconciliations.

LO2 – Explain and journalize petty cash transactions.

A petty cash fund is used to pay small, irregular amounts for which issuing a cheque would be inefficient. A petty cash custodian administers the fund by obtaining a cheque from the cash payments clerk. The cheque is cashed and the coin and currency placed in a locked box. The petty cash custodian collects receipts and reimburses individuals for the related amounts. When the petty cash fund is replenished, the receipts are compiled and submitted for entry in the accounting records so that a replacement cheque can be issued and cashed.

LO3 – Explain the purpose of and prepare a bank reconciliation, and record related adjustments.

A bank reconciliation is a form of internal control that reconciles the bank statement balance to the general ledger Cash account, also known as the general ledger balance. Reconciling items that affect the bank statement balance are outstanding deposits, outstanding cheques, and bank errors. Reconciling items that affect the general ledger Cash balance are collections made by the bank on behalf of the company, NSF cheques, bank service charges, and errors. Once the book and bank statement balances are reconciled, an adjusting entry is prepared based on the reconciling items affecting the general ledger balance.

LO4 – Explain, calculate, and record estimated uncollectible accounts receivable and subsequent write-offs and recoveries.

Not all accounts receivable are collected, resulting in uncollectible accounts. Because it is not known which receivables will become uncollectible, the allowance approach is used to match the cost of estimated uncollectible accounts to the period in which the related revenue was generated. The adjusting entry to record estimated uncollectible amounts is a debit to the Bad Debt Expense general ledger account and a credit to the Allowance for Doubtful Accounts account. The income statement method and the statement of financial position method are two ways to estimate and apply the allowance approach. The income statement method calculates bad debt expense based on a percentage of credit sales while the statement of financial position method calculates total estimated uncollectible accounts in the Allowance for Doubtful Accounts using an aging analysis. When receivables are identified as being uncollectible, they are written off. If write-offs subsequently become collectible, a recovery is recorded using two entries: by reversing the write-off (or the portion that is recoverable), then recording the cash receipt.

LO5 – Explain and record short-term notes receivable and calculate related interest.

A short-term note receivable is a promissory note that bears an interest rate calculated over the term of the note. Short-term notes receivable are considered current assets if they mature within twelve months from the date of issue. Notes can be issued to a customer at the time of sale, or a note receivable can replace an overdue account receivable.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. What is internal control?
2. What is an imprest petty cash system?
3. What is the difference between establishing and replenishing the petty cash fund?
4. How does the preparation of a bank reconciliation strengthen the internal control of cash?
5. What are some reconciling items that appear in a bank reconciliation?
6. What are the steps in preparing a bank reconciliation?
7. What is an NSF cheque?
8. How does use of allowance for doubtful accounts match expenses with revenue?
9. How does the income statement method calculate the estimated amount of uncollectible accounts?
10. What is an ageing schedule for bad debts, and how is it used in calculating the estimated amount of uncollectible accounts?
11. How are credit balances in accounts receivable reported on the financial statements?
12. What is an example of a journal entry to create a note receivable?

Comprehension Problems

CP 7–1

The following transactions were made by Landers Corp. in March 2017.

View Answer

Mar. 1	Established a petty cash fund of $200		
12	Reimbursed the fund for the following:		
		Postage	$10
		Office supplies	50
		Maintenance	35
		Meals (selling expenses)	25
			$120
18	Increased the fund by an additional $200		
25	Reimbursed the fund for the following:		
		Office supplies	$75
		Delivery charges	30
			$105
28	Reduced the amount of the fund to $350.		

Required: Prepare journal entries to record these transactions.

CP 7–2

View Answer

The following information pertains to Ferguson Corp. at December 31, 2017, its year-end:

Cash per company records		$5,005
Cash per bank statement		7,000
Bank service charges not yet recorded in company records		30
Note collected by bank not yet recorded in company records, including $25 of interest		1,325
Fluet inc. cheque deducted in error by bank		200
December deposit recorded by the bank January 3, 2018		700
December cheques not yet paid by bank in December		
#631	$354	
#642	746	
#660	200	
#661	300	
	$1,600	

Required: Prepare a bank reconciliation and all necessary adjusting journal entries at December 31, 2017.

CP 7–3

View Answer

The Cash general ledger account balance of Gladstone Ltd. was $2,531 at March 31, 2017. On this same date, the bank statement had a balance of $1,500. The following discrepancies were noted:

a. A deposit of $1,000 made on March 30, 2017 was not yet recorded by the bank on the March statement.
b. A customer's cheque amounting to $700 and deposited on March 15 was returned NSF with the bank statement.
c. Cheque #4302 for office supplies expense, correctly made out for $125 and clearing the bank for this amount, was recorded in the company records as $152.
d. $20 for March service charges were recorded on the bank statement but not in the company records.
e. A cancelled cheque for $250 belonging to Global Corp. but charged by the bank to Gladstone Ltd. was included with the cancelled cheques returned by the bank.
f. There were $622 of outstanding cheques at March 31.
g. The bank collected a note receivable for $300 on March 31 including interest of $50. The bank charged Gladstone Ltd. a $10 service charge that also is not included in the company records.

Required: Prepare a bank reconciliation and record all necessary adjusting entries at March 31, 2017.

CP 7–4

View Answer

Koss Co. Ltd. began operations on January 1, 2017. It had the following transactions during 2017, 2018, and 2019.

2017	Dec.	31	Estimated uncollectible accounts as $5,000 (calculated as 2% of sales)
2018	Apr.	15	Wrote off the balance of N. Lang, $700
	Aug.	8	Wrote off $3,000 of miscellaneous customer accounts as uncollectible
	Dec.	31	Estimated uncollectible accounts as $4,000 (1½% of sales)
2019	Mar.	6	Recovered $200 from N. Lang, whose account was written off in 2018; no further recoveries are expected
	Sept.	4	Wrote off as uncollectible $4,000 of miscellaneous customer accounts
	Dec.	31	Estimated uncollectible accounts as $4,500 (1½% of sales).

Required:

1. Prepare journal entries to record the above transactions.
2. Assume that management is considering a switch to the statement of financial position method of calculating the allowance for doubtful accounts. Under this method, the allowance at the end of 2019 is estimated to be $2,000. Comment on the discrepancy between the two methods of estimating allowance for doubtful accounts.

CP 7–5

View Answer

Impulse Inc. had the following unadjusted account balances at December 31, 2017, its year-end.

	Account Balances	
	Debit	*Credit*
Accounts Receivable	$125,000	
Allowance for Doubtful Accounts		$ 3,000
Sales		750,000

Impulse estimates its uncollectible accounts as five per cent of its December 31 accounts receivable balance.

Required:

1. Calculate the amount of estimated uncollectible accounts that will appear on Impulse's statement of financial position at December 31, 2017.
2. Calculate the amount of bad debt expense that will appear on Impulse's income statement at December 31, 2017.
3. Prepare a partial statement of financial position at December 31, 2017 showing accounts receivable, allowance for doubtful accounts, and the net accounts receivable.

CP 7–6

View Answer

The following information is taken from the records of Salzl Corp. at its December 31 year-end:

	2018	*2019*
Accounts written off		
During 2018	$2,400	
During 2019		$1,000
Recovery of accounts written off		
Recovered in 2019		300
Allowance for doubtful accounts (adjusted balance)		
At December 31, 2017	8,000	
At December 31, 2018	9,000	

Salzl had always estimated its uncollectible accounts at two per cent of sales. However, because of large discrepancies between the estimated and actual amounts, Hilroy decided to estimate its December 31, 2018 uncollectible accounts by preparing an ageing of its accounts receivable. An amount of $10,000 was considered uncollectible at December 31, 2019.

Required:

1. Calculate the amount of bad debt expense for 2018.
2. Calculate the amount of bad debt expense for 2019.

CP 7–7

View Answer

Sather Ltd. had the following unadjusted account balances at December 31, 2017:

Accounts Receivable	$150,000
Allowance for Doubtful Accounts	3,000
Sales	750,000

Required:

1. Assume that Sather Ltd. estimated its uncollectible accounts at December 31, 2017 to be two per cent of sales.
   a. Prepare the appropriate adjusting entry to record the estimated uncollectible accounts at December 31, 2017.
   b. Calculate the balance in the Allowance for Doubtful Accounts account after posting the adjusting entry.

2. Assume that Sather Ltd. estimated its uncollectible accounts at December 31, 2017 to be ten per cent of the net accounts receivable balance.
   a. Prepare the appropriate adjusting entry to record the estimated uncollectible accounts at December 31, 2017.
   b. Calculate the balance in the Allowance for Doubtful Accounts account after posting the adjusting entry.
3. Why is there a difference in the calculated estimates of doubtful accounts in questions 1 and 2**?**

CP 7–8

Elliot Inc. has the following unadjusted account balances at December 31, 2017:

View Answer

	Account Balances	
	Debit	*Credit*
Accounts Receivable	$50,000	
Allowance for Doubtful Accounts	1,000	
Sales		$200,000

Required:

1. Assume Elliot estimates that two per cent of its sales will not be collected.
   a. What amount of bad debt expense will be reported on Elliot's income statement at December 31, 2017?
   b. What amount of allowance for doubtful accounts will be reported on Elliot's statement of financial position at December 31, 2017?
2. Assume Elliot estimates that five per cent of accounts receivable will not be collected.
   a. What amount of bad debt expense will be reported on Elliot's income statement at December 31, 2017?
   b. What amount of allowance for doubtful accounts will be reported on Elliot's statement of financial position at December 31, 2017?
3. Which calculation provides better matching: that made in question 1 or in question 2? Why?

CP 7–9

View Answer

A $12,000 account receivable owing from Smith Co. to Jones Inc. was converted into a 6%, 3-month note receivable on November 1, 2017.

Required:

1. Prepare the entry needed to record the note receivable in Jones' accounting records.
2. Prepare the entry needed to record accrued interest on the note receivable in Jones' accounting records at December 31, 2017.
3. Record the cash received from the note in Jones' accounting records on February 1, 2018.

Problems

P 7–1

View Answer

The following transactions were made by Simpson Corp. in December 2017.

Dec. 1 Established a petty cash fund of $100.

14 Reimbursed the fund for receipts as follows:

Office supplies	$50
Maintenance	35

Petty cash on hand prior to reimbursement was $46.

29 Reimbursed the fund for the following:

Office supplies	$10
Delivery charges	20

Petty cash on hand prior to reimbursement was $72.

31 Reduced the amount of the fund to $50.

Required:

1. Prepare journal entries to record these transactions.
2. Suggest improvements to the internal controls of Simpson's petty cash fund.

P 7–2

View Answer

The reconciliation of the cash balance per bank statement with the balance in the Cash account in the general ledger usually results in one of five types of adjustments. These are

a. Additions to the reported general ledger cash balance
b. Deductions from the reported general ledger cash balance
c. Additions to the reported cash balance per the bank statement
d. Deductions from the reported cash balance per the bank statement
e. Information that has no effect on the current reconciliation.

Required:

1. Using the above letters *a* to *e* from the list, indicate the appropriate adjustment for each of the following items that apply to Goertzen Ltd. for December, 2017:

   ___ The company has received a $3,000 loan from the bank that was deposited into its bank account but was not recorded in the company records.

   ___ A $250 cheque was not returned with the bank statement though it was paid by the bank.

   ___ Cheques amounting to $4,290 shown as outstanding on the November reconciliation still have not been returned by the bank.

   ___ A collection of a note receivable for $1,000 made by the bank has not been previously reported to Goertzen. This includes interest earned of $50.

   ___ The bank has erroneously charged Goertzen with a $1,100 cheque, which should have been charged to Gagetown Ltd.

   ___ A $350 cheque made out by Fynn Company and deposited by Goertzen has been returned by the bank marked NSF; this is the first knowledge Goertzen has of this action.

   ___ A cheque for $840 was erroneously recorded as $730 in the company records.

   ___ A $600 bank deposit of December 31 does not appear on the bank statement.

   ___ Bank service charges amounting to $75 were deducted from the bank statement but not yet from the company records.

2. Prepare a bank reconciliation using the data given above. On December 31, the Cash account in the general ledger of Goertzen Ltd. showed a balance of $84,293. The bank statement showed a balance of $90,568.
3. Prepare journal entries required to adjust the general ledger Cash account of Goertzen Ltd. to the reconciled balance.

P 7–3

View Answer

Gibson Energy Ltd. controls its cash by depositing receipts on a daily basis and making all disbursements by cheque. After all the posting for the month of November 2018 was completed, the Cash balance in the general ledger account at November 30 was $4,213. The bank statement for the month ended November 30 received from the First National Bank showed the balance to be $4,440. The following data are available for the purpose of reconciling these balances:

a. Cash receipts for November 30 amounting to $611 have been placed in the night depository and do not appear on the bank statement.

b. Bank memos previously not available to Gibson Energy are included with the bank statement. A memo for an NSF cheque, originally received as payment for an account receivable of $130, is included. A memo for bank charges of $10 is also included. Another memo advizes Gibson Energy Ltd. that $494 has been deposited to the account, ($500 less a bank charge of $6). This represents the net proceeds of a collection the bank had made on behalf of Gibson Energy Ltd. on a $500 note receivable.

c. Cheques written during November but not included with the bank statement are no. 1154, $32; no. 1192, $54; no. 1193, $83; no. 1194, $109.

d. Cheque no. 1042 is returned with the bank statement. The cheque was made for $494, the correct amount owing for office expense. The cheque was recorded in the company records as $548.

e. Cheques outstanding at the end of October included cheques no. 1014 for $152 and no. 1016 for $179. Cheque no. 1016 was paid in the bank statement; cheque no. 1014 was not.

Required:
1. Prepare a bank reconciliation at November 30.
2. Prepare the necessary adjusting journal entries required to make the Cash account in the general ledger agree with the adjusted cash balance on the November 30 bank reconciliation.

P 7–4

View Answer

The balance of the accounts receivable account of Griffin Ltd. at December 31, 2017 was $74,460. Included in this balance are the credit balances of two customers, amounting to $3,200 and $1,800.

Required:
1. What amount for accounts receivable would be shown as assets on the statement of financial position?
2. How would the credit balances in the customers' accounts be disclosed?

P 7–5

View Answer

The following balances appear in the unadjusted trial balance of Lapointe Inc. at its year-end, December 31, 2017.

	Account Balances	
	Debit	*Credit*
Accounts Receivable	$100,000	
Allowance for Uncollectible Accounts		$ 5,000
Sales (all on credit)		600,000

Lapointe uses the statement of financial position method of calculating its allowance for doubtful accounts account. At December 31, 2017, it estimates that three per cent of accounts receivable would not be collected.Lapointe had the following transactions during 2018:

a. Accounts receivable worth $9,000 were written off.
b. Credit sales amounted to $800,000.
c. Collections of accounts receivable amounted to $700,000.
d. Lapointe collected $2,000 in 2018 that was previously written off in 2017. This amount is not included in the collection of accounts receivable described in *c*.
e. At year-end, Lapointe estimated that the amount of doubtful accounts at December 31, 2018 was $10,000.

Required:
1. Prepare all journal entries required for 2017 and 2018.
2. If Lapointe had used the income statement method of estimating uncollectible accounts, calculate the balance in the Allowance for Doubtful Accounts general ledger account at December 31, 2017 and 2018. Assume that Lapointe estimated doubtful accounts to be one per cent of sales for both years.

P 7–6

View Answer

The following balances are taken from the unadjusted trial balance of Penner Inc. at its year-end, December 31, 2017.

	Account Balances	
	Debit	*Credit*
Accounts Receivable	$150,000	
Allowance for Doubtful Accounts		$ 1,500
Sales	500,000	
Sales Returns and Allowances		50,000

An ageing of accounts receivable at December 31, 2017 reveals the following information:

Age (days)	*Accounts receivable*	*Estimated loss percentage*
1-30	$ 50,000	2%
31-60	27,000	4%
61-90	40,000	5%
91-120	30,000	10%
Over 120	3,000	50%
Total	$150,000	

The balance for R. Laws of $1,000 is over 90 days past due. It is included in the ageing of accounts receivable balance and has not yet been written off.

Part A: 2017

Required: Prepare journal entries to record:

1. The write-off of R. Laws' account of $1,000 on December 31, 2017. (*Hint:* Recalculate the accounts receivable balance after the write-off.)
2. The appropriate adjusting entry to set up the required balance in the Allowance for Doubtful Accounts general ledger account at December 31, 2017. *(Hint:* Remember that R. Laws' account has been written off.)

Part B: 2018

The following transactions were made in 2018.

a. Sales on account were $700,000.
b. Collections of accounts receivable amounted to $599,000.
c. Penner wrote off $10,000 of accounts receivable.
d. An ageing of accounts receivable at December 31, 2018 revealed the following information:

Age (days)	*Accounts receivable*	*Estimated loss percentage*
1-30	$170,000	2%
31-60	35,000	3%
61-90	-0-	4%
91-120	27,000	25%
Over 120	8,000	50%
Total	$240,000	

Required: Prepare the appropriate adjusting entry to set up the required Allowance for Doubtful Accounts general ledger account balance at December 31, 2018.

P 7–7

View Answer

Tarpon Inc. made $1,000,000 in sales during 2018. Thirty per cent of these were cash sales. During the year, $25,000 of accounts receivable were written off as being uncollectible. In addition, $15,000 of the accounts that were written off in 2017 were unexpectedly collected. At its year-end, December 31, 2018, Tarpon had $250,000 of accounts receivable. The balance in the Allowance for Doubtful Accounts general ledger account was $15,000 credit at December 31, 2017.

Age (days)	*Accounts receivable*
1-30	$100,000
31-60	50,000
61-90	25,000
91-120	60,000
Over 120	15,000
Total	$250,000

Required:

1. Prepare journal entries to record the following 2018 transactions:
   a. The write-off of $25,000
   b. The recovery of $15,000.
2. Recalculate the balance in the Allowance for Doubtful Accounts general ledger account at December 31, 2018.
3. Prepare the adjusting entry required at December 31, 2018 for each of the following scenarios:
   a. The estimated uncollectible accounts at December 31, 2018 is three per cent of credit sales.
   b. The estimated uncollectible accounts at December 31, 2018 is estimated at five per cent of accounts receivable.
   c. The estimated uncollectible accounts at December 31, 2018 are calculated as follows:

Age (days)	*Estimated loss percentage*
1-30	2%
31-60	4%
61-90	5%
91-120	10%
Over 120	50%

P 7–8

View Answer

The Arcand Co. Ltd. has estimated its bad debts at 1 per cent of net credit sales. During 2018, Arcand decided to calculate the required balance for the allowance for doubtful accounts at year-end, December 31, by ageing its accounts receivable. The review suggested a required balance of $7,200. The following data, which already have been recorded in the company's general ledger, are also available:

	2017	*2018*
Accounts written off		
On March 14, 2017 (Boven)	$600	
On March 30, 2018 (Seaton)		$300
Recoveries of accounts written off		
On June 5, 2018 (Boven)		400

The Allowance for Doubtful Accounts general ledger account reported the following balances: January 1, 2017—$1,500 credit; January 1, 2018—$3,900 credit.

Required: Prepare journal entries to record

1. The amount of bad debt expense for the year 2017
2. The bad debt expense on December 31, 2018
3. The collection from Boven on June 5, 2018.

P 7–9

View Answer

At December 31, 2018, the Elias Paper Company Ltd. statement of financial position had a balance of $1,268,800 in accounts receivable. In addition, a contra account showed an allowance for doubtful accounts balance of $32,400. Credit sales for 2019 were $8,540,000, with collections of the receivables amounting to $8,262,560, including $15,600 that Elias had written off as uncollectible in December 2018 from Huron Supplies Ltd. During 2019, Elias wrote off $33,660 as uncollectible.

On November 1, 2019, a customer with a $720,000 balance in accounts receivable sent $200,000 in cash (included in the cash collections) and a note receivable for the balance. The account was considered to be collectible.

At December 31, 2019, Elias' year-end, the balance in accounts receivable included $200,580 of past due accounts, which management estimated would result in a 10 per cent loss, based on past experience. In addition, it was management's policy to set up an allowance on remaining accounts receivable equal to 2 per cent of the balance outstanding.

Required:

1. Prepare general journal entries for all 2019 transactions relating to notes and accounts receivable.
2. Prepare all adjusting entries at December 31, 2019.
3. Show the amount that should appear in the 2019 income statement as bad debt expense.
4. What is the total for the allowance for doubtful accounts at December 31, 2019?

P 7–10

View Answer

The accounts receivable listing of Grant Corporation shows the following on December 31, 2017. The general ledger showed a $200 credit balance in Allowance for Doubtful Accounts before adjustment.

Name of customer	*Invoice date*	*Amount*
Greenwood Fruit Packers Ltd.	May 2	$ 600
Granville Ltd.	August 15	335
Kutcher Inc.	October 2	720
Kutcher Inc.	December 8	275
Lamb Fruit Inc.	March 3	445
Grimm Fruit Company	November 11	822
Fehr Produce Corp.	November 20	250
Fehr Produce Corp.	September 4	465
Fehr Produce Corp.	July 10	922
Golden Fruit Ltd.	December 5	500

Required:

1. Prepare an aging of accounts receivable at December 31, 2017, divided into five time periods as follows:

Age (days)
1-30
31-60
61-90
91-120
121-150
Over 150

2. Compute the estimated loss (rounded to two decimal places) based on the following:

Age (days)	*Estimated loss percentage*
1-30	0.5%
31-60	1%
61-90	3%
91-120	10%
121-150	25%
Over 150	50%

3. Prepare the journal entry to record the bad debt expense for the year.

P 7–11

View Answer

Zajic Corp. had the following transactions relating to uncollectible accounts during 2018:

Feb.	15	Wrote off F. Young's account of $200 as uncollectible
Apr.	30	Collected from G. Yopek Inc. $100 that had been written off in 2017
June	26	Received $300 from Wong Machine Ltd. (Wong's previous balance was $700); no further payments are expected and the balance was written off
Sept.	7	Wrote off H. Wolfe's account of $350
Dec.	31	Analysed accounts receivable, revealing the following:

a. Accounts to be written off:

S. Wuff	$300
P. Levesque	400
T. White	100

b. Ageing of accounts receivable:

Age (days)	*Accounts receivable*	*Estimated loss percentage*
1-30	$ 20,000	2%
31-60	12,000	4%
61-90	5,000	5%
91-120	3,000	10%
Over 120	10,000	50%
Total	$ 50,000	

Required:

1. Assume that there was a credit balance of $1,735 in the Allowance for Doubtful Accounts general ledger account at December 31, 2017. Prepare the entry to write off the uncollectible accounts at December 31, 2018.
2. Prepare the appropriate adjusting entry to set up the required balance in the Allowance for Doubtful Accounts general ledger account at December 31, 2018.

P 7–12

View Answer

A $120,000 account receivable owing from Baron Cabinets Ltd. to Glimmer Enterprises was converted into a 12%, 12-month note receivable on August 1, 2017. Principal of $10,000 per month plus accrued interest on the outstanding balance was to be paid on the note on the last day of each month.

Required:

1. Prepare the entry needed to record the note receivable in Glimmer's accounting records on August 1.
2. Prepare the entry needed to record accrued interest on the note receivable in Glimmer's accounting records at December 31, 2017.
3. Record the cash received from the note in Glimmer's accounting records on February 28, 2018.

CHAPTER EIGHT

Long-lived Assets

Long-lived or **capital** assets are used in the normal operating activities of the business and are expected to provide benefits for a period in excess of one year. Long-lived assets covered in this chapter consist of three types: (a) property, plant, and equipment (PPE); (b) intangible assets; and (c) goodwill. Also discussed are *depreciation* and *amortization*, techniques to allocate the cost of most long-lived assets over their estimated useful lives.

Chapter 8 Learning Objectives

LO1 – Describe how the cost of property, plant, and equipment is determined.

LO2 – Explain, calculate, and record depreciation using the units-of-production, straight-line, and double-declining balance methods.

LO3 – Explain, calculate, and record depreciation for partial years.

LO4 – Explain, calculate, and record revised depreciation for subsequent capital expenditures.

LO5 – Explain, calculate, and record the impairment of long-lived assets.

LO6 – Account for the derecognition of PPE assets.

LO7 – Explain and record the acquisition and amortization of intangible assets.

LO8 – Explain goodwill and identify where on the statement of financial position it is reported.

LO9 – Describe the disclosure requirements for long-lived assets in the notes to the financial statements.

A. Establishing the Cost of Property, Plant, and Equipment (PPE)

LO1 - Describe how the cost of property, plant, and equipment is determined.

Property, plant, and equipment (PPE) are long-lived assets that are acquired for the purpose of generating revenue either directly or indirectly. They are held for use in the production or supply of goods and services, have been acquired for use on a continuing basis, and are not intended for sale in the ordinary course of business. Examples of PPE assets include land, office and manufacturing buildings, production machinery, trucks, ships or aircraft used to deliver goods or transport passengers, salespersons' automobiles owned by a company, or a farmer's production machinery such as tractors and field equipment. PPE assets are **tangible assets** because they can be physically touched. There are other types of non-current assets that are **intangible**—existing only as legal concepts—such as copyrights and patents. These will be discussed later in this chapter.

A long-term asset can be considered a bundle of future benefits that will be used up over a period of years. Each year, a pre-determined portion of these benefits is allocated to expense on the income statement. This concept was briefly introduced in Chapter 3. It will be examined more fully in this chapter.

Capital Expenditures

Any cash disbursement is referred to as an **expenditure**. A **capital expenditure** results in the acquisition of a non-current asset, including any additional costs involved in preparing the asset for its intended use. Examples of various costs that may be incurred to prepare PPE for use are listed below.

	Capital expenditures		
	Land	*Building*	*Equipment*
Costs to acquire PPE	Purchase price Commission to real estate agent Legal fees	Purchase price Commission to real estate agent Legal fees	Invoice cost Transportation Insurance (during transportation)
Costs to prepare PPE for use	Costs of draining, clearing, and landscaping; demolition Assessments for streets and sewage system	Repair and remodelling costs before use Payments to tenants for premature termination of lease	Assembly Installation (including wages paid to company employees) Special floor foundations or supports Wiring Inspection Test run costs

To demonstrate, assume that equipment is purchased for $20,000. Additional costs include transportation costs $500, installation costs $1,000, construction costs for a cement foundation $2,500, and test run(s) costs to debug the equipment $2,000. The total capitalized cost of the asset to put it into use is $26,000.

Determining whether an outlay is a capital expenditure or a *revenue expenditure* is a matter of judgment. A **revenue expenditure** does not have a future benefit beyond one year. The concept of materiality enters into the distinction between capital and revenue expenditures. As a matter of expediency, an expenditure of $20 that has all the characteristics of a capital expenditure would probably be expensed rather than capitalized, because the time and effort required by accounting staff to capitalize and then depreciate the item over its estimated useful life is much greater than the benefits derived from doing so. Capitalization policies are established by many companies to resolve the problem of distinguishing between capital and revenue expenditures. For example, one company's capitalization policy may state that all capital expenditures equal to or greater than $1,000 will capitalized, while all capital expenditures under $1,000 will be expensed when incurred. Another company may have a capitalization policy limit of $500.

Not all asset-related expenditures incurred after the purchase of an asset are capitalized. An expenditure made to maintain PPE in satisfactory working order is a revenue expenditure and recorded as a debit to an expense account. Examples of these expenditures include: (a) the cost of replacing small parts of an asset that normally wear out (in the case of a truck, for example: new tires, new muffler, new battery); (b) continuing expenditures for maintaining the asset in good working order (for example, oil changes, antifreeze, transmission fluid changes); and (c) costs of renewing structural parts of an asset (for example, repairs of collision damage, repair or replacement of rusted parts).

Although some expenditures for repair and maintenance may benefit more than one accounting period, they may not be material in amount or they may have uncertain future benefits. They are therefore treated as expenses. These three criteria must all be met for an expenditure to be considered capital in nature.

1. Will it benefit more than one accounting period?
2. Will it enhance the service potential of the asset, or make it more valuable or more adaptable?
3. Is the dollar amount material?

If the expenditure does not meet all three criteria, then it is a revenue expenditure and is expensed.

Land

The purchase of land is a capital expenditure when the land is used in the operation of a business. In addition to the costs listed in the schedule above, the cost of land should be increased by the cost of removing any unwanted structures on it. This cost is reduced by the proceeds, if any, obtained from the sale of the scrap. For example, assume that the purchase price of land is $100,000 before an additional $15,000 cost to raze an old building: $1,000 is expected to be received for salvaged materials. The cost of the land is calculated as $114,000 ($100,000 + $15,000 - $1,000).

Frequently, land and useful buildings are purchased for a *lump sum*. That is, one price is negotiated for their entire purchase. A lump sum purchase price must be apportioned between the PPE assets acquired on the basis of their respective market values, perhaps established by a municipal assessment or a professional land appraiser. Assume that a lump sum of $150,000 cash is paid for land and a building, and that the land is appraised at 25% of the total purchase price. The Land account would be debited for $37,500 ($150,000 x 25%) and the Building account would be debited for the remaining 75% or $112,500

($150,000 x 75% = $112,500 or $150,000 - $37,500 = $112,500) as shown in the following journal entry.

Land	37,500	
Building	112,500	
Cash		150,000

To record the purchase of land and building for a lump sum of $150,000; land: $150,000 x 25% = $37,500; building: $150,000 x 75% = $112,500.

Building and Equipment

When a capital asset is purchased, its cost includes the purchase price plus all costs to prepare the asset for its intended use. However, a company may construct its own building or equipment. In the case of a building, for example, costs include those incurred for excavation, building permits, insurance and property taxes during construction, engineering fees, the cost of labour incurred by having company employees supervize and work on the construction of the building, and the cost of any interest incurred to finance the construction during the construction period.

B. Depreciation

LO2 - Explain, calculate, and record depreciation using the units-of-production, straight-line, and double-declining balance methods.

The role of **depreciation** is to allocate the cost of a PPE asset (except land) over the accounting periods expected to receive benefits from its use. Depreciation begins when the asset is in the location and condition necessary for it to be put to use. Depreciation continues even if the asset becomes idle or is retired from use, unless it is fully depreciated. Land is not depreciated, as it is assumed to have an unlimited life.

Depreciation is an application of the matching principle.

According to generally accepted accounting principles, a company should select a method of depreciation that represents the way in which the asset's future economic benefits are estimated to be used up.

There are many different ways to calculate depreciation. The most frequently used methods are usage-based and time-based. There are three factors necessary to calculate depreciation of PPE:

- cost of the asset
- residual value
- estimated useful life or productive output.

Residual value is the estimated worth of the asset at the end of its estimated useful life. This concept was not introduced when depreciation was briefly discussed in Chapter 3. A long-lived asset is not depreciated below its residual value.

Useful life is the length of time that a long-lived asset is estimated to be of benefit *to the current owner*. This is not necessarily the same as the asset's economic life. If a company has a policy of replacing its delivery truck every two years, its useful life is two years even though it may be used by the next owner for several more years.

Productive output is the amount of goods or services expected to be provided. For example, it may be measured in units of output, hours used, or kilometres driven.

Regardless of depreciation method chosen, it must be applied consistently from year to year. Different depreciations methods can be applied to different types of depreciable assets, however.

Usage-Based Depreciation Method – Units-of-Production

Usage-based depreciation methods, such as the units-of-production method, are used when the output of an asset varies from period to period.

> Usage methods assume that the asset will contribute to the earning of revenues in relation to the amount of output during the accounting period. Therefore, the depreciation expense will vary from year to year.

To demonstrate, assume that Big Dog Carworks Corp. purchased a $20,000 piece of equipment on January 1, 2017 with a $2,000 residual value and estimated productive life of 10,000 units.

If 1,500 units were produced during 2017, the depreciation expense for the year ended December 31, 2017 would be calculated using the following formula:

$$\frac{\text{Cost} - \text{residual value}}{\text{Estimated units output}} = \text{Depreciation per unit} \times \text{Number of units produced} = \text{Depreciation expense}$$

$$\frac{\$20{,}000 - 2{,}000}{10{,}000 \text{ units}} = \$1.80 \text{ per unit} \times 1{,}500 \text{ units} = \$2{,}700$$

The following adjusting entry would be made on December 31, 2017 :

2017			
Dec. 31	Depreciation Expense	2,700	
	Accumulated Depreciation		2,700

To record depreciation expense using the units-of-production method; ($20,000 - $2,000)/10,000 units = $1.80/unit; $1.80/unit x 1,500 units = $2,700.

The **carrying amount** or net book value (NBV) of the asset is its cost less accumulated depreciation. On the December 31, 2017 statement of financial position, the carrying amount would be $17,300 ($20,000 - 2,700).

> Note that the residual value is only used to calculate depreciation expense. It is not recorded in the accounts of the company or included as part of the carrying amount on the statement of financial position.

If 2,000 units were produced during 2018, depreciation expense for that year would be $3,600 ($1.80 per unit x 2,000 units). At December 31, 2018, the following adjusting entry would be recorded:

2018			
Dec. 31	Depreciation Expense	3,600	
	Accumulated Depreciation		3,600

To record depreciation expense using the units-of-production method; ($20,000 - $2,000)/10,000 units = $1.80/unit; $1.80/unit x 2,000 units = $3,600.

The carrying amount at December 31, 2018 would be $13,700 ($20,000 – 2,700 – 3,600).

If the equipment produces 1,000 units in 2019, 2,500 units in 2020, and 3,000 units in 2021, depreciation expense and carrying amounts each year would be as follows:

(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*
Year	*Carrying amount at start of year*	*Usage (units)*	*Rate**	*Dep'n expense*	*Carrying amount at end of year (b) – (e)*
2017	$20,000	1,500	$1.80	$2,700	$17,300
2018	17,300	2,000	1.80	3,600	13,700
2019	13,700	1,000	1.80	1,800	11,900
2020	11,900	2,500	1.80	4,500	7,400
2021	7,400	3,000	1.80	5,400	2,000
		10,000		$18,000	

*($20,000 – 2,000)/10,000 units = $1.80 per unit

If the equipment produces exactly 10,000 units over its useful life and is then retired, depreciation expense over all years will total $18,000 (10,000 units x $1.80) and the carrying amount will equal residual value of $2,000 ($20,000 – 18,000).

It is unlikely that the equipment will produce exactly 10,000 units over its useful life. Assume instead that 4,800 units were produced in 2021. Depreciation expense and carrying amounts would be as follows each year:

(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*
Year	*Carrying amount at start of year*	*Usage (units)*	*Rate*	*Dep'n expense*	*Carrying amount at end of year (b) – (e)*
2017	$20,000	1,500	$1.80	$2,700	$17,300
2018	17,300	2,000	1.80	3,600	13,700
2019	13,700	1,000	1.80	1,800	11,900
2020	11,900	2,500	1.80	4,500	7,400
2021	7,400	4,800	1.80	**5,400**	2,000
		11,800		$18,000	

Although the 2021 depreciation expense would otherwise be $8,640 (4,800 units x $1.80), only $5,400 is recorded to bring the carrying amount of the asset down to its residual value of $2,000.

Time-Based Depreciation Method - Straight-Line

A simplified method of **straight-line depreciation** was introduced in Chapter 3. This method assumes that the asset will contribute to the earning of revenues equally each time period. Therefore, equal amounts of depreciation are recorded during each year of the asset's useful life.

Straight-line depreciation is calculated as:

$$\frac{\text{(Cost - residual value)}}{\text{Useful life}} = \text{Depreciation expense each period}$$

To demonstrate, assume the same $20,000 piece of equipment used earlier, with a useful life of five years and a residual value of $2,000. Straight-line depreciation would be $3,600 per year calculated as:

$$\frac{(\$20{,}000 - \$2{,}000)}{5 \text{ years}} = \$3{,}600 \text{ depreciation expense each year}$$

Over the five-year useful life of the equipment, depreciation expense and carrying amounts will be as follows:

(a)	*(b)*	*(c)*	*(d)*
Year	*Carrying amount at start of year*	*Dep'n expense*	*Carrying amount at end of year (b) – (c)*
2017	$20,000	$3,600	$16,400
2018	16,400	3,600	12,800
2019	12,800	3,600	9,200
2020	9,200	3,600	5,600
2021	5,600	3,600	**2,000**
		$18,000	

The carrying amount at December 31, 2021 will be the residual value of $2,000.

Under the straight-line method, depreciation expense for each accounting period remains the same dollar amount over the useful life of the asset.

Accelerated Time-Based Depreciation Method – Double-Declining Balance (DDB)

An **accelerated depreciation** method assumes that a capital asset will contribute more to the earning of revenues in the earlier stages of its useful life than in the later stages. This means that more depreciation is recorded in earlier years with the depreciation expense decreasing each year. This approach is most appropriate where assets experience a high degree of obsolescence (such as computers) or where the value of the asset is highest in the first years when it is new and efficient and declines significantly each year as it is used and becomes worn (such as mining equipment).

> Under an accelerated depreciation method, depreciation expense decreases each year over the useful life of the asset.

One type of accelerated depreciation is the **double-declining balance (DDB) method**. To calculate, the percentage cost of the asset (100%) is divided by its estimated useful life, *without regard to residual value*. The resulting rate is doubled. The doubled rate is applied at the end of each year to the carrying amount of the asset.

For example, assume the same $20,000 equipment with an estimated useful life of five years. The straight-line rate is 20 per cent, calculated by dividing 100 per cent by five years, the useful life (100%/5 = 20%). This straight-line rate of 20% is then doubled to 40%. A simpler way to calculate this is using the formula 2/n. Using this example, n = 5 years; 2/5 = 40%.

Regardless of which depreciation method is used, a capital asset cannot be depreciated below its carrying amount, which in this case is $2,000.

The DDB depreciation for the five years of the asset's useful life follows:

(a) Year	*(b)* Carrying amount at start of year	*(c)* DDB rate	*(d)* Dep'n expense (b) x (c)	*(e)* Carrying amount at end of year (b) – (d)
2017	$20,000	40%	$8,000	$12,000
2018	12,000	40%	4,800	7,200
2019	7,200	40%	2,880	4,320
2020	4,320	40%	1,728	2,592
2021	2,592	40%	592	2,000
			$18,000	

Although the 2021 depreciation expense would otherwise be $1,037 ($2,592 x 40%), only $592 is recorded to bring the carrying amount of the asset down to its residual value of $2,000.

C. Partial Year Depreciation

LO3 – Explain, calculate, and record depreciation for partial years.

Assets may be purchased or sold at any time during a fiscal year. Should depreciation be calculated for a whole year in such a case? The answer depends on corporate accounting policy. There are many alternatives. One is to calculate depreciation to the nearest whole month. Another, often called the **half-year rule**, records half a year's depreciation regardless of when a capital asset is purchased or sold during the year. The half-year rule is used in this textbook.

To demonstrate the half-year approach to calculating depreciation for partial periods, assume again that on January 1, 2017 Big Dog Carworks Corp. purchases equipment for $20,000 with a useful life of five years and a residual value of $2,000. Recall that depreciation expense for 2017 was $3,600 using the straight-line method. Because of the half-year rule, depreciation expense for 2017 would be $1,800 ($3,600 x ½) even though the asset was purchased on the first day of the fiscal year. Using the double-declining balance method, depreciation expense for 2017 under the half-year rule would be $4,000 ($8,000 x ½). *The half-year rule does not apply to the units-of-production depreciation method* because the method is usage-based and not time-based. Presumably, usage would be less if the asset is purchased or sold partway through a year, so this depreciation method already takes this into account.

D. Revising Depreciation

LO4 – Explain, calculate, and record revised depreciation for subsequent capital expenditures.

Both the useful life and residual value of a depreciable asset are estimated at the time it is purchased. As time goes by, these estimates may change for a variety of reasons. In these cases, the depreciation expense is recalculated from the date of the change in the accounting estimate and applied going forward. *No change is made to depreciation expense already recorded.*

Consider the example of the equipment purchased for $20,000 on January 1, 2017, with an estimated useful life of five years and residual value of $2,000. If the straight-line depreciation method and the half-year rule are used, the depreciation expense is $1,800 in 2017 and $3,600 in 2018. The carrying amount at the end of 2018 is $14,600 ($20,000 – 1,800 – 3,600). Assume that on December 31, 2019, management estimates the remaining useful life of the equipment to be six years, and the residual value to be $5,000.

Depreciation expense for the remaining six years would be calculated as:

$$\frac{\text{(Remaining carrying amount – residual value)}}{\text{Remaining useful life}}$$

$$= \frac{(\$14{,}600 - 5{,}000)}{6 \text{ years}}$$

$$= \$1{,}600 \text{ per year}$$

Subsequent Capital Expenditures

As noted earlier, recurring expenditures that relate to day-to-day servicing of depreciable assets are not capitalized, but rather are expensed when incurred. Oil changes and new tires for vehicles are examples of recurring expenditures that are expensed. Expenditures that are material, can be reliably measured, and enhance the future economic benefit provided by the asset are added to the cost of the asset rather than being expensed when incurred. Subsequent capital expenditures can take two forms:

1. Additions (for example, adding new room in an existing building or regular inspection costs of a capital asset)

2. Replacement (for example, replacing the engine in a truck or putting new windows in a building).

Additions to existing depreciable assets affect future depreciation expense in the same manner as changes in accounting estimates discussed above. Recall our original example: Equipment is purchased on January 1, 2017 for $20,000. It has a useful life of five years and a residual value of $2,000. It is depreciated on the straight-line basis and using the half-year rule. Assume that a $5,000 device is added to the equipment on January 1, 2020 to reduce pollution emissions. Further, assume that the addition of the device will increase the residual value of the equipment to $3,000 but will not extend its useful life. The journal entry to record the addition is:

2020			
Jan. 1	Equipment	5,000	
	Cash		5,000
To record addition to equipment.			

The carrying amount of the equipment at December 31, 2020 prior to calculating depreciation expense is $16,000 ($20,000 – 1,800 – 3,600 – 3,600 + 5,000. Depreciation expense for 2020 and 2021 will be $6,500, calculated as:

$$\frac{\text{(Remaining carrying amount – revised residual value)}}{\text{Remaining useful life}}$$

$$= \frac{\$16{,}000 - 3{,}000}{2 \text{ years}}$$

$$= \$6{,}500 \text{ per year}$$

Note that the ½ year rule does not apply to additions to existing depreciable assets.

At the end of December 31, 2021, the carrying amount will equal the revised residual value of $3,000 ($20,000 – 1,800 – 3,600 – 3,600 + 5,000 – 6,500 – 6,500).

If the double-declining balance method of depreciation is used, the same calculation is performed as before.

In our example, the 2020 carrying amount using the double-declining balance method and prior to the additional $5,000 capital expenditure is $4,320, as follows:

(a) Year	*(b)* Carrying amount at start of year	*(c)* DDB rate	*(d)* Dep'n expense (b) x (c)	*(e)* Carrying amount at end of year (b) – (d)
2017	$20,000	40%	$8,000	$12,000
2018	12,000	40%	4,800	7,200
2019	7,200	40%	2,880	4,320

Depreciation expense for the next two years will be as follows:

(a) Year	*(b)* Carrying amount at start of year	*(c)* DDB rate	*(d)* Dep'n expense (b) x (c)	*(e)* Carrying amount at end of year (b) – (d)
2020	$9,320	40%	$3,728	$5,592
2021	5,592	40%	2,237	**3,355**

This amount is the $4,320 carrying amount at December 31, 2019 plus the $5,000 addition on January 1, 2020.

The carrying amount of the asset at the end of 2021 ($3,355) is still above its new residual value of $3,000, so full depreciation is claimed in 2021.

The accounting for a replacement part of a depreciable asset is more involved. The cost of the replaced item and its related accumulated depreciation must be removed from the accounting records when the replacement is capitalized. A *gain* or *loss on disposal* must be calculated. Let's demonstrate, again using our original examples: $20,000 equipment purchased on January 1, 2017 with a five-year useful life and $2,000 residual value. Assume that on January 5, 2020 the engine in the equipment burned out and needed to be replaced. Detailed records of the equipment showed that the engine had an original cost of $8,000, useful life of five years, and residual value of $1,000.

This resulted in a carrying amount as at January 5, 2020 of $4,500[1].

The entry to dispose of the old engine and remove it from the accounting records is:

2020			
Jan. 5	Accum. Dep. – Equip.	3,500	
	Loss on Disposal .	4,500	
	Equipment		8,000

To record disposal of destroyed engine.

Notice in the entry above that the cost of the old engine and the accumulated depreciation must be individually removed from the general ledger accounts. Losses (as well as gains) are reported on the income statement as *Other Revenues and Expenses*.

Now assume that a replacmeent engine was intalled on January 8 for $10,000 and had a useful life of two years. The revised residual value of the entire piece of equipment is now $4,000. The entry to record the new engine is:

2020			
Jan. 8	Equipment (Engine)	10,000	
	Cash		10,000

To record the new engine with estimated useful life of 2 years and estimated residual value of zero.

The revised depreciation for 2020 is calculated in the same way as an addition:

$$\frac{\text{(Remaining carrying amount – revised residual value)}}{\text{Remaining useful life}}$$

$$= \frac{(20{,}000 - 8{,}000 + 10{,}000) - 4{,}000}{2 \text{ years}}$$

= $9,000 per year

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[1]

Cost				$8,000
Acc. dep'n	2017	($8,000 – 1,000)/5 yrs. x ½	$700	
	2018		1,400	
	2019		1,400	(3,500)
Carrying amount, January 5, 2020				$4,500

As with additions, the ½ year rule does not apply to replacements. The adjusting entry at December 31, 2020 to record depreciation expense is:

2020			
Dec. 31	Dep'n. Expense – Equip.	9,000	
	Acc. Dep'n – Equip.		9,000
To record depreciation expense on equipment.			

Separating Major Components

Each **major component** with a different estimated useful life from the rest of the asset must be recorded and depreciated separately. For instance, assume a commercial airliner is purchased for $100 million ($100M) on January 1, 2017 with the following components: airframe, engines, landing gear, interior, and other parts. The cost of each major component as well as its related accumulated depreciation should be recorded separately in the company's records. Yearly depreciation expense is also calculated separately for each component as shown in the last column below (straight-line depreciation is assumed; ½ year rule is ignored), but these expenses are usually combined into one amount when reported on the income statement ($13.6M in this case).

(a)	*(b)*	*(c)*	*(d)*	*(e)*
Component	*Component cost*	*Residual value*	*Useful life (years)*	*Annual dep'n. expense [(b) – (c)]/(d)*
Airframe	$60M	$4M	20	$2.8M
Engines	20M	2M	5	3.6M
Landing Gear	10M	-0-	2	5M
Interior	2M	-0-	10	.2M
Other	8M	-0-	4	2M
Total	$100M			$13.6M

Components that have the same estimated useful life, residual value, and depreciation method can be grouped together. In the above, example, engines are considered one major component, even though there may be several on the aircraft.

E. Impairment of Long-lived Assets

LO5 – Explain, calculate, and record the impairment of long-lived assets.

Under generally accepted accounting principles, management must compare the **recoverable amount** of a depreciable asset with its carrying amount at the end of each reporting period. The recoverable amount is the estimated fair value of the asset at the time less any estimated costs to sell it. If the recoverable amount is lower than the carrying amount, an **impairment loss** must be recorded.

An impairment loss may occur for a variety of reasons: technological obsolescence, an economic downturn, or a physical disaster, for example. When an impairment is recorded, subsequent years' depreciation expense must also be revised.

Recall again our $20,000 equipment purchased January 1, 2017 with an estimated useful life of five years and a residual value of $2,000. Assume straight-line depreciation has been recorded for 2017 amounting to $1,800. At December 31, 2018 and before 2018 depreciation is calculated, the carrying amount of the equipment is $18,200 ($20,000 – 1,800). At that point management determines that new equipment with equivalent capabilities can be purchased for much less than the old equipment due to technological changes. As a result, the recoverable value of the original equipment at December 31, 2018 is estimated to be $7,000, with no residual value. Because the recoverable amount is less than its carrying amount of $18,200, an impairment loss of $11,200 ($18,200 – 7,000) is recorded in the accounting records as follows:

2018			
Dec. 31	Impairment Loss .	11,200	
	Acc. Dep'n – Equip.		11,200
To record impairment loss on equipment.			

This reduces the carrying amount of the equipment to $7,000 ($20,000 – 1,800 – 11,200). Revised depreciation expense of $2,333 per year would be recorded at the end of 2019, 2020, and 2021, calculated as follows, assuming no change to original useful life:

$$\frac{\text{(Revised carrying amount – revised residual value)}}{\text{Remaining useful life}}$$

$$= \frac{\$7,000 - 0}{3 \text{ years}}$$

= $2,333 per year (rounded)

F. Derecognition of Property, Plant, and Equipment

LO6 – Account for the derecognition of PPE assets.

Property, plant, and equipment is **derecognized** when it is sold or when no future economic benefit is expected. The cost and any related accumulated depreciation are removed from the accounting records. To account for the disposal of a PPE asset, the following must occur:

1. If the disposal occurs part way through the accounting period, depreciation must be updated to the date of disposal by this type of adjusting entry:

Depreciation Expense	XXX	
Accumulated Depreciation.		XXX
To adjust depreciation to date of disposal.		

2. The disposal, including any resulting gain or loss, is recorded by this type of adjusting entry:

	Cash (or other assets received)	XXX	
	Accumulated Depreciation	XXX	
OR	Loss on Disposal	XXX	
	Gain on Disposal		XXX
	PPE Asset (such as Equipment)		XXX
	To record disposal of asset.		

A loss results when the carrying amount of the asset is greater than the proceeds received. A gain results when the carrying amount is less than proceeds received.

Sale or Retirement of PPE

When a PPE asset is sold or has reached the end of its useful life, the asset's cost and accumulated depreciation must be removed from the records, after depreciation expense has been recorded up to the date of disposal.

Recall the calculation of straight-line depreciation for the equipment purchased January 1, 2017 for $20,000, with an estimated useful life of five years and a residual value of $2,000. Assume that the equipment is sold on November 30, 2021. First, depreciation would be calculated to the date of disposal. The ½ year rule applies on disposal, so the depreciation expense would be $1,800 in 2021 ($3,600 x ½).

After this entry is posted, the general ledger T-accounts at December 31, 2021 for Equipment and Accumulated Depreciation would show the following entries:

Equipment			
2017	20,000		

Accumulated Depreciation - Equipment		
	2017	1,800*
	2018	3,600
	2019	3,600
	2020	3,600
	2021	1,800*
		14,600

* ½ year rule applies

The carrying amount at this date is $5,600 ($20,000 cost – 14,400 accumulated depreciation). Three different situations are possible.

1. Sale at carrying amount

Assume the equipment is sold for its carrying amount of $5,600. No gain or loss on disposal would occur.

Cost	$ 20,000
Accumulated depreciation	(14,400)
Carrying amount	5,600
Proceeds of disposition	(5,600)
Gain on disposal	$ -0-

The adjusting entry would be:

2021			
Nov. 30	Cash	5,600	
	Accum. Dep'n – Equip.	14,400	
	Equipment		20,000

2. Sale above carrying amount

Assume the equipment is sold for $7,000. A gain of $1,400 would occur.

Cost	$ 20,000
Accumulated depreciation	(14,400)
Carrying amount	5,600
Proceeds of disposition	(7,000)
Gain on disposal	$ (1,400)

The adjusting entry would be:

2021			
Nov. 30	Cash	7,000	
	Accum. Dep'n – Equip.	14,400	
	Gain on Disposal		1,400
	Equipment		20,000

3. Sale below carrying amount

Assume the equipment is sold for $500. A loss on disposal of $5,100 would occur.

Cost	$ 20,000
Accumulated depreciation	(14,400)
Carrying amount	5,600
Proceeds of disposition	(500)
Loss on disposal	$ 5,100

The adjusting entry would be:

2021			
Nov. 30	Cash	500	
	Accum. Dep'n – Equip.	14,400	
	Loss on Disposal	5,100	
	Equipment		20,000

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accounts. A credit difference represents a gain on disposal while a debit difference represents a loss.

Disposal Involving Trade-In

It is a common practice to exchange a used PPE asset for a new one. This is known as a **trade-in**. The value of the trade-in agreed by the purchaser and seller is called the *trade-in allowance*. This amount is applied to the purchase price of the new asset, and the purchaser pays the difference. For instance, if the cost of a new asset is $10,000 and a trade-in allowance of $6,000 is given for the old asset, the purchaser will pay $4,000 ($10,000 – 6,000).

Sometimes as an inducement to the purchaser, the trade-in allowance is higher than the fair value of the used asset on the open market. Regardless, the cost of the new asset must be recorded at its fair value, calculated as follows:

Cost of new asset = Cash paid + Fair value of asset traded

If there is a difference between the fair value of the old asset and its carrying value, a gain or loss results. For example, assume again that equipment was purchased for $20,000 on January 1, 2017. At that time, it had a residual value of $2,000 and a useful life of five years. It is traded on November 30, 2021 for new equipment with a list price of $25,000. A trade-in allowance of $6,000 is given on the old equipment, so cash paid is $19,000 ($25,000 – 6,000). At the time, the old asset has a fair value of only $4,000. In this case, the cost of the new asset is calculated as follows:

Cost of new asset = Cash paid + Fair value of asset traded
= $19,000 + 4,000
= $23,000

There will be a loss on disposal of $1,600 on the old equipment, calculated as follows:

Cost	$ 20,000
Accumulated dep'n	(14,400)
Carrying amount	5,600
Fair value	(4,000)
Loss on disposal	$ 1,600

The journal entry on November 30, 2021 to record the purchase of the new equipment and trade-in of the old equipment is:

2021			
Nov. 30	Equipment (new)	23,000	
	Acc. Dep'n –Equip (old)	14,400	
	Loss on Disposal	1,600	
	Equipment (old)		20,000
	Cash		19,000
	To record purchase of new equipment and trade-in of old equipment		

By this entry, the cost of the new equipment ($23,000) is entered into the accounts, the accumulated depreciation and cost of the old equipment is removed from the accounts, and the amount of cash paid is recorded. The debit difference of $1,600 represents the loss on disposal of the old equipment.

G. Intangible Assets

LO7 – Explain and record the acquisition and amortization of intangible assets.

Another major category of long-lived assets is intangible assets. These arise from legal rights. They do not have physical substance. The characteristics of various types of intangible assets are discussed below.

Patents

A **patent** grants a company an exclusive legal privilege to produce and sell a product or use a process for a specified period. This period varies depending on the nature of the product or process patented, and on the legislation in effect. Modifications to the original product or process can result in a new patent being granted, in effect extending the life of the original patent.

Patents are recorded at cost. If purchased from an inventor, the patent's cost is easily identified. If developed internally, the patent's capitalized costs include all expenditures incurred in the development of the product or process, including salaries and benefits of staff involved.

Copyrights

A **copyright** confers on the holder an exclusive legal privilege to publish a literary or artistic work. In this case, the state grants control over a published or artistic work for the life of the copyright holder (usually the original artist) and for a specified period afterward. This control extends to the reproduction, sale, or other use of the copyrighted material.

Trademarks

A **trademark** is a symbol or a word used by a company to identify itself or one of its products in the marketplace. Symbols are often logos printed on company stationery or displayed at company offices, on vehicles, or in advertising. A well-known example is Coke®. The right to use a trademark can be protected by registering it with the appropriate government agency. The symbol '®'denotes that a trademark is registered. Its use by others is thereby restricted.

Franchises

A **franchise** is a legal right granted by one company (the franchisor) to another company (the franchisee) to sell particular products or to provide certain services in a given region using a specific trademark or trade name. In return, the franchisee pays a fee to the franchisor. McDonald's® is an example of a franchised fast-food chain.

In addition to the payment of an initial franchise fee, which is capitalized, a franchise agreement usually requires annual payments. These payments are considered operating expenses.

Computer Software

Computer software programs may be developed by a company, patented, and then sold to customers for use on their computers. Productivity software like Microsoft Office® is an example. The cost of acquiring and developing computer software programs is recorded as an intangible asset, even if it is stored on a physical device like a computer. However, computer software that is integral to machinery—

for instance, software that is necessary to control a piece of production equipment—is included as the cost of the equipment and classified as PPE.

Capitalization of Intangible Assets

Normally, intangible assets are measured at cost at the time of acquisition and are reported in the asset section of a company's statement of financial position under the heading "Intangible Assets." The cost of an acquired intangible asset includes its purchase price and any expenditures needed to directly prepare it for its intended use. Only rarely are subsequent expenditures added to the initial cost of a purchased intangible asset. Instead, these are expensed as they are incurred.

Amortization of Intangible Assets

Plant and equipment assets are depreciated. Intangible assets are also depreciated but the term used is *amortization*. **Amortization** is the systematic process of allocating the cost of intangible assets over their estimated useful lives. The straight-line method is usually used but other methods are permitted under GAAP.

Like PPE, useful lives and residual values of intangible assets are estimated by management and must be reviewed annually for reasonableness. As well, any effects on amortization expense because of changes in estimates are accounted for prospectively. That is, prior accounting periods' expenses are not changed.

To demonstrate the accounting for intangibles, assume a patent is purchased for $20,000 on April 1, 2017. The entry to record the purchase is:

2017			
Apr. 1	Patent	20,000	
	Cash		20,000
To record the purchase of a patent as an intangible asset.			

Assuming the patent will last 40 years with no residual value and the ½ year rule applies, amortization expense will be recorded at the December 31, 2017 year-end as:

2017			
Dec. 31	Amortization Expense	250	
	Patent		250

To record patent amortization: ($20,000/40 yrs. = $500 x ½ = $250).

Notice that the Patent general ledger account is credited and not Accumulated Amortization. There is no accumulated amortization account maintained for intangible assets.

In other respects, impairment losses, and gains and losses on disposal of intangible assets are calculated and recorded in the same manner as for property, plant, and equipment.

H. Goodwill

LO8 - Explain goodwill and identify where on the statement of financial position it is reported.

Assume that Big Dog Carworks Corp. purchases another company for $10 million ($10M). BDCC takes over all operations, including management and staff. There are no liabilities. The fair values of the assets consist of the following:

Patents	$2M
Machinery	$7M
Total	$9M

Why would BDCC pay $10M for assets with a fair value of only $9M? The extra $1M represents *goodwill*. **Goodwill** is the excess paid over the fair value of the net assets when one company buys another. It is an estimate of the ability of the company to generate superior earnings in the future compared to other companies in the same industry.

Goodwill is the combination of the acquired company's assets which cannot be separately identified—such as a well-trained workforce, better retail locations, superior products, or excellent senior managers— the value of which is recognized only when a significant portion of the shares of another company are purchased.

Recall that among other characteristics, intangible assets must be separately identifiable. Because components of goodwill are not separately identifiable, goodwill is not considered an intangible asset and not amortized. However, it does have future value and therefore is recorded as a long-lived asset under its own heading of "Goodwill" on the statement of financial position. Its fair value is estimated by management at the end of each fiscal year. If its value has been impaired it is reported at this lower amount.

I. Disclosure

LO9 – Describe the disclosure requirements for long-lived assets in the notes to the financial statements.

When long-lived assets are presented on the statement of financial position, the notes to the financial statements need to disclose the following:

- details of each class of assets (e.g., land; equipment including separate parts; patents; goodwill)
- measurement basis (usually historical cost)
- type of depreciation and amortization methods used, including estimated useful lives
- cost and accumulated depreciation at the beginning and end of the period, including additions, disposals, and impairment losses
- whether the assets are constructed by the company for its own use (if PPE) or internally developed (if intangible assets).

Examples of appropriate disclosure of long-lived assets were shown in notes 3(d) and 4 of BDCC's financial statements in Chapter 4.

Summary of Chapter 8 Learning Objectives

LO1 – Describe how the cost of property, plant, and equipment is determined.

Property, plant, and equipment (PPE) are tangible, long-lived assets that are acquired for the purpose of generating revenue either directly or indirectly. A capital expditure is debited to a PPE asset account because it results in the acquisition of a non-current asset and includes any additional expenditures to prepare the asset for its intended use at or after initial acquisition. A revenue expenditure does not have a future benefit beyond one year so is expensed. The details regarding a PPE asset are maintained in a PPE subsidiary ledger.

LO2 – Explain, calculate, and record depreciation using the units-of-production, straight-line, and double-declining balance methods.

Depreciation allocates the cost of a PPE asset (except land) over the accounting periods expected to receive benefits from its use. A PPE asset's cost, residual value, and useful life or productive output are used to calculate depreciation. There are different depreciation methods. Units-of-production is a usage-based method. Straight-line and double-declining balance are time-based methods. The formulas for calculating yearly depreciation expense using these methods are:

Units of production:

$$\frac{\text{(Cost – residual value)}}{\text{Estimated total output}} \text{ x units of actual output for year}$$

Straight-line:

$$\frac{\text{(Cost – residual value)}}{\text{Useful life}}$$

Double-declining balance:

$$\text{Carrying amount x} \left\{ \frac{100\%}{\text{Useful life}} \text{ x 2} \right\}$$

Under DDB, depreciation expense in subsequent years is calculated based on the prior year's carrying amount.

Under all methods, carrying amount cannot be less than residual value.

LO3 – Explain, calculate, and record depreciation for partial years.

When assets are acquired or derecognized partway through the accounting period, partial period depreciation is recorded. There are several ways to account for partial period depreciation. The half-year rule assumes six months of depreciation in the year of acquisition and year of derecognition regardless of the actual date these occur.

LO4 – Explain, calculate, and record revised depreciation for subsequent capital expenditures.

When there is a change that impacts depreciation (such as a change in the estimated useful life or estimated residual value, or a subsequent capital expenditure) revised depreciation is applied prospectively – that is, prior accounting periods' expenses are not changed. The calculation is:

$$\frac{\text{(Remaining carrying amount – revised residual value)}}{\text{Revised useful life}}$$

LO5 – Explain, calculate, and record the impairment of long-lived assets.

The recoverable amount of a long-lived asset must be compared with its carrying amount at the end of each reporting period. The recoverable amount is the fair value of the asset at the time less any estimated costs to sell it. If the recoverable amount is lower than the carrying amount, an impairment loss is recorded as:

Impairment Loss .	XXX	
Equipment… .		XXX
To record impairment loss.		

LO6 – Account for the derecognition of PPE assets.

Property, plant, and equipment is derecognized when it is sold or when no future economic benefit is expected. To account for the disposal of a PPE asset, the following must occur:

1. If the disposal occurs part way through the accounting period, depreciation must be updated to the date of disposal by this type of adjusting entry:

Depreciation Expense	XXX	
Accumulated Depreciation.		XXX
To adjust depreciation to date of disposal.		

2. The disposal, including any resulting gain or loss, is recorded by this type of adjusting entry:

	Cash (or other assets received)	XXX	
	Accumulated Depreciation	XXX	
OR	Loss on Disposal	XXX	
	Gain on Disposal		XXX
	PPE Asset (such as Equipment)		XXX

A loss results when the carrying amount of the asset is greater than the proceeds received, if any. A gain results when the carrying amount is less than any proceeds received.

It is a common practice to exchange a used PPE asset for a new one, known as a trade-in. The value of the trade-in is called the trade-in allowance and is applied to the purchase price of the new asset so that the purchaser pays the difference. Sometimes the trade-in allowance is higher than the fair value of the used asset.

The cost of the new asset must be recorded at its fair value, calculated as:

Cost of new asset = Cash paid + Fair value of asset traded

If there is a difference between the fair value of the old asset and its carrying value, a gain or loss results.

LO7 – Explain and record the acquisition and amortization of intangible assets.

Intangible assets are long-lived assets that arise from legal rights and do not have physical substance. Examples include patents, copyrights, trademarks, and franchises. Intangibles are amortized using the straight-line method. The entry to record amortization is a debit to amortization expense and a credit to the intangible asset—there is no accumulated amortization account.

LO8 – Explain goodwill and identify where on the statement of financial position it is reported.

Goodwill is a long-lived asset that does not have physical substance but it is *not* an intangible. When one company buys another company, goodwill is the excess paid over the fair value of the net assets purchased and represents the ability to generate superior future earnings compared to other companies in the same industry. Goodwill appears in the asset section of the statement of financial position under its own heading of "Goodwill." It is not amortized.

LO9 – Describe the disclosure requirements for long-lived assets in the notes to the financial statements.

When long-lived assets are presented on the statement of financial position, the notes to the financial statements need to disclose the following:

- details of each class of assets (e.g., land; equipment including separate parts; patents; goodwill)
- measurement basis (usually historical cost)
- type of depreciation and amortization methods used, including estimated useful lives
- cost and accumulated depreciation at the beginning and end of the period, including additions, disposals, and impairment losses
- whether the assets are constructed by the company for its own use (if PPE) or internally developed (if intangible assets).

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. The cost of a long-lived asset is said to be *capitalized*. What does this mean?
2. How does a capital expenditure differ from a revenue expenditure?
3. Assume that you have purchased a computer for business use; illustrate, using examples, capital and revenue expenditures associated with its purchase.
4. A company purchases land and buildings for a *lump sum*. What does this mean? What is the acceptable manner of accounting for a lump sum purchase?
5. How does the concept of materiality affect the recording of an expenditure as a capital or revenue item?
6. List the three criteria used to determine whether a replacement part for equipment is considered a capital or revenue expenditure.
7. When one long-lived asset is exchanged for another, how is the cost of the newly-acquired asset determined?
8. What is depreciation?
9. Long-lived assets can be considered future benefits to be used over a period of years. The value of these benefits in the first years may not be the same as in later years. Using a car as an example, indicate whether you agree or disagree.
10. Assume that you have recently purchased a new sports car. Is a usage or a time-based method preferable for recording depreciation? Why?
11. What is the effect on the carrying amount of an asset over its useful life when it is depreciated using the declining balance method? the straight-line method?
12. What is the double-declining balance rate of depreciation for an asset that is expected to have a ten-year useful life?
13. How is partial-year depreciation expense calculated?.
14. What changes in estimates affect calculation of depreciation expense using the straight-line method? Explain the appropriate accounting treatment when there is a revision of an estimate that affects the calculation of depreciation expense.
15. Explain the effect on the calculation of depreciation expense for capital expenditures made subsequent to the initial purchase of property, plant, or equipment.

16. Explain the process for determining whether the value of a long-lived asset has been impaired, and the required adjustments to the accounting records.
17. Your friend is concerned that the calculation of depreciation and amortization relies too much on the use of estimates. Your friend believes that accounting should be precise. Do you agree that the use of estimates makes accounting imprecise? Why or why not?
18. Why are the significant parts of property, plant, and equipment recorded separately?
19. When does the derecognition of PPE not result in a gain or loss on disposal?
20. What is a trade-in? Explain whether a trade-in is the same as the sale of an asset.
21. Why might a trade-in allowance, particularly in the case of a car, be unrealistic? Why would a dealer give more trade-in allowance on a used car than it is worth?
22. How is the cost of a new capital asset calculated when a trade-in is involved?
23. How are intangible assets different from property, plant, and equipment? the same?
24. What is a patent? Assume a patent's legal life is twenty years. Does a patent's useful life correspond to its legal life? Why or why not? Support your answer with an example.
25. How does a copyright differ from a trademark? Give an example of each.
26. How are intangible assets valued, and what are their financial statement disclosure requirements?
27. What is goodwill? How does it differ from an intangible asset? Why is a company's internally-generated goodwill not recorded in its accounting records?

Comprehension Problems

CP 8-1

View Answer

Accountants distinguish between capital and revenue expenditures for some types of transactions. The entries for such transactions can be made to any one of the following accounts:

Statement of financial position accounts

a. Land
b. Buildings
c. Equipment
d. Trucks
e. Automobiles
f. Accumulated depreciation

Income statement accounts

g. A revenue account
h. An expense account.

Required: For each transaction below, indicate the account to be adjusted. Explain your answers and state any assumptions you make.

Example:

__b__ Architect fees to design building
____ Battery purchased for truck
____ Cash discount received on payment for equipment
____ Commission paid to real estate agent to purchase land
____ Cost of equipment test runs
____ Cost to remodel building
____ Cost to replace manual elevator with automatic elevator
____ Cost of sewage system
____ Equipment assembly expenditure
____ Expenditures for debugging equipment
____ Installation of air-conditioner in automobile
____ Insurance paid during construction of building
____ Legal fees associated with court case to defend title to land purchased
____ Oil change for truck
____ Payment for landscaping
____ Proceeds received on demolition of derelict building on land purchased

____ Expenditures for removal of derelict structures
____ Repair made to building after moving in
____ Repair of collision damage to truck
____ Repair of torn seats in automobile
____ Replacement of rusted fender on automobile
____ Replacement of transmission in automobile
____ Special floor foundations for installation of equipment
____ Tires purchased for truck
____ Transportation expenditures to bring equipment to plant.

CP 8-2

View Answer

Ekman Corporation purchased a new laser printer to be used in its business. The printer had a list price of $4,000, but Ekman was able to purchase it for $3,250. The company expects it to have a useful life of five years, with an estimated residual value of $250. Ekman is paying the delivery costs of $100, set-up and debugging costs of $300, and the costs of purchasing an appropriate table for $50. There was sales tax of 10 per cent on the purchase price of the printer but not on the other costs.

Required:

1. Calculate the total cost of the laser printer.
2. Ekman management asks you whether the straight-line or double-declining balance method of depreciation would be most appropriate for the printer. Provide calculations to support your answer. Assume the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal.

CP 8-3

View Answer

Freeman Inc. purchased a piece of agricultural land several years ago for $125,000. The land has a fair value of $200,000 now. The company plans to exchange this land for equipment owned by a land developer that has a fair value of $240,000. The equipment was originally purchased for $325,000, and $80,000 of depreciation has been recorded to the date of the sale on April 30, 2018.

Required:
1. Assume each party values the acquired asset based on the fair value of the asset given up. Prepare the journal entry on the books of
   a. Freeman
   b. the developer.
2. Why would the developer give up an asset with a fair value of $240,000 in exchange for an asset with a fair value of only $200,000?

CP 8-4

View Answer

Mayr Inc. purchased a machine for its factory on June 6, 2018 for $110,000. The machine is expected to have an estimated useful life of ten years with a residual value of $10,000. Assume the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal.

Required: Compute the depreciation for 2018 and 2019 using
1. The straight-line method
2. The double-declining balance method.

CP 8-5

View Answer

Penny Corp. purchased a new car on March 1, 2018 for $25,000. The estimated useful life of the car was five years or 500,000 kms. Estimated residual value was $5,000. The car was driven 120,000 kms. in 2018 and 150,000 kms. in 2019.

Required: Calculate the depreciation for 2018 and 2019 using
1. The straight-line method
2. Usage method (kms.)
3. Double-declining balance method.

Assume where applicable that the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal.

CP 8-6

View Answer

Global Flow Inc. purchased a computer on January 1, 2018 for $3,000 cash. It had an estimated useful life of three years and no residual value. Global Flow made the following changes to the computer:

Mar. 1, 2018	Added storage capacity at a cost of $1,000. This had no effect on residual value or estimated useful life.
Apr. 1, 2019	Added a new processing board for $2,000, which extended the estimated useful life of the computer another three years but did not affect residual value.

Required:

1. Prepare a journal entry to record each of the above expenditures. Assume all amounts are material. Descriptions are not necessary.
2. Calculate and prepare journal entries to record depreciation expense for 2018 and 2019 using the double-declining balance method. Assume a December 31 fiscal year-end and that the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal.

CP 8-7

View Answer

Refer to the information in CP 8-4. At December 31, 2020, Mayr revised its estimate of the machine's useful life to four years.

Required: Calculate the depreciation for 2020 using

1. The straight-line method
2. The double-declining balance method.

CP 8-8

View Answer

Refer to the information in CP 8-4 and 8-7. Assume Mayr disposed of the machine on May 31, 2021.

Required: Using the straight-line method of depreciation, record the disposal assuming

1. The equipment was sold for $60,000
2. The equipment was sold for $85,000
3. The equipment was sold for $71,250.

Show all calculations.

CP 8-9

View Answer

Refer to the information in CP 8-4 and 8-7. Assume that on May 31, 2021 Mayr traded in the machine on an improved model with a listed selling price of $150,000. The company received a trade-in allowance of $100,000 on the old machine. The fair value of the old machine was $95,000.

Required: Prepare the journal entry to record the trade-in on the equipment. Assume the straight-line method of depreciation is used.

CP 8-10

View Answer

Murphy Limited purchased a $30,000 asset with a five-year life expectancy and no residual value. Two alternative methods of calculating depreciation expense are presented below.

Year	*Method A*	*Method B*
1	$3,000	$6,000
2	6,000	9,600
3	?	?

Required:

1. Identify the method of depreciation and compute the depreciation expense for the third year under each method.
2. The chief financial officer of Murphy considers depreciation to be nothing more than an arbitrary calculation, based on unreliable estimates. She proposes to use method B for years 1 and 2 and method A for years 3, 4, and 5. In this way, she can deduct the maximum depreciation each year over the life of the asset. Is her proposal acceptable? Why or why not?
3. What factors should be considered in choosing a method of depreciation?

CP 8-11

View Answer

The Savage Corporation purchased three milling machines on January 1, 2015 and immediately placed them in service. The following information relates to these purchases:

	Machine 1	*Machine 2*	*Machine 3*
Cost	$7,500	$7,500	$7,500
Residual value	-0-	1,200	300
Useful life	5 Years	6 Years	8 Years

The company uses the straight-line method of depreciation, and records ½ year depreciation in the years of acquisition and disposal. On January 1, 2020, machine 1 was sold for $500. On the same day, management re-evaluated the estimated useful lives and the residual values of the remaining machines. They came to the conclusion that machine 2 had a remaining useful life of two years (that is, to December 31, 2021), while residual value remained unchanged. Machine 3 had a remaining useful life of five years (that is, to December 31, 2024) but now no residual value.

Required: Prepare journal entries

1. To record the sale of machine 1 on January 1, 2020.
2. To record the revised 2020 depreciation expense for machine 2.
3. To record the revised 2020 depreciation expense for machine 3.

CP 8-12

View Answer

The following Equipment and Accumulated Depreciation accounts appear in the general ledger of the Sadler Corporation at December 31, 2018.

GENERAL LEDGER

Equipment — Acct. No. 183

Date 2016		Description	Folio	Debit	Credit		Balance
Aug.	1	Purchase	GJ7	15,000		DR	15,000

Accumulated Depreciation – Equipment — Acct. No. 193

Date 2018		Description	Folio	Debit	Credit		Balance
		Balance forward				CR	2,250
Dec.	31	Depreciation 2018	GJ9		1,500	CR	3,750

The company uses the ½ year rule to calculate depreciation expense in the years of acquisition and disposal. At the time of purchase, the equipment had an estimated useful life of ten years with no residual value. The straight-line method of depreciation is used. On January 1, 2019, it was estimated that the equipment would last only four more years (to December 31, 2022).

Required:

1. Calculate the depreciation expense for 2019.
2. Prepare the journal entry to record 2019 depreciation expense.
3. Post the accumulated depreciation part of the entry in 2 above to the general ledger and calculate the new balance in the account.
4. How much should the depreciation amount have been in each year if the actual four-year useful life of the equipment had been known in 2018?
5. Given the substantial difference between the depreciation amounts in 2018 and 2019, is the information conveyed to the reader of Sadler Corporation's 2019 financial statements reasonable?

CP 8-13

View Answer

St. Laurent Limited purchased a truck for cash on January 1, 2018. The company's fiscal year-end is December 31. The company uses the ½ year rule to calculate depreciation in the year of acquisition and disposal. The following details apply:

Cost	*Useful life*	*Residual value*	*Depreciation method*
$10,500	5 years	$500	Double-declining balance

On March 1, 2019, the company paid $3,500 for gas and oil, a tune-up, new tires, and a battery. It also paid $4,000 to install a lift on the back of the truck. The latter amount is material.

Required:

1. Prepare journal entries to record
   a. the purchase of the truck
   b. depreciation for 2018
   c. the 2019 expenditures relating to the truck
   d. depreciation for 2019.
2. Prepare the journal entries to record the sale of the truck on March 3, 2020 for $8,000 cash, including 2020 depreciation expense.

CP 8-14

View Answer

Brown Company paid $900,000 cash to purchase the following tangible and intangible assets of Coffee Company on January 1, 2018:

Land	$300,000
Building	200,000
Patents	100,000
Machinery	250,000

The building is depreciated using the double-declining balance method, has an estimated useful life of ten years, and a residual value of $10,000. The machinery has an estimated useful life of five years and a residual value of 10% of cost. Depreciation expense is calculated on the basis of productive output. The machinery's productive output was estimated to be 60,000 units. Actual production was as follows:

2018	10,000
2019	15,000
2020	20,000

The patents have an estimated useful life of twenty years and are amortized on a straight-line basis. They have no residual value. On December 31, 2019, the value of the patents was estimated to be \$80,000. The machinery was sold on December 2, 2020 for \$100,000. The company uses the ½ year rule to calculate depreciation and amortization expense in the years of acquisition and disposal. Its fiscal year-end is December 31.

Required: Prepare journal entries to record in the records of Brown:

1. The \$900,000 purchase
2. Depreciation and amortization expense for 2018
3. The decline in value of the patents at December 31, 2019
4. The sale of the machinery.

Problems

P 8-1

View Answer

Arrow Construction Company Ltd. purchased a farm from K. Jones. Arrow and Jones completed the transaction under the following terms: a cheque from Arrow to Jones for \$140,000; bank loan assumed by Arrow, \$100,000. Legal, accounting, and brokerage fees amounted to \$20,000. It was Arrow's intention to build homes on the property after sub-dividing. Crops on the farm were sold for \$6,000; a house was sold for \$1,600; barns were razed at a cost of \$6,000. Salvaged lumber was sold for \$4,400. The property was cleared and levelled at a cost of \$10,000. The necessary property was turned over to the township for roads, schools, churches, and playgrounds. Riverside still expected to secure a total of 500 identical lots from the remaining land.

Required: Prepare a schedule showing the cost to Arrow of the 500 lots.

P 8-2

View Answer

The following items relate to the acquisition of a new machine by the Bohn Group Inc. On the right-hand side are a number of possible accounting treatments; on the left-hand side are a number of independent accounting situations:

	Situation	*Accounting treatment*
___	Invoice price of new machine, net of cash discount offered	(1) Debit Machinery account
___	Cash discount on the above, which has not yet been taken	(2) Debit an expense account for the current period
___	Anticipated first year's savings in operating costs from use of new machine	(3) Debit an asset other than the machine and write-off the asset separately from the machine
___	Two-year service contract on operations of new machine paid in full	(4) Credit Machinery account
___	Cost of materials used while testing new machine	(5) None of the above; explain what account would be appropriate, if applicable.
___	Cost of installing sound insulation in wall near machine so that nearby office employees will not be disturbed by it	
___	Cost of removing machine that new machine replaces.	

Required: Indicate the appropriate accounting treatment for each situation. Record any assumptions that you think might be necessary for any given situation.

P 8-3

View Answer

Northland Shows Ltd. acquired a new amusement ride on July 1. The following details apply to the purchase:

Cost per supplier's invoice	$20,000
(The invoice provided a 1% cash discount if paid within 30 days. It was paid on July 15.)	
Cash payment on July 4 to Dalton Construction Ltd. for cement base for new ride	4,000
Transportation paid on purchase, July 5	520
Insurance for operation of ride paid in cash on July 5 for three-year term, commencing July 6	90
Alterations to new ride paid in cash July 5 (25% of this will be reimbursed by the vendor)	900
Installation costs paid in cash July 6	188

Required:

1. Prepare journal entries to record the acquisition of Northland's new ride.
2. Calculate the carrying amount of the asset.

P 8-4

View Answer

Janz Corporation purchased a piece of machinery on January 1, 2017. The company's year-end is December 31. The following information is applicable:

Cost	*Useful life*	*Residual value*	*Depreciation method*
$90,000	9,000 units	-0-	Usage

Output during 2018 and 2019 was 2,000 and 3,000 units, respectively.

Required:

1. Calculate the depreciation expense for 2018 and 2019.
2. What is the balance of accumulated depreciation at the end of 2019?
3. What is the carrying amount of the machinery shown on the statement of financial position at the end of 2019?
4. Prepare a partial comparative statement of financial position for Janz Corporation at the end of 2019.

P 8-5

View Answer

Livingston Corp. purchased printer on January 1, 2018. The company year-end is December 31. The following information is applicable:

Cost	*Estimated useful life*	*Residual value*	*Usage (units)*	
$5,000	4 years	$1,000	2018	10,000
			2019	15,000
			2020	20,000
			2021	5,000

Required:

1. Calculate the depreciation expense for the four-year period under each of these depreciation methods: straight-line, double-declining balance, and usage. Assume the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal where applicable. Present your solution in the following format:

	Depreciation expense		
Year	*Straight-line*	*Double-declining balance*	*Usage*
2018			
2019			
2020			
2021			
Total			

2. The president has asked you to describe one factor that might affect depreciation rate and residual value estimates, and how these changes to estimates will be accommodated should they occur. How would you respond?
3. Which method of depreciation would you recommend in this case? Why?

P 8-6

View Answer

Roberto Trucks Inc. purchased a delivery van on January 1, 2018. Assume this was the company's only capital asset and that the company uses the ½ year rule in the year of acquisition and disposal for straight-line and double-declining balance depreciation methods. The following information is available.

Cost	*Estimated useful life*	*Residual value*
$11,000	4 years or 75,000 kms.	$2,000

The truck was driven 20,000 km in 2018.

Required:

1. Calculate the depreciation for 2018 under each of the following methods:
   a. Usage
   b. Straight-line
   c. Double-declining balance
2. Compare the depreciation expense and carrying amount for 2018 under each of these methods.
3. If one of management's objectives is to maximize 2018 net income, what method should be adopted?

P 8-7

View Answer

Wynne Ltd. purchased a machine on January 1, 2018 for $23,000. Transportation charges paid by Wynne amounted to $600 and another $1,400 cost was incurred for installation. Useful life is three years. The residual value of the machine is $1,000.

Required:

1. Calculate the amount of the machine on which depreciation will be calculated (that is, the depreciable amount not the carrying amount).
2. In journal entry form, record the depreciation for each year of the expected useful life of the machine under
   a. straight-line method
   b. double-declining balance method.

   Assume that the ½ year rule is *not* used in the years of acquisition and disposal.
3. On January 1, 2019, Wynne changed the estimated useful life on the machine from a total of three years to a total of five years from

the date of purchase. Residual value remains at $1,000. Calculate the depreciation that should be recorded in 2019 and each year thereafter assuming the company used the straight-line method.

P 8-8

View Answer

On January 1, 2013, Young Inc. purchased a machine for $30,000. Its engineers had estimated useful life for the machine at twenty years. The residual value was estimated to be 10 per cent of the original cost. Seven years later, on January 1, 2020, experts were hired to review the expected useful life and residual value of the machine. Here are the findings:

Estimated useful life as of January 1, 2020	8 years
New residual value	$6,000

Depreciation has not yet been recorded in 2020. Assume that the straight-line method of depreciation is used and the company uses the ½ year rule in the years of acquisition and disposal.

Required:
1. Calculate the carrying amount of the machine at December 31, 2019.
2. Calculate the cost of the machine that remains to be depreciated at January 1, 2020 based on the new estimates.
3. Calculate the amount of depreciation expense to be recorded at December 31, 2020, and prepare the necessary journal entry.
4. Record the journal entries if the machine is sold on March 31, 2021 for $22,000.

P 8-9

Part A

View Answer

Davies Fabricating Inc. started business on May 1, 2018. The year-end of the company is December 31. On May 5, 2018, the company purchased equipment for $130,000 cash. The equipment had an estimated useful life of four years, an estimated total production output of 100,000 units, and a residual value of $10,000. The equipment was depreciated using the units-of-production (usage) method. Actual units of output over three years were: 2018— 12,000; 2019—30,000; and 2020—20,000.

On January 1, 2021, the company traded in the original equipment for new equipment. The company paid and additional $140,000 cash for the new equipment. The company had used the units-of-output (usage) method to calculate depreciation on the old manufacturing equipment. The fair value of the original equipment was $60,000 at the date of the trade.

Required: Prepare journal entries to record the transactions on the following dates:
1. May 1, 2018
2. January 1, 2021

Part B

On January 1, 2019, Davies Fabricating Inc. was able to buy a nearby warehouse for the storage of its finished product. The cost included land, $50,000 and building, $300,000. The company signed a ten-year bank loan for $320,000 and paid the balance in cash. The building had an estimated useful life of fifty years with no residual value. On June 28, 2023, the warehouse was totally destroyed by fire. On July 31, the company was notified that it would receive $270,000 from the insurance company as settlement in full for the building at a later date. The building was depreciated on the straight-line basis. Assume the company uses the ½ year rule to calculate depreciation expense in the year of acquisition and disposal.

Required: Prepare journal entries to record the transactions on the following dates:
1. January 1, 2019
2. June 28, 2023.

P 8-10

View Answer

Robbins Inc. purchased the following assets of Marine Company for $500,000 cash on September 30, 2018:

Land	$300,000
Building	100,000
Computer software	75,000

The building will be depreciated using the straight-line method. It has an estimated useful life of forty years and a residual value of 10% of cost.

The computer software has an estimated useful life of three years and no residual value. It will be amortized using the double-declining balance method. On January 2, 2019, the value of the computer software was estimated at $50,000. The computer software was sold on September 15, 2020 for $65,000.

Robbins Inc. uses the ½ year rule to calculate depreciation and amortization expense in the year of acquisition and disposal. Its fiscal year-end is December 31.

Required:

1. Prepare journal entries to record
   a. the $500,000 purchase
   b. depreciation and amortization expense for 2018
   c. the change in the value of the computer software at January 2, 2019
   d. the sale of the computer software on September 15, 2020.
2. Calculate the carrying amounts of the assets at December 31, 2020.

CHAPTER NINE

Debt Financing: Current and Non-current Liabilities

A corporation often has liabilities – amounts owing to creditors. These liabilities must be classified on the statement of financial position as current or non-current. Current liabilities can include known liabilities such as payroll liabilities, interest payable, and bank loans that must be paid in the near future, and estimated liabilities related to warranties, for instance. Non-current debt includes amounts owing to creditors that will be paid over many years, like some kinds of bank loans.

Chapter 9 Learning Objectives

LO1 – Identify and explain the difference between current and non-current liabilities.

LO2 – Record and disclose known current liabilities.

LO3 – Record and disclose estimated current liabilities.

LO4 – Explain, calculate, and record non-current debt.

A. Current versus Non-current Liabilities

LO1 - Identify and explain the difference between current and non-current liabilities.

Current or **short-term liabilities** are a form of debt that is expected to be paid within the longer of one year of the statement of financial position date or the next operating cycle, whichever is longer. Examples include accounts payable, salaries payable, unearned revenues, notes payable, and short-term bank loans.

Non-current liabilities are forms of debt expected to be paid beyond one year of the statement of financial position date or the next operating cycle, whichever is longer. Long-term bank loans secured by real estate (mortgages) are examples of non-current liabilities.

As discussed in Chapter 4, current and non-current liabilities must be shown separately on the statement of financial position. Doing so helps financial statement readers assess the *liquidity* of a corporation – its ability to satisfy current liabilities (generally with cash) as they come due.

B. Known Current Liabilities

LO2 - Record and disclose known current liabilities.

Known current liabilities are those where the payee, amount, and timing of payment are known. Examples include accounts payable, unearned revenues, and payroll liabilities. These are different from **estimated current liabilities** where the amount is not known and must be estimated. These may arise when a supplier's invoice has not been received by the time the financial statements have been prepared, for instance. Estimated current liabilities are discussed later in this chapter.

Payroll Liabilities

Short-term bank loans, accounts payable and unearned revenues were introduced in previous chapters. Payroll liabilities are amounts owing to various agencies on behalf of employees. These include items withheld from employees' pay cheques. Common withholdings are personal income taxes, employment insurance, pension and health insurance contributions, and union dues. These withheld amounts are remitted by the employer to agencies like the government, a private pension plan administrator, a union, or a health care provider, and usually within a few days of being deducted. **Gross pay** is the amount of salaries or wages[1] to which employees are entitled before any deductions. **Net pay** is the actual cash payment that the employees receive at the end of a pay period after deductions are made.

In most countries, the employer is required by law to also contribute to certain government programs designed to aid workers. In Canada, for example, the employer generally must contribute 1.4 times as much to an employment insurance program as employees contribute, and contribute the same amount to a government pension plan that employees are required to contribute. The employer may also contribute to a private pension plan or private health insurance plan under the terms of a collective agreement, for instance.

Assume a company has two employees. Each employee is required to have the following amounts deducted from their gross pay each period:

Personal income taxes	15%
Employment insurance	2%
Government pension	5%
Union dues	1%
Company pension plan	3%

In addition, each employee contributes $55 per pay period to a company health plan.

To demonstrate the journal entries to record a business's payroll liabilities for the period December 1-15, 2017, refer to the payroll records in Figure 9-1 (Emp'ee = employee; Emp'er = employer). Assume that in addition to amounts that it withholds from employees' pay as shown in row 3, the company also must contribute 1.4 times as much as its employees to an employment insurance plan, must match government pension contributions, and must contribute one-half as much to the company pension plan as its employees. The company therefore incurs additional expenses as shown in row 4. These are calculated as follows:

Employment insurance ($50.70 x 1.4)	$70.98
Government pension plan ($113.66 x 1.0)	$113.66
Company pension plan ($76.05 x ½)	$38.03

[1] Salaries are fixed amounts paid to an employee on a regular basis (for example, monthly). Wages are calculated based on an hourly rate times the actual hours worked each day.

Usually, companies do not have to contribute anything towards personal income taxes and union dues paid by their employees. Additionally in this example, the company does not contribute to the company health plan.

			Payroll Deductions							
Row	Employee	Gross pay	Income taxes (15%)	Employ. insur. (2%)	Gov't pension (5%)	Comp. health plan	Union dues (1%)	Comp. pension (3%)	Total. deduct.	Net pay
1.	S. Smith	1,560.00	234.00	31.20	78.00	55.00	15.60	46.80	460.60	1,099.40
2.	J. Jones	975.00	146.25	19.50	48.75	55.00	9.75	29.25	308.50	666.50
3.	Emp'ee deductions		380.25	50.70	126.75	110.00	25.35	76.05	769.10	
4.	Emp'er contributions		-0-	70.98	126.75	-0-	-0-	38.03		
5.	Total remittances		380.25	121.68	253.50	110.00	25.35	114.08		

Figure 9–1: December 15-31, 2017 Payroll Record Example

The journal entry to record the cheque paid to S. Smith would be:

This is the same as gross pay in Figure 9-1.

These are all current liability accounts.

This is the same as net pay in Figure 9-1.

Dec. 31	Salaries Expense	1,560.00	
	Employee Inc. Taxes Pay.		234.00
	Employment Insur. Pay.		31.20
	Gov't Pension Payable		78.00
	Company Health Plan Pay.		55.00
	Union Dues Payable		15.60
	Company Pension Payable		46.80
	Cash		1,099.40
	To record payment to S. Smith, net of deductions.		

The journal entry to record the cheque paid to J. Jones would be:

Dec. 31	Salaries Expense	975.00	
	Employee Inc. Taxes Pay.		146.25
	Employment Insur. Pay.		19.50
	Gov't Pension Payable		48.75
	Company Health Plan Pay.		55.00
	Union Dues Payable		9.75
	Company Pension Payable		29.25
	Cash		666.50
	To record payment to J. Jones, net of deductions.		

These are additional, salary-related expense categories on the income statement.

The journal entry to record the company's matching contributions would be:

Dec. 31	Employment Insur. Expense	70.98	
	Gov't Pension Expense	126.75	
	Company Pension Expense	38.03	
	Employment Insur. Pay.		70.98
	Gov't Pension Payable		126.75
	Company Pension Payable		38.03
	To record employer contributions for December.		

The deductions payable accounts would be recorded as current liabilities on the December 31, 2018 statement of financial position since they will be remitted to various agencies within the next few weeks. When these payments are made, say on January 15, 2018, the following four entries would be made to eliminate these current liability accounts:

2018			
Jan. 15	Employee Inc. Taxes Pay.	380.25	
	Employment Insur. Pay.	121.68	
	Gov't Pension Payable	253.50	
	Cash		755.43
	To record remittances for December 31, 2017 paid to Government of Canada.		
Jan. 15	Company Health Plan Payable	110.00	
	Cash		110.00
	To record payment of employee deductions to ABC Healthcare.		
Jan. 15	Union Dues Payable	25.35	
	Cash		25.35
	To record payment of employee deductions to Union X, Local 251.		
Jan. 15	Company Pension Payable	114.08	
	Cash		114.08
	To record payment of employee deductions and employer contributions to Greenview Private Pension Plan Administrator.		

Sales Taxes

Another type of known current liabilities is a **sales tax**. Sales taxes are common sources of government revenues in most countries. An example of a Canadian sales tax is the federal **Goods and Services Tax (GST)**. This is calculated as 5% of the selling price of most goods and services.[2] GST does not apply to salaries, wages and benefits paid to employees.

To demonstrate how a sales tax like GST is recorded, assume that Joe's Cars Corporation operates in Canada. The company purchased a vehicle for $20,000 cash from a supplier on December 15, 2017. It must pay the supplier $21,000: $20,000 for the vehicle plus GST of $1,000 (20,000 x 5% = $1,000). The entry to record the purchase would be:

2017			
Dec. 15	Merchandize Inventory	20,000	
	GST Payable	1,000	
	Cash		21,000
	To record purchase of vehicle plus 5% GST.		

Assume the company then sold the vehicle to a customer on December 20 for $25,000 cash. The customer must pay Joe's Cars $26,250: $25,000 for the vehicle plus GST of $1,250 ($25,000 x 5% = $1,250). If the company uses the perpetual inventory method, the entry to record the sale would be:

2017			
Dec. 20	Cash	26,250	
	Sales		25,000
	GST Payable		1,250
	Cash		26,250
	Cost of Goods Sold	20,000	
	Merchandize Inventory		20,000
	To record sale of vehicle plus 5% GST.		

There is no GST effect related to cost of goods sold. This has been recorded when the vehicle was originally purchased on December 15. The statement of financial position at December 31 would show a current liability, GST Payable, amounting to $250 ($1,250 – 1,000). No expense would be recorded on the company's income statement. The

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[2] GST is also not applied to goods like prescription drugs, groceries, and medical supplies or services such as education, health care, and finance.

GST Payable liability of $250 would be paid to the government soon after the statement of financial position date. Assuming this payment is made on January 15, 2018, the following journal entry would be made:

2018			
Jan. 15	GST Payable	250	
	Cash		250
	To record payment of GST owing at December 31.		

Short-term Notes Payable

Short-term notes receivable were discussed in Chapter 7. A note receivable can arise when an account receivable is overdue and the debtor and creditor agree to enter into a formal legal agreement for payment. A **short-term note payable** is the flip side of a note receivable. It is an arrangement to formalize repayment of an account from the creditor's point of view. It is recorded as a current liability if it is expected to be paid within one year from the statement of financial position date.

In Chapter 7, BDCC provided $4,000 of services on August 1, 2017 to customer Woodlow. Woodlow was unable to pay this amount in a timely manner. The receivable was converted in BDCC's accounting records on December 1, 2017 to a 4%, three-month note receivable, meaning that the $4,000 was to be repaid with interest on February 28, 2018.

The following example compares the entries recorded by BDCC for the note receivable to the entries recorded by Woodlow to establish and then satisfy a note payable for the same transaction.

	BDCC records			Woodlow records		
2017						
Dec. 1	Note Rec. – Woodlow	4,000		Account Payable – BDCC	4,000	
	Account Rec. – Woodlow		4,000	Note Payable – BDCC		4,000
	To record conversion of the account receivable from Woodlow to a 4%, 3-month note receivable due February 28, 2018.			To record conversion of the account payable to BDCC to a 4%, 3-month note payable due February 28, 2018.		
Dec. 31	Interest Receivable	13		Interest Expense	13	
	Interest Earned		13	Interest Payable		13
	To record interest revenue accrued on the Woodlow note receivable at year-end ($4,000 x 4% x 1/12 mos. = $13).			To record interest expense accrued on the BDCC note payable at year-end ($4,000 x 4% x 1/12 mos. = $13).		
2018						
Feb. 28	Cash	4,040		Cash		4,040
	Interest Receivable		13	Interest Payable	13	
	Interest Earned		27	Interest Expense	27	
	Note Rec. – Woodlow		4,000	Note Payable – BDCC	4,000	
	To record the collection of the note receivable and interest revenue from January 1 to February 28, 2018 ($4,000 x 4% x 1/12 mos. = $27).			To record the payment of the note payable and interest expense from January 1 to February 28, 2018 ($4,000 x 4% x 1/12 mos. = $27).		

Notice that the dollar amounts in the entries for BDCC are mirrors of those for Woodlow. BDCC records interest earned; Woodlow records interest expense. BDCC will report two current assets in its statement of financial position at December 31 (note receivable; interest receivable); Woodlow will report two current liabilities (note payable; interest payable).

Income Tax Liabilities

Besides sales taxes and payroll deductions, a company must also remit corporate income taxes to the government. A company's income taxes are based on the amount of income, net of expenses, reported on its annual income statement.[3] It is one of the last adjusting entries made at a company's year-end.

Often, profitable companies are required to remit income tax instalments for the current year to the government on a monthly or quarterly basis, and before the fiscal year-end. Instalment calculations are beyond the scope of this text but are often influenced by the amount of corporate income taxes paid in the prior year by a company.

Assume that BDCC is required to make monthly corporate income tax instalments during 2017 of $1,500 and that these amounts must be

[3] Corporate income taxation is complex and covered more thoroughly in advanced accounting courses.

paid to the government by the 15th day of the following month. If the payment for January 2017 was made by February 15, the journal entry would be:

2017			
Feb. 15	Corporate Income Taxes Payable	1,500	
	Cash		1,500
	To record payment of January income tax instalment.		

After the payment on December 15, 2017, the balance in the Corporate Income Taxes Payable general ledger account would be a $16,500 debit balance ($1,500 x 11 mos.).

Various adjusting entries would be made to prepare the BDCC financial statement for the year ended December 31, 2017. Assume that after all these adjustments, BDCC reported revenues of $500,000 and expenses before corporate income taxes of $400,000 for the year ended December 31, 2017. Income before income taxes would be $100,000. This figure is used as a basis to prepare the corporate tax return for the year. If the corporate income tax rate is 20%, BDCC would pay corporate income taxes of $20,000 [($500,000 – 400,000) x 20% = $20,000].

The adjusting entry to record the corporate income taxes expense and adjust the amount owing would be:

2017			
Dec. 31	Corporate Income Taxes Expense	20,000	
	Corporate Inc. Taxes Payable		20,000
	To record 2017 corporate income tax expense.		

Corp. Inc. Tax Exp	
20,000	

Corp. Inc. Tax. Pay.	
16,500	
	20,000
	3,500

Since the company has already paid $16,500 in corporate income tax instalments for the 2017 fiscal year, it only owes an additional $3,500 at December 31, 2017.

The condensed BDCC income statement at December 31 would show:

Big Dog Carworks Corp.
Income Statement
For the Year Ended December 31, 2017

Revenue	$500,000
Operating expenses	400,000
Income before income taxes	100,000
Income taxes	20,000
Net income	$80,000

The $3,500 balance in the Corporate Income Taxes Payable general ledger account would be shown as a current liability on the statement of financial position at December 31, 2017. BDCC will pay this amount in cash sometime in 2018 after the income tax return has been filed with the government and assessed.

C. Estimated Current Liabilities

LO3 - Record and disclose estimated current liabilities.

An estimated current liability is an obligation that exists at the statement of financial position date. However, its amount can only be approximated – for because an invoice has not yet been received from a supplier. Two common examples of estimated liabilities are warranties and fees for services rendered by professionals like lawyers and auditors related to year-end financial statement preparation.

Warranty Liabilities

A **warranty** is a guarantee offered by the seller to replace or repair defective products. Warranties typically apply for a limited period of time. The seller does not know which product will require warranty work, when it might occur, or the amount. However, based on past experience, warranty expense can be estimated. Often this is based on a percentage of sales revenue. The adjustment is done at year –end. Doing this matches warranty expenses with revenue in the year of sale.

As an example, assume High Road Appliances Corp. estimated its warranty expense to be 5% of its sales revenue. Sales amounted to $500,000 for its first year ended December 31, 2017.

To match the warranty expense to the period in which the revenue was realized, the following adjusting entry would be recorded at the year-end:

2017			
Dec. 31	Warranty Expense	25,000	
	Estimated Warranty Liability		25,000
	To record estimated warranty expense for the year ($500,000 x 5% = $25,000).		

Prior to this year-end adjusting entry, parts and labour are used to perform warranty work during the year. The following type of entry is recorded many times as each piece of warranty work is completed:

Estimated Warranty Liability	XXX	
Parts Inventory		XXX
Wages Payable		XXX
To record the actual costs of parts and labour for warranty work, job 1234.		

These many small entries gradually increase the debit balance in the Estimated Warranty Liability account until the estimated liability account is adjusted as above to record the estimated expense.

Over time, the year-end balance in the Estimated Warranty Liability account should be stable if actual expenditures are equal to estimated expenditures. If the balance gradually increases or decreases, the estimate of warranty expense as a percentage of sales revenue needs to be reviewed and perhaps adjusted.

Professional Fess

An accounting firm may be contracted to prepare or audit the annual financial statements. Services of lawyers and pension actuaries may also be needed. Precise fees for these services will be unknown until an invoice is rendered by the supplier. However, this usually occurs after the financial statements have been issued. To match the expense to the year in which the services apply, the fees are estimated and recorded as part of the Estimated Current Liabilities general ledger account at year-end.

Assume BDCC estimates that the audit fee for the 2017 financial statements will be $10,000.

The following adjusting entry would be made (GST would not be recorded until the fees were actually invoiced by the supplier).

2017			
Dec. 31	Professional Fees	10,000	
	Estimated Current Liabilities		10,000
	To record estimated audit fees for the year.		

Contingent Liabilities

An estimated liability is recorded when the liability is probable and the amount can be reliably estimated. A **contingent liability** exists as a result of a past occurrence, but only if possible (not probable) or is probable but the amount of the liability is not known at the date the financial statements are issued. A contingent liability is just disclosed in a note to the financial statement. A liability with only a remote likelihood of success is neither recorded nor disclosed in a note. The following is a summary of the treatment of these types of liabilities:

	Outcome		
	Remote	*Possible*	*Probable*
Amount can be estimated	Do not report	Note to financial statements	Record in financial statements
Amount cannot be estimated	Do not report	Note to financial statements	Note to financial statements

As an example, assume a lawsuit is commenced in 2017 against Jones Corp. claiming damages of $100,000. At December 31, 2017, lawyers for the company indicate that it is probable that the lawsuit will be successful but the damages cannot be reasonably estimated. In this case, a note to the financial statements might state:

Note X A lawsuit has been commenced during the year against the company related to the alleged sale of defective merchandize. Legal counsel has advized that this action will likely be successful. The amount of award cannot be reasonably estimated at this time. The lawsuit seeks compensation for damages amounting to $100,000.

Assume now that it is probable that the lawsuit will be successful and that full damages will be awarded. The following entry would be recorded in the company's records:

2017			
Dec. 31	Lawsuit Damages Expense	100,000	
	Estimated Current Liabilities		100,000
	To record estimated lawsuit award.		

If this amount is relatively large, it would be reported in the Other Income (Expenses) section of the income statement.

D. Non-current Liabilities

LO4 – Explain, calculate, and record non-current debt.

A corporation often incurs long-term debt to acquire property, plant, and equipment. These borrowing are repayable over many years. There are three main types of non-current borrowings:

1. **Bonds** pay *only interest* at regular intervals to *bondholders*. The original investment is repaid to bondholders when the bond *matures* (or comes due), usually after a number of years. Bonds issued by a company are generally purchased by many investors, including individuals, financial institutions, and other corporations. Bonds are discussed in detail in a later chapter.

2. **Loans** are also sums of money lent for interest. They differ from bonds in that they are repaid in equal payments on a regular basis, often monthly. The repayments usually consist of both *interest* and *principal* paid to creditors. Such payments are said to be *blended*. That is, each payment contains repayment of a certain amount of the original amount of the loan (the principal), as well as interest on the remaining principal balance. Loans are usually received from only one or a small number of financial institutions. After obtaining a loan, a company often purchases long-lived assets from a third party with the cash proceeds. The loan in turn may be *secured* by these purchased assets to reduce the risk of non-repayment to the lender. If the loan is not repaid, the lender can seize and legally sell the secured assets, and retain the funds owed to it. For instance a *mortgage* is a loan secured by specified real estate of the company, usually land with buildings on it.

3. A **finance lease** is similar to a loan in that a series of cash payments are also made over a specified period of time. However, these are not quite the same as repayment of a bank loan. Instead of payments to the bank, the payments are made to a leasing

company, called the *lessor*. The payments give the *lessee* (the company making the payments) the right to use a long-lived asset owned by the leasing company for a specified period of time. Unlike a short-term rental agreement, the amount of the payments is so large as a percentage of the value of the related long-lived asset and the period of time over which they are made is so long that the lessee in effect purchases the asset, even though legal title may not be transferred from the leasing company to the lessee.

Non-current loans and finance leases are discussed further below.

Loans Payable

As noted above, a loan is another form of long-term debt that can be used by a corporation to finance its operations.

Assume BDCC obtained a $100,000, 10% loan on January 1, 2017 from First Bank to acquire a piece of production equipment. When the loan proceeds are deposited into the bank account of BDCC, the company would make the following journal entry:

2017			
Jan. 1	Cash	100,000	
	Loan-Payable – First Bank		100,000
	To record 10% loan from First Bank.		

When the equipment is purchased (assumed here to be the same day), this journal entry would be made:

2017			
Jan. 1	Equipment	100,000	
	Cash		100,000
	To record purchase of equipment with loan proceeds.		

BDCC will depreciate this long-lived asset as usual over its estimated useful life, as discussed in a previous chapter. Interest is calculated on the unpaid balance of the loan. This balance decreases over the life of the loan because each payment contains part interest and part principal payments. In the example above, assume the $100,000 loan is repayable in three annual blended payment of $40,211. Each payment is made on December 31, commencing in 2017. While the payments remain the same each year, the amounts of interest paid decrease while the amount of principal repaid increases.

Figure 9-2 illustrates this effect. Note particularly columns B, C, and D.

	A	*B*	*C*	*D*
Year ended Dec. 31	*Beginning loan balance*	*Interest expense (A x 10%)*	*Reduction of principal ($40,211 – B)*	*Ending loan balance (A – C)*
2017	$100,000	$10,000	$30,211	$69,789
2018	69,789	6,979	33,232	36,557
2019	36,557	3,654	36,557	-0-
			$100,000	

Interest expense decreases with each loan payment because the remaining principal (A) has decreased. Principal repaid plus interest each year (B + C) always totals $40,211.

Figure 9-2 Effect of blended interest and principal payments

Figure 9-2 can be used to construct the journal entries to record the loan payments at the end of each year:

2017			
Dec. 31	Interest Expense (col. B)	10,000	
	Loan Payable (col. C)	30,211	
	Cash		40,211
2018			
Dec. 31	Interest Expense (col. B)	6,979	
	Loan Payable (col. C)	33,232	
	Cash		40,211
2019			
Dec. 31	Interest Expense (col. B)	3,654	
	Loan Payable (col. C)	36,557	
	Cash		40,211

The amounts in Figure 9-2 can also be used to present the related information on the financial statements of BDCC at each year-end. Recall that assets and liabilities need to be classified as current and non-current on the statement of financial position. Current liabilities are amounts paid within one year of the statement of financial position date. Part of the loan payable to First Bank will be paid in the upcoming year. Therefore, it needs to be classified as a current liability on the statement of financial position even though the full amount of the loan outstanding is reported in a single general ledger account called Loan

Payable – First Bank. The amount of the total loan outstanding at December 31, 2017, 2018, and 2019 and the current and non-current portions are shown in Figure 9-3:

A	*B*	*C*	*D*
Year ended Dec. 31	*Ending loan balance per general ledger (Fig. 9-2, Col. D)*	*Current portion (Fig. 9-2, col. C)*	*(B – C) Non-current portion*
2017	$69,788	$33,232	$36,557
2018	36,557	36,557	-0-
2019	-0-	-0-	-0-

Figure 9-3 Allocation of current and non-current portions of loan principal

Statement of Financial Position presentation would be as follows at each year-end:

	2017	*2018*	*2019*
Current liabilities			
Current portion of borrowings	$33,232	$36,557	$ -0-
Non-current liabilities			
Borrowings (Note X)	36,557	-0-	-0-

Details of the loan would be disclosed in a note to the financial statements. Only the *principal* amount of the loan is reported on the statement of financial position. The *interest* expense portion is reported on the income statement as an expense. Because these payments are made at BDCC's year-end (December 31), no interest payable is accrued or reported on the statement of financial position in this example.

Finance Leases

After obtaining a long-term loan, a company often purchases long-lived assets from a third party with the cash proceeds. The mechanics of recording a finance lease are much the same as that of a loan. The value of the finance lease is determined by calculating the amount of a similar loan that could be paid off, given the period of time, interest rate, and amount of payments stated in the lease agreement, and the fair value of the leased asset.

For instance, assume that on January 1, 2017 Big Dog Carworks Corp. agrees to pay First Leasing Company annual payments of $40,211 on

December 31 for the next three years for the use of a large truck that could be purchased elsewhere for $100,000. BDCC is responsible for insuring, maintaining, and repairing the truck, though title to the truck remains with the leasing company.

Even though BDCC does not legally own the truck, the substance of the lease agreement is the same is if the company received a 10% loan from a bank and then purchased the truck from a third party (recall the example above). As a result, BDCC is required under GAAP to record the finance lease as a liability and the truck as a long-lived asset on its statement of financial position. When the lease agreement is signed on January 1, 2017 the following journal entry is made:

2017			
Jan. 1	Truck	100,000	
	Finance Lease		100,000
	To record First Leasing Company lease of a truck.		

As in the first example, the truck asset is depreciated over its estimated useful life.

To record the loan payments, the *implicit* rate of interest within the lease agreement needs to be established. In the BDCC example, this is 10% – the amount of annual interest that would need to be paid to a bank for a similar loan.

When each of the three payments is made on December 31 of 2017, 2018, and 2019, much the same journal entries are recorded as in the previous bank loan example:

2017			
Dec. 31	Interest Expense	10,000	
	Finance Lease	30,211	
	Cash		40,211
2018			
Dec. 31	Interest Expense	6,979	
	Finance Lease	33,232	
	Cash		40,211
2019			
Dec. 31	Interest Expense	3,654	
	Finance Lease	36,557	
	Cash		40,211

Statement of Financial Position presentation of the finance lease liability would also be similar. The same current and non-current portions would be presented each year as in the bank loan example above.

E. Demonstration Problem

The following unadjusted trial balance has been taken from the records of Rockfish Rentals Corp at December 31, 2019:

No.	*Account*	*Unadjusted TB*		*Adjustments*		*Adjusted TB*	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	2,000					
110	Accounts receivable	3,000					
150	Merch. inventory	30,000					
151	Parts inventory	20,000					
180	Land	246,400					
181	Building	214,700					
191	Acc. dep'n – bldg.		170,000				
210	Accounts payable		10,000				
212	Est. current liab.		-0-				
213	Est. warranty liab.	10,000					
220	Note payable		10,000				
221	Dividends payable		-0-				
222	Interest payable		-0-				
226	Salaries payable		-0-				
227	Emp'ee inc. tax pay.		-0-				
228	Emp. insur. pay.		-0-				
229	Gov't pension pay.		-0-				
230	Co. health ins. pay.		-0-				
231	Union dues pay.		-0-				
232	Co. pension pay.		-0-				
238	GST payable		1,000				
242	Unearn. comm. rev.		500				
260	Corp. inc. tax pay.	11,000					
275	Mortgage payable		200,000				
276	Finance lease		20,000				
320	Share capital		2,000				
340	Retained earnings		40,000				
350	Dividends declared	-0-					
410	Commiss. earned		23,000				
500	Sales		477,000				
570	Cost of goods sold	135,000					
621	Dep'n exp. – bldg.	-0-					
632	Interest expense	15,000					
653	Professional fees	-0-					
656	Salaries expense	240,000					
658	Gov't emp. insur. ex.	6,000					
659	Gov't pension exp.	4,800					
660	Co. health insur. exp.	3,600					
661	Co. pension exp.	12,000					
678	Warranty exp.	-0-					
830	Corp. inc. tax exp.	-0-					
		953,500	953,500				

The company uses the perpetual inventory method. GST applies only when indicated. The following additional information is available:

a. Unearned commission revenue at December 31 is $800.
b. A $1,000 invoice for parts was received from a supplier at December 31 that has not yet been recorded. GST of 5% was added to the cost of parts, for a total of $1,050.
c. A December 31 sale on account for $3,000 was not recorded. GST of 5% was also charged on the sale. Related cost of goods sold was $2,500.
d. The $10,000 note payable was issued on December 1, 2019. It bears interest at 4% per year and is due November 30, 2020. No interest expense has been recorded.
e. A warranty repair has not been correctly recorded at December 31. $500 of parts was recorded incorrectly as cost of goods sold, and salary expenditures of $100 were recorded incorrectly as salaries expense.
f. Warranty expense for the year is estimated at 3% of sales revenue.
g. Unpaid salaries for the week of December 24-31 were as follows:

	Payroll Deductions							
Gross pay	*Income taxes*	*Employ. insur.*	*Gov't pension*	*Comp. health*	*Union dues*	*Comp. pension*	*Total deduct.*	*Net pay*
5,000	1,000	125	100	50	200	250	1,725	3,275

The company's portion of contributions is:

Government employment insurance	1.4 times
Government pension	1 time
Company health insurance	1.5 times
Company pension	2 times

h. Audit fees for the 2019 financial statements are estimated to be $5,000. The auditor will add GST to the amount that is eventually billed.

i. Payments on the mortgage and finance lease, including interest, were made on December 31. Payments during 2020 will be made as follows:

	Interest	*Reduction of principal*	*Total payments*
Mortgage	$7,000	$3,000	$10,000
Finance lease	1,500	2,500	4,000

j. It is possible that the company will lose a lawsuit filed against it during the year. The estimated award is $5,000.

k. Depreciation on the building is calculated on the double-declining balance basis. The useful life is ten years. Residual value is $5,000. There were no additions or disposals during the year.
l. Share capital of $500 was issued for cash on August 31 and is included in the accounting records.
m. The corporate income tax rate is 20% calculated on income before income taxes.
n. Dividends of $2,000 were declared on December 31, 2019. These will be paid on January 31, 2020.

Required:

1. Prepare necessary adjusting entries at December 31, 2019. Include general ledger account numbers and appropriate descriptions.
2. Post the entries to the "Adjustments" column of the worksheet. Total the worksheet.
3. Prepare a classified income statement and statement of changes in equity for the year ended December 31, 2019 and a classified statement of financial position at December 31.
4. Assume the salaries, employee deductions, and company payroll expenses were paid on January 5, 2020. Record the journal entries. Assume payments were made as applicable to employee J. Smith, Government of Canada, Union Local 151, Purple Cross Healthcare, and Fidelity Mutual Pension Administration.
5. Assume amounts owing for 2019 corporate income taxes payable and GST payable are remitted in cash to the Government of Canada on January 15, 2020. Record the journal entries.
6. Assume the estimated warranty liability reported on the December 31, 2018 statement of financial position was $30,000. Should this be a concern when Rockfish management reviews the 2019 financial statements?
7. What types of information should be disclosed in the notes to the financial statements related to the various liability accounts?

Solution to Demonstration Problem

1. Prepare necessary adjusting entries at December 31, 2019. Include general ledger account numbers and appropriate descriptions.

a.

2019				
Dec. 31	Commissions Earned	410	300	
	Unearned Comm. Rev.	242		300
	To adjust unearned commissions revenue to actual at December 31.			

b. 2019

Dec. 31	Parts Inventory	151	1,000	
	GST Payable	238	50	
	Accounts Payable	210		1,050
	To record invoice from supplier.			

c. 2019

Dec. 31	Accounts Receivable	110	3,150	
	Sales	500		3,000
	GST Payable	238		150
	Cost of Goods Sold	570	2,500	
	Merchandize Inventory	150		2,500

To record missing sales on account. (GST would have been paid when the inventory was originally purchased, so there is no GST effect related to cost of goods sold.)

d. 2019

Dec. 31	Interest Expense	632	34	
	Interest Payable	222		34

To record interest on note payable [$10,000 x 4% x 31/365 days = $34 (rounded)]

e. 2019

Dec. 31	Estimated Warranty Liability	213	600	
	Cost of Goods Sold	570		500
	Salaries Expense	656		100
	To reallocate warranty repair expenditures.			

f. 2019

Dec. 31	Warranty Expense	678	14,400	
	Estimated Warranty Liab.	213		14,400

To record estimated warranty expense for 2019 [($477,000 + 3,000[1]) x 3% = $14,400]

[1] See c. above

g. 2019

Dec. 31	Salaries Expense	656	5,000	
	Gov't Employment Ins. Exp.	658	175	
	Gov't Pension Expense	659	100	
	Company Health Insur. Exp.	660	75	
	Company Pension Expense	661	500	
	Salaries Payable	226		3,275
	Emp'ee Income Tax. Pay.	227		1,000
	Employment Insur. Pay.	228		300
	Gov't Pension Payable	229		200
	Co. Health Plan Payable	230		125
	Union Dues Payable	231		200
	Co. Pension Payable	232		750
	To record Dec. 24-31 salaries and benefits payable as follows:			

		Payroll Deductions							
	Gross pay	*Income taxes*	*Employ. insur.*	*Gov't pension*	*Comp. health*	*Union dues*	*Comp. pension*	*Total deduct.*	*Net pay*
Employees	5,000	1,000	125	100	50	200	250	1,725	3,275
Employer		-0-	175	100	75	-0-	500		
Remittance		1,000	300	200	125	200	750		

h. 2019

Dec. 31	Professional Fees	653	5,000	
	Estimated Current Liab.	212		5,000
	To record estimated audit fees. (No GST will be recorded until the actual invoice is received.)			

i. No entry. This only affects statement of financial position presentation between current and non-current liabilities.

j. No entry. The event would only be recorded if the outcome was probable, even if the amount to be awarded can be reasonably estimated.

k. 2019

Dec. 31	Depreciation Expense – Bldg.	621	8,940	
	Accum. Dep'n – Bldg.	191		8,940
	To record depreciation expense for the year [(100%/10 yrs.) = 10% x 2 = 20%; ($214,700 – 170,000) x 20% = $8,940].			

l. No entry. This should be shown on the statement of changes in equity, though.

m. 2019

Dec. 31	Corporate Income Taxes Exp.	830	10,035	
	Corporate Inc. Tax. Pay.	260		10,035
	To record corporate income taxes for the year [($50,176[1] x 20% = $10,035 (rounded)]			

[1] See the income statement. This entry is recorded after the partial income statement is prepared up to the income before income taxes amount. The income statement can be completed after this entry is recorded.

n. 2019

Dec. 31	Dividends Declared	350	2,000	
	Dividends Payable	221		2,000
	To record dividend declared, payable January 31, 2020.			

2. Post the entries to the "Adjustments" column of the worksheet. Total the worksheet.

No.	Account	Unadjusted TB		Adjustments		Adjusted TB	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	2,000				2,000	
110	Accounts receivable	3,000		c. 3,150		6,150	
150	Merch. inventory	30,000			2,500 c.	27,500	
151	Parts inventory	20,000		b. 1,000		21,000	
180	Land	246,400				246,400	
181	Building	214,700				214,700	
191	Acc. dep'n – bldg.		170,000		8,940 k.		178,940
210	Accounts payable		10,000		1,050 b.		11,050
212	Est. current liab.		-0-		5,000 h.		5,000
213	Est. warranty liab.	10,000		e. 600	14,400 f.		3,800
220	Note payable		10,000				10,000
221	Dividends payable				2,000 n.		2,000
222	Interest payable		-0-		34 d.		34
226	Salaries payable		-0-		3,275 g.		3,275
227	Emp'ee inc. tax pay.		-0-		1,000 g.		1,000
228	Emp. insur. pay.		-0-		300 g.		300
229	Gov't pension pay.		-0-		200 g.		200
230	Co. health ins. pay.		-0-		125 g.		125
231	Union dues pay.		-0-		200 g.		200
232	Co. pension pay.		-0-		750 g.		750
238	GST payable		1,000	b. 50	150 c.		1,100
242	Unearn. comm. rev.		500		300 a.		800
260	Corp. inc. tax pay.	11,000			10,035 m.	965	
275	Mortgage payable		200,000				200,000
276	Finance lease		20,000				20,000
320	Share capital		2,000				2,000
340	Retained earnings		40,000				40,000
350	Dividends declared			n. 2,000		2,000	
410	Commiss. earned		23,000	a. 300			22,700
500	Sales		477,000		3,000 c.		480,000
570	Cost of goods sold	135,000		c. 2,500	500 e.	137,000	
621	Dep'n exp. – bldg.	-0-		k. 8,940		8,940	
632	Interest expense	15,000		d. 34		15,034	
653	Professional fees	-0-		h. 5,000		5,000	
656	Salaries expense	240,000		g. 5,000	100 e.	244,900	
658	Gov't emp. insur. ex.	6,000		g. 175		6,175	
659	Gov't pension exp.	4,800		g. 100		4,900	
660	Co. health insur. exp.	3,600		g. 75		3,675	
661	Co. pension exp.	12,000		g. 500		12,500	
678	Warranty exp.	-0-		f. 14,400		14,400	
830	Corp. inc. tax exp.	-0-		m. 10,035		10,035	
		953,500	953,500	53,859	53,859	983,274	983,274

3.

Rockfish Rentals Corp.
Income Statement
For the Year Ended December 31, 2019

Revenue		
Sales		$480,000
Commissions earned[4]		22,700
		502,700
Cost of goods sold		137,000
Gross profit		365,700
Operating expenses		
Selling		
Salaries	$244,900	
Employment insurance	6,175	
Government pension	4,900	
Company health insurance	3,675	
Company pension	12,500	
Warranty	14,400	
Total selling	286,550	
General and administrative		
Depreciation - building	8,940	
Professional fees	5,000	
Total general and administrative	13,940	
Total operating expenses		300,490
Income before interest and income taxes		65,210
Interest expense		15,034
Income before income taxes		50,176
Income taxes		10,035
Net income		$40,141

Rockfish Rentals Corp.
Statement of Changes in Equity
For the Year Ended December 31, 2019

	Share capital	*Retained earnings*	*Total equity*
Balance at January 1, 2019	$1,500	$ 40,000	$41,500
Shares issued	500		500
Net income		39,741	39,741
Dividends declared		(2,000)	(2,000)
Balance at December 31, 2019	$2,000	$78,141	$80,141

[4] Alternately, commission earned could be reported separately from gross profit calculations. Many presentation formats are acceptable.

Rockfish Rentals Corp.
Statement of Financial Position
At December 31, 2019

Assets		*Liabilities*	
Current		*Current*	
Cash	$ 2,000	Accounts payable	$ 11,050
Accounts receivable	6,150	Estimated liabilities	5,000
Merchandize inventories	27,500	Estimated warranty liabilities	3,800
Parts inventories	21,000	Note payable	10,000
Corporate income taxes receivable	1,065	Dividends payable	2,000
	57,615	Interest payable	34
		Salaries and benefits payable	5,850[5]
		GST payable	1,100
		Unearned commissions revenue	800
		Current portion of debt[6]	5,500
			45,134
Property and plant		*Non-current*	
Land	246,400	Mortgage payable	200,000
Building, at carrying amount	35,760	Finance lease	20,000
	282,160	*Less:* Current portion[6]	(5,500)
			214,500
		Total liabilities	259,634
		Shareholders' Equity	
		Share capital	2,000
		Retained earnings	78,141
		Total shareholders' equity	80,141
Total assets	$339,775	Total liabilities and equity	$339,775

[5] $3,275 + 1,000 + 300 + 200 + 125 + 200 + 750. These amounts could be disclosed separately. Many presentation formats are acceptable.
[6] See requirement 1(i).

4. The journal entry to record payment of salaries and benefits payable would be:

2020				
Jan. 5	Salaries Payable	226	3,275	
	Emp'ee Income Tax. Pay.	227	1,000	
	Gov't Employ. Insur. Pay.	228	300	
	Gov't Pension Payable	229	200	
	Co. Health Plan Payable	230	125	
	Union Dues Payable	231	200	
	Co. Pension Payable	232	750	
	Cash	101		5,850
	To record payments of salaries and benefits owed at December 31, 2019 to:			

J. Smith	*$3,275*
Government of Canada	*1,500*
Union Local 151	*200*
Purple Cross	*125*
Fidelity Mutual	*750*
	$5,850

(Alternately, five separate entries could be made.)

5. The journal entry to record the GST payment would be:

2020				
Jan. 15	GST Payable	238	1,100	
	Cash	101		1,100
	To record payments of GST owing at December 31, 2019.			

No payment would be made for corporate income taxes. There is an amount receivable of $965 from the government at December 31, 2019 represented by:

Instalments paid during the year	$11,000
Less 2019 corporate income tax expense	(10,035)
Overpayment of 2019 income taxes	$ 965

This amount will be refunded to Rockfish when its corporate income tax return is filed and assessed.

6. The estimated warranty liability at December 31, 2018 was $30,000. It is only $3,800 at December 31, 2019. Management should review this. It may be that the estimated warranty expense

of 3% of sales revenue is too low. Alternately, the amount of warranty claims in 2019 might have been abnormally high.

7. A note should disclose more information about the note payable, the mortgage payable, and the finance lease – due dates, intere`st rates, repayment terms, and any assets pledged as security.

   A note should also disclose the details of the contingent liability related to the outstanding lawsuit. This should include the likelihood of success (possible) and the estimated amount of the award.

   Significant accounting policies should also be stated. These include depreciation rates and estimated useful lives of plant and equipment, and estimates used to establish some liabilities. The estimated warranty expense rate (3% of sales) should be disclosed, for instance.

Summary of Chapter 9 Learning Objectives

LO1 – Identify and explain the difference between current and non-current liabilities.

A current or short-term liability is a form of debt that is expected to be paid within the longer of one year of the statement of financial position date or one operating cycle. A non-current liability is a form of debt that is expected to be paid beyond one year of the statement of financial position date or the next operating cycle, whichever is longer. Current and non-current liabilities must be shown separately on the statement of financial position.

LO2 – Record and disclose known current liabilities.

Known current liabilities are those where the payee, amount, and timing of payment are well-established and documented. Accounts payable and payroll liabilities are types of known current liabilities. Employers are responsible for withholding from employees amounts including Employment Insurance (EI), Canada Pension Plan (CPP), and income taxes, and then remitting the amounts to the appropriate authority. Sales tax like the Goods and Services Tax (GST) in Canada must be remitted to the government on a regular basis, often monthly or quarterly. Current notes payable may require interest to be accrued.

LO3 – Record and disclose estimated current liabilities.

An estimated liability occurs when amounts owing can be reasonably estimated, but the invoice has not yet been received at the date financial statements are issued, for example. Professional fees incurred to prepare year-end financial statements are an example. An estimated liability can also arise based on past experience of claims against the company. Warranty liabilities are an example. A contingent liability exists when it is possible but not probable that a debt will arise as a result of a past occurrence, or the event is probable but the amount cannot be reliably estimated. A contingent liability is disclosed in the notes to the financial statements. Events with a remote likelihood of occurrence are not disclosed or recorded.

LO4 – Explain, calculate, and record non-current debt.

A loan is a form of long-term debt that can be used by a corporation to finance its operations. Long-term loans can be secured and are typically obtained from a bank. Loans are often repaid over many years in equal blended payments containing both interest and principal. Finance leases are like loans in that they are generally repaid in equal blended payments over a number of years. However, payments are made to a leasing company (the lessor) for the right to use a long-lived asset owned by the leasing company. Unlike loans and finance leases, bonds pay only interest at regular intervals to bondholders. The original investment is repaid to bondholders when the bond matures (or comes due), usually after a number of years.

ASSIGNMENT MATERIALS

Concept Self-check

View Answers

1. What is the difference between a current and non-current liability?
2. What are some examples of current liabilities?
3. How are known current liabilities different from estimated current liabilities?
4. What are some examples of estimated current liabilities?
5. How is an estimated current liability different from a contingent liability?
6. How is a loan payable similar to a bond? How is it different?
7. How is a finance lease similar to a long-term loan from a bank? How is it different?

Comprehension Problems

CP 9–1

View Answer

The following unadjusted accounts are taken from the records of Brown Corp. at December 31, 2018:

Bank Loan	201	Interest Expense	632	Interest Payable	222
	12,000	200			100

Additional Information: The bank loan bears interest at 6% per year. It was obtained on April 1, 2018. Payment in full is due on March 31, 2019.

Required: Prepare the adjusting entry at December 31, 2018.

CP 9-2

View Answer

An extract from the trial balance of Selby Corp. at December 31, 2018 is reproduced below:

	Account	*Amount in unadjusted trial balance*	*Amount in adjusted trial balance*
a.	Accounts payable (re. supplies)	$ 60	$ 100
b.	Interest payable	-0-	100
c.	Unearned rent revenue	1,000	500

Required: Prepare in general journal format the adjusting entries that were posted, including plausible descriptions. General ledger account numbers are not necessary.

CP 9-3

View Answer

An extract from the trial balance of Paragon Corporation at December 31, 2018 is reproduced below:

		Amount in unadjusted trial balance	*Amount in adjusted trial balance*
a.	Salaries expense (re. J. Smith)	$50,000	$52,000
b.	Employee income taxes payable	-0-	500
c.	Employment insurance payable	1,000	96
d.	Government pension payable	-0-	160

Additional Information: Employees pay 2% of their gross salaries to the government employment insurance plan and 4% of gross salaries to the government pension plan. The company matches employees' government pension contributions 1 to 1, and employment insurance contributions 1.4 to 1.

Required:

1. Prepare the adjusting entry that was posted, including a plausible description.
2. Prepare the journal entries to record the payments on January 5, 2019 to employee J. Smith and the Government of Canada.

Provide descriptions for journal entries. General ledger account numbers are not necessary.

CP 9-4

View Answer

Smith Corporation purchases merchandize on account from a supplier on June 30, 2018 for $4,000 plus GST (5%). On July 5, merchandize is sold for $5,000 plus GST to Customer A on account. Assume that the perpetual inventory method is used.

Required:

1. Prepare the journal entry to record the $4,000 purchase from the supplier.
2. Prepare the journal entry to record the sale to Customer A.
3. Prepare the journal entry to record payment of GST on these two transactions to the Government of Canada on July 31.
4. How much GST expense will Smith Corporation report on its income statement for these two transactions?

Descriptions and general ledger account numbers are not necessary for journal entries.

CP 9-5

View Answer

Paul's Roofing Corporation paid monthly corporate income tax instalments of $500 commencing February 15, 2018. The company's income before income taxes for the year ended December 31, 2018 was $15,000. The corporate income tax rate is 40%. Paul's Roofing paid the 2018 corporate income taxes owing on January 31, 2019.

Required:

1. Record the February 15, 2018 payment.
2. Record the 2018 corporate income tax expense.
3. Record the January 31, 2019 payment.

Descriptions and general ledger account numbers are not necessary. Show calculations where applicable.

CP 9-6

View Answer

On November 1, 2018 Branch Corporation converted a $10,000 account payable owing to Tree Corp. to a note payable bearing interest at 10% per year due on January 31, 2019.

Required:

1. Record the November 1, 2018 transaction in the records of Branch.
2. Record the adjusting entry needed on December 31, 2018.
3. Record the journal entry for the January 31 payment.
4. Record the above journal entries in the records of Tree Corp.

Provide descriptions for journal entries. General ledger account numbers are not necessary.

CP 9-7

View Answer

Zebra Corp. commenced operations on January 1, 2018. It estimates warranty expense as 1% of yearly sales. During June 2018 it satisfied warranty claims as follows:

Parts from inventory	$2,000
Salaries paid in cash	500

The 2018 warranty claims amounted to $22,000 (including the entry above) and 2018 sales revenue was $2 million.

Required:

1. Record the June warranty claims of $2,500.
2. Record the 2018 warranty expense.
3. Calculate the balance in the estimated warranty liability account at December 31, 2018. Comment on your calculations.

Descriptions and general ledger account numbers are not necessary. Show calculations where applicable.

CP 9-8

View Answer

ClaimsRUs Corp. is the defendant in three lawsuits:

Claim 1: It is possible that the lawsuit will be successful. Damages are estimated at $1.5 million.

Claim 2: It is probable that this lawsuit will be successful. Damages cannot be reasonably estimated as yet.

Claim 3: It is probable that this lawsuit will be successful. Damages are estimated at $1 million.

Required: Identify the accounting treatment for each claim**.**

CP 9-9

View Answer

Rosedale Corp. obtained a $50,000 loan from Second Capital Bank on January 1, 2021. It purchased a piece of heavy equipment for $48,000 on the same day. The loan bears interest at 6% per year on the unpaid balance and is repayable in three annual blended payments of $18,705 on December 31 each year.

Required:

1. Prepare the journal entries to record the following transactions:
   a. Receipt of loan proceeds from the bank
   b. Purchase of the equipment.
2. Prepare the loan repayment schedule.
3. Prepare the journal entry to record the first loan payment.

Provide descriptions for journal entries. General ledger account numbers are not necessary.

CP 9-10

View Answer

Day Corp. entered into a finance lease agreement with Night Leasing Ltd. on January 1, 2018. Day Corp. agreed to pay Night annual payments of $24,154 on December 31 for the next four years to lease a vehicle with a fair value of $80,000. The interest rate implicit in the lease agreement was 8%.

Required:

1. Prepare the journal entries to record the assumption of the lease on January 1, 2018.
2. Prepare the lease repayment schedule.
3. Prepare the partial statement of financial position of Day Corp. at December 31, 2018. Assume the first lease payment has been made.

Provide descriptions for journal entries. General ledger account numbers are not necessary.

Problems

P 9–1

Latex Paint Corporation started operations on January 1, 2018. It had the following transactions during the year.

View Answer

a. Jan 1 Issued $20,000 share capital to the shareholders in return for cash.

b. Jan 1 Obtained a bank loan totalling $30,000. The interest rate is 4%. The loan will be repaid in one year.

c. Jan. 2 Purchased merchandize on account from a supplier for $20,000 plus GST (5%).

d. Jan. 8 Sold $8,000 of paint to a customer on credit and added GST. Cost of the pain sold was $3,000. Latex uses the perpetual inventory method.

e. Jan 15 Paid an employee J. Jones $1,560 cash for January 1-15 salary, calculated as follows:

	Deductions				
Gross pay	*Income taxes*	*Employ. insur.*	*Gov't pension*	*Total deduct.*	*Net pay*
2,000	300	40	100	440	1,560

The company's portion of contributions is:

Employment insurance	1.4 times
Government pension	1 time

f. Unrecorded liabilities at January 31 include:
   i. Salaries payable to J. Jones for January 16-31, amounting to $1,560 (net). Employer contributions are as shown in e. above.
   ii. Corporate income taxes amounting to 20% of income before income taxes.

Required:
1. Prepare journal entries to record the above transactions. Show necessary calculations.
2. Prepare all adjusting entries needed at January 31, 2018. Show necessary calculations.
3. Calculate total current liabilities at January 31, 2018.

Descriptions and general ledger account numbers are not necessary.

P 9–2

Refer to P 9-1.

View Answer

Required:
1. Post all entries to general ledger T-accounts.
2. Prepare a classified income statement and statement of changes in equity for the month ended January 31, 2018 and a classified statement of financial position at January 31. Consider salaries and benefits to be selling expenses**.**

P 9-3

View Answer

The following unadjusted trial balance has been taken from the records of Mudryk Wholesalers Corp. at December 31, 2018:

No.	*Account*	*Unadjusted TB*		*Adjustments*		*Adjusted TB*	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	12,000					
110	Accounts receivable	30,000					
150	Merch. inventory	70,000					
151	Parts inventory	10,000					
210	Accounts payable		40,000				
212	Est. current liab.		-0-				
213	Est. warranty liab.	3,000					
226	Salaries payable		-0-				
227	Emp'ee inc. tax pay.		-0-				
228	Emp. insur. pay.		-0-				
229	Gov't pension pay.		-0-				
230	Co. health ins. pay.		-0-				
238	GST payable		1,000				
248	Unearn. rent rev.		-0-				
260	Corp. inc. tax pay.		-0-				
320	Share capital		100				
340	Retained earnings		3,000				
440	Rent earned		13,000				
500	Sales		791,900				
570	Cost of goods sold	263,500					
653	Professional fees	-0-					
656	Salaries expense	400,000					
658	Gov't emp. insur. ex.	8,000					
659	Gov't pension exp.	20,000					
660	Co. health insur. exp.	12,000					
678	Warranty exp.	4,000					
830	Corp. inc. tax exp.	16,500					
		849,000	849,000				

The following additional information is available at the year-end. GST of 5% only applies when indicated.

a. The company has sublet space in its leased facilities to another company for $1,000 per month since January 1.

b. A review of warranty claims indicates that the following amounts have been incorrectly recorded in income statement general ledger accounts:

Cost of goods sold	$500
Salaries expense	$100

c. A $4,000 purchase of parts inventory on account plus GST has not been recorded.

d. Warranty expense for the year is estimated at 1% of sales.

e. Unpaid gross salaries amount to $5,000. Deductions from gross pay are as follows:

Employee income taxes	15%
Government employment insurance	2%
Government pension	5%
Company health insurance	3%

The company matches employee contributions to the employment insurance, government pension, and company health insurance plans on a 1 to 1 basis.

f. Audit fees are estimated to be $8,000.

g. The corporate income tax rate is 25% of income before income taxes. Corporate income tax instalments during the year have been recorded as income taxes expense in the records.

Required:

1. Prepare necessary adjusting entries at December 31, 2018. Include descriptions and general ledger account numbers, and calculations if necessary.
2. Post the entries to the worksheet and prepare an adjusted trial balance.
3. Prepare a classified income statement and statement of changes in equity for the year ended December 31, and a classified statement of financial position at December 31. Consider salary, benefits, and warranty expenses to be selling expenses. No shares were issued during the year.

P 9-4

View Answer

Zinc Corp. obtained a $100,000 loan from First Capital Bank on December 31, 2018. It purchased a piece of heavy equipment for $95,000 on January 2, 2019. The loan bears interest at 8% per year on the unpaid balance and is repayable in four annual blended payments of $30,192 on December 31 each year, starting in 2019.

Required:

1. Prepare the journal entries to record the following transactions:
   a. Receipt of loan proceeds from the bank
   b. Purchase of the equipment.
2. Prepare the loan repayment schedule in the following format:

Zinc Corp.
Loan Repayment Schedule

	A	*B*	*C*	*D*	*E*
			(D – B)		*(A – C)*
Year ended Dec. 31	*Beginning loan balance*	*Interest expense*	*Reduction of loan payable*	*Total loan payment*	*Ending loan balance*
2019					
2020					
2021					
2022					

3. Prepare the journal entry to record the last loan payment.
4. Prepare a partial statement of financial position showing the loan liability at December 31, 2020.

P 9-5

View Answer

East Corp. entered into a finance lease agreement with West Leasing Ltd. on April 1, 2018. East Corp. agreed to pay West an initial payment of $10,000 on that date and annual payments of $71,081 on March 31 for the next three years to lease a piece of equipment with a fair value of $200,000. The interest rate implicit in the lease agreement was 6%.

Required:

1. Prepare the journal entry to record the purchase of the equipment and assumption of the lease on April 1, 2018.
2. Prepare the lease repayment schedule as follows:

East Corp.
Lease Repayment Schedule

	A	*B*	*C*	*D*	*E*
Year ended Dec. 31	*Beginning lease balance*	*(A x 6%) interest expense*	*(D – B) Reduction of finance lease*	*Total lease payment*	*(A – C) Ending lease balance*
2019					
2020					
2021					

3. Prepare the partial statement of financial position of East Corp. at December 31, 2020 showing the finance lease balance assuming the December 31 lease payment has been made.

CHAPTER TEN

Debt Financing: Bonds

A corporation often incurs long-term debt in order to finance the acquisition of property, plant, and equipment or other capital assets. This debt may take the form of a bond issue, a bank loan, or a finance lease. Bank loans and finance leases were covered in Chapter 9. This chapter discusses in more detail the means to finance operations by issuing bonds.

Chapter 10 Learning Objectives

LO1 – Describe the nature of bonds and the rights of bondholders.

LO2 – Describe how bonds, premiums and discounts are recorded in the accounting records and disclosed on the statement of financial position.

LO3 – Describe and calculate how bond premiums and discounts are amortized.

LO4 – (Appendices) Describe and calculate the effective interest method of amortization and explain how this differs from the straight-line amortization method.

A. The Nature of Bonds and the Rights of Bondholders

LO1 – Describe the nature of bonds and the rights of bondholders.

A *bond* is a debt instrument generally issued to many investors that requires future repayment of the original amount at a fixed date, as well as periodic interest payments during the intervening period. A contract called a **bond indenture** is prepared between the corporation and the future bondholders. It specifies the terms with which the corporation will comply, such as how much interest will be paid and when. Another of these terms may be a restriction on further borrowing by the corporation in the future. A **trustee** is appointed to be an intermediary between the corporation and the bondholder. The trustee administers the terms of the indenture.

Ownership of a bond certificate carries with it certain rights. These rights are printed on the actual certificate and vary among bond issues. Individual bondholders always acquire two rights.

The right to receive the face value of the bond at a specified date in the future, called the **maturity date**, and

The right to receive periodic interest payments, usually semi-annually, at a specified percent of the bond's face value.

Every corporation is legally required to follow a well-defined sequence in **authorizing** a bond issue. The bond issue is presented to the board of directors by management and must be approved by shareholders. Legal requirements must be followed and disclosure is required in the financial statements of the corporation.

Shareholder approval is an important step because bondholders are creditors with a prior claim on the assets of the corporation if liquidation occurs. Further, dividend distributions may be restricted during the life of the bonds. Affected shareholders usually need to approve this. These restrictions are reported to the reader of financial statements through note disclosure.

There are as well several additional considerations related to the decision to issue bonds.

Cash Required in the Immediate and the Foreseeable Future

Most bond issues are sold in their entirety when market conditions are favourable. However, more bonds can be authorized in a particular bond issue than will be immediately sold. Authorized bonds, like authorized share capital, can be issued whenever cash is required.

Important Terms of the Bonds

The interest rate of the bonds, their maturity date, and other important provisions — such as convertibility into share capital and restrictions on future dividend distributions of the corporation — are also considered. The success of a bond issue often depends on the proper combination of these and other similar features.

Assets of the Corporation to Be Pledged

Whether long-lived assets like property, plant, and equipment are pledged as security is an important consideration for bondholders because it helps to safeguard their investments. It is important to the corporation because the pledging of all these assets may restrict future borrowings. The total amount of authorized bonds is usually a fraction of the pledged assets, for example, 50%. The difference represents a margin of safety to bondholders. The value of these assets can shrink substantially but still permit reimbursement of bondholders should the company be unable to pay the bond interest or principal, and need to sell the pledged assets.

Bond Characteristics and Terminology

There are three main categories of bond terms. These are shown in Figure 10–1.

BOND TERMS

Terms relating to different types of bonds:	Terms relating to special features of corporate bonds:	The amount printed on the bond certificate:
Secured bonds (Mortgage bonds)	Serial bonds	Face (or par) value
Unsecured bonds (Debentures)	Callable bonds	
Registered bonds	Convertible bonds	
Bearer bonds	Sinking fund bonds	

Figure 10–1: Bond Terms

Each corporation issuing bonds has unique financing needs and attempts to satisfy various borrowing situations and investor preferences. Many types of bonds have been created to meet these varying needs. Some of the common types are described below.

Secured bonds are backed by physical assets of the corporation. These are usually long-lived assets. When real property is legally pledged as security for the bonds, they are called **mortgage bonds**.

Unsecured bonds are commonly referred to as **debentures**. A debenture is a formal document stating that a company is liable to pay a specified amount with interest. The debt is not backed by any collateral. As such, debentures are usually only issued by large, well-established companies. Debenture holders are ordinary creditors of the corporation. These bonds usually command a higher interest rate because of the added risk for investors.

Registered bonds require the name and address of the owner to be recorded by the corporation or its trustee. The title to **bearer bonds** passes on delivery of the bonds to new owners and is not tracked. Payment of interest is made when the bearer clips coupons attached to the bond and presents these for payment.

Special features can be attached to bonds in order to make them more attractive to investors.

When **serial bonds** are issued, the bonds have differing maturity dates, as indicated on the bond contract. Investors are able to choose bonds with a term that agrees with their investment plans. For example, in a $30 million serial bond issue, $10 million worth of the bonds may mature each year for three years.

The issue of bonds with a **call provision** permits the issuing corporation to redeem, or call, the bonds before their maturity date. The bond indenture usually indicates the price at which bonds are callable. Corporate bond issuers are thereby protected in the event that market interest rates decline below the bond contract interest rate. The higher interest rate bonds can be called to be replaced by bonds bearing a lower interest rate.

Some bonds allow the bondholder to exchange bonds for a specified type and amount of the corporation's share capital. Bonds with this feature are called **convertible bonds**. This feature permits bondholders to enjoy the security of being creditors while having the option to become shareholders if the corporation is successful.

When **sinking fund bonds** are issued, the corporation is required to deposit funds at regular intervals with a trustee. This feature ensures the availability of adequate cash for the redemption of the bonds at maturity. The fund is called "sinking" because the transferred assets are tied up or "sunk," and cannot be used for any purpose other than the redemption of the bonds.

The corporation issuing bonds may be required to restrict its Retained Earnings, thereby limiting the amount of dividends that can be paid and protecting bondholders..

Investors consider the interest rates of bonds as well as the quality of the assets, if any, that are pledged as security. The other provisions in a bond contract are of limited or no value if the issuing corporation is in financial difficulties. A corporation in such difficulties may not be able to sell its bonds, regardless of the attractive provisions attached to them.

Each bond has an amount printed on the face of the bond certificate. This is called the **face value** of the bond; it is also commonly referred to as the **par-value** of the bond. When the cash received is the same as a bond's face value, the bond is said to be issued at *par.* A common face value of bonds is $1,000, although bonds of other denominations exist. A $30 million bond issue can be divided into 30,000 bonds, for example. This permits a large number of individuals and institutions to participate in corporate financing.

B. The Bond Accounting Process

LO2 – Describe how bonds, premiums and discounts are recorded in the accounting records and disclosed on the statement of financial position.

Assume that Big Dog Carworks Corp. decides to issue $30 million of 7% bonds to finance its expansion. The bonds are repayable three years from the date of issue, January 1, 2017. The amount of authorized bonds, their interest rate, and their maturity date can be shown in the general ledger as follows:

GENERAL LEDGER

Bonds Payable – Long-term Acct. No. 272

Date 2017		Description	Folio	Debit	Credit		Balance
Jan.	1	Memorandum: Authorized to issue $30M of 7%, 3 yr. bonds, due Jan. 1, 2020.					

If the bonds are also sold at face value the same day, the journal entry is straight forward:

2017			
Jan. 1	Cash	30,000,000	
	Bonds Payable, 7%		30,000,000
	To record the issue of 7% bonds at par.		

Although different bond issues may be combined and disclosed on the statement of financial position as one amount, the characteristics of each bond issue are disclosed in a note the financial statements. This includes the interest rate and maturity date of the bond issue. Also disclosed in a note are any restrictions imposed on the corporation's activities by the terms of the bond indenture and the assets pledged, if any.

If interest is paid once a year on December 31, the 2017 entry would be:

2017			
Dec. 31	Bond Interest Expense	2,100,000	
	Bonds Payable, 7%		2,100,000
	To record 2017 interest expense on bonds ($30M x 7% - $2.1M).		

The partial statement of financial position of BDCC at December 31, 2017 would show:

Liabilities	
Non-current	
Bonds payable, 7% (Note X)	30,000,000

Note X could state:

On January 1, 2017 the corporation was authorized to issue $30M of bonds. The terms of the bond indenture are administered by a trustee, Fidelity Mutual. The bonds bear interest at 7% per year on the face value. Interest is paid on December 31 of each year. The bonds are secured by a mortgage on some of the corporation’s properties. The bonds are non-convertible and non-callable. Dividends may not be paid to shareholders until bond interest has been paid to bondholders. The corporation issued the entire bond issue at face value on January 1, 2017.

Premiums and Discounts

A bond is sold at a **premium** when it is sold for more than its face value. This usually results when the bond interest rate is higher than the market interest rate at the date of issue.

For instance, assume Big Dog Carworks Corp. issues a bond on January 1, 2017 with a face value of $1,000, a maturity date of one year, and a stated interest rate of 8% per year, at a time when bonds with similar terms, features, and risk are earning only a 7% return. Potential investors will bid up the bond price on the bond market to the point at which the price paid will equal the interest and return of the original investment at the end of the year as if the bond actually yielded 7%. This works out to about $1,009 because an investor who buys the 8% bonds will receive $80 ($1,000 x 8%) interest plus the original $1,000 investment back at December 31, 2017, for a total of $1,080. The amount that would need to be invested at the market rate of 7% to return back $1,080 at the end of one year would be about $1,009 ($1,080/1.07). The price of the 8% bond will be bid up to this price.

The difference between the selling price of the bond ($1,009) and the face value ($1,000) is the premium of $9. The journal entry to record the sale of the bond is:

2017			
Jan. 1	Cash	1,000	
	Premium on Bonds Payable		9
	Bonds Payable, 8%		1,000
	To record the issue of 8% bonds at a premium.		

Because the bonds mature in one year, the $9 amount is added to the value of the bonds and recorded in the current liabilities section of the statement of financial position. The net amount is referred to as the **bond carrying amount.** The statement of financial position just before the bond redemption would show:

Liabilities	
Current	
Bonds payable, 8%	1,000
Premium on bonds	9
Carrying amount	1,009

On December 31, 2017, the interest expense of $80 is paid, the bond matures, bondholders are repaid, and the premium is written off as a reduction of interest expense.

These three journal entries would be made:

2017			
Dec. 31	Interest Expense	80	
	Cash		80
	To record interest on bonds.		
Dec. 31	Bonds Payable, 8%	1,000	
	Cash		1,000
	To record retirement of 8% bonds.		
Dec. 31	Premium on Bonds Payable	9	
	Interest Expense		9
	To record write-off of premium on bonds.		

Note that the interest expense recorded on the income statement would be $71 ($80 – 9) or about 7% (rounded). This is equal to the market rate of interest at the time of bond issue.

If the bond is sold for less than $1,000, then the bond has been sold at a **discount**. This usually results when the bond interest rate is lower than the market interest rate.

Assume now that the same $1,000, one-year, 8% bond is issued by BDCC. If similar bonds are earning a return of 9% at the date of issue, the selling price of the bond will fall on the market until the point at which the amount of interest to be paid at the end of 2017 ($80) plus the original $1,000 investment produces a return of 9% to the bonds' purchasers. This selling amount will be about $991 ($1,080/1.09). The difference between the face value of the bond ($1,000) and the selling price of the bond ($991) is $9. This is the *discount*.

The journal entry to record the transaction on January 1, 2017 is:

2017			
Jan. 1	Cash	991	
	Discount on Bonds Payable	9	
	Bonds Payable		1,000
	To record issue of 8% bonds at a discount.		

The $9 amount is a contra liability account and is *deducted* from to the value of the bonds recorded in the current liabilities section of the statement of financial position just before the bond redemption would show:

Liabilities	
Current	
Bonds payable, 8%	1,000
Discount on bonds	(9)
Carrying amount	991

These three journal entries would be made on December 31, 2017:

2017			
Dec. 31	Interest Expense	80	
	Cash		80
	To record interest on bonds.		
Dec. 31	Bonds Payable, 8%	1,000	
	Cash		1,000
	To record retirement of 8% bonds.		
Dec. 31	Interest Expense	9	
	Discount on Bonds Payable		9
	To record write-off of discount on bonds.		

The interest expense recorded on the income statement would be $89 ($80 + 9) or about 9% (rounded). This is equal to the market rate of interest at the time of bond issue.

These are simplified examples, and the amounts of bond premiums and discounts are insignificant. In reality, bonds may be issued part-way through a fiscal year and may be outstanding for a number of years. Related premiums and discounts can be significant when millions of dollars of bonds are issued and these amounts need to be reduced systematically over the life of a bond issue. Accounting for these considerations is discussed below.

C. Bond Amortization and Interest

LO3 – Describe and calculate how bond premiums and discounts are amortized.

The mechanisms whereby the market establishes a price for a bond issue are complex. Some of the considerations include *present value* calculations. These are explained further in appendix 1.

In order to focus on the accounting process associated with bonds covered in this section, any applicable premiums or discounts will be provided, and a simplified method of **amortizing** the bond premium or discount presented. Under GAAP, the *effective interest* method of amortizing bond premiums and discounts must be used. This technique is discussed in appendix 2.

In this section, assume the following three scenarios:

1. Big Dog Carworks Corp. issues $100,000 of 3-year, 12% bonds on January 1, 2017. Market value is the same as face value ($100,000). The journal entry to record the sale would be:

2017			
Jan. 1	Cash	100,000	
	Bonds Payable, 12%		100,000
	To record sale of 12% bonds at par.		

2. BDCC's bonds are issued at a premium because the market rate of interest is 8% at the date of issue for similar bonds offered in the market. (The difference between the 12% rate on the BDCC bonds and the market rate of 8% is exaggerated for purposes of illustration. In reality, these differences are generally fractions of a%.) As a result, market value is $110,485. The premium is $10,485 ($110,845 – 100,000). The journal entry to record the sale would be:

2017			
Jan. 1	Cash	110,845	
	Premium on Bonds Payable		10,485
	Bonds Payable, 12%		100,000
	To record sale of 12% bonds at a premium.		

3. BDCC's bonds are issued at a discount. Market value is $90,754 because the market rate of interest is 16%. The discount is $9,246 ($100,000 – 90,754). The journal entry to record the sale on would be:

2017			
Jan. 1	Cash	90,754	
	Discount on Bonds Payable	9,246	
	Bonds Payable, 12%		100,000
	To record sale of 12% bonds at a discount.		

Interest begins to accumulate from the previous interest payment date of the bond and is usually paid semi-annually regardless of when the bond is actually sold. Interest paid to bondholders is always calculated based on the face value of the bond, regardless of whether the bonds are issued at par, at a premium, or at a discount. BDCC's $100,000 bond issue with an interest rate of 12% pays $12,000 interest each year. This interest is usually paid semi-annually, that is, individual bondholders would receive $6,000 every six months.

As noted previously, any premium or discount is assumed to be amortized over the life of the bond in equal amounts. An entry is made at each point interest is paid. BDCC's bonds are issued for three years and interest will be paid twice each year, on June 30 and December 31 for a total of six payment dates. For our purposes, the premium or discount will be amortized on a straight-line basis over these six periods, in the following amounts:

Premium: ($10,485/6)	$1,747 (rounded)
Discount ($9,246/6)	$1,541

The journal entries to record interest payments for the first year of BDCC's $100,000 bond issue, together with the appropriate amortization entry, are recorded below.

2017			
Jun. 30	Interest Expense	6,000	
	Cash		6,000
	To record payment of semi-annual interest ($100,000 x 12% x 6/12 mos.)		
Dec. 31	Interest Expense	6,000	
	Cash		6,000
	To record payment of semi-annual interest ($100,000 x 12% x 6/12 mos.)		

The additional adjusting entries to record the 2017 amortization of the bond premium under scenario 2 are:

2017			
Jun. 30	Bond Premium	1,747	
	Interest Expense		1,747
	To record amortization of bond premium ($10,485/6 periods)		
Dec. 31	Bond Premium	1,747	
	Interest Expense		1,747
	To record amortization of bond premium ($10,485/6 periods)		

The additional adjusting entries to record the 2017 amortization of the bond discount under scenario 3 are:

2017			
Jun. 30	Interest Expense	1,541	
	Bond Discount		1,541
	To record amortization of bond discount ($9,246/6 periods)		
Dec. 31	Interest Expense	1,541	
	Bond Discount		1,541
	To record amortization of bond discount ($9,246/6 periods)		

Similar entries are made each June 30 and December 31 until the bonds are retired in three years. At maturity on December 31, 2019, the bonds are retired by the payment of cash to bondholders.

The usual entries would be made to record the payment of semi-annual interest and amortization of the premium or discount, as well as this final entry:

2019			
Dec. 31	Bonds Payable, 12%	100,000	
	Cash		100,000
	To record retirement of 12% bonds.		

The bonds payable would be recorded as non-current liabilities at December 31, 2017. The statement of financial position presentation under each of the three scenarios would be:

Scenario 1		*Scenario 2*		*Scenario 3*	
Non-current liabilities		*Non-current liabilities*		*Non-current liabilities*	
Bonds payable	$100,000	Bonds payable	$100,000	Bonds payable	$100,000
		Premium on bonds payable	6,991[1]	Discount on bonds payable	(6,164)[2]
		Carrying amount	106,991	Carrying amount	93,836

[1] ($10,485 – 1,747 – 1,747) = $6,990

[2] ($9,246 - 1,541 - 1,541) = $6,164

Alternately, just carrying amounts could be shown on the statement of financial position. If so, details about face value and unamortized premiums or discounts would be disclosed in a note to the financial statements along with other pertinent details like interest rate, maturity date, and bond indenture provisions.

The bonds mature on December 31, 2019. When the bonds become payable within one year from the statement of financial position date, they are classified as current liabilities. This would be done on the December 31, 2018 BDCC statement of financial position, along with any unamortized premium or discount.

Amortization

The effect of amortizing a premium is to reduce interest expense (note the credit to interest expense in the middle journal entry above). This is appropriate, because the market rate of interest was lower than the face value of the bonds actually issued in scenario 2 above (8% vs. 12%).

Amortizing a discount increases interest expense (note the debit to interest expense in the right-hand entry above). This is also appropriate, because in scenario 3 the market rate of interest was higher than the face value of the bonds (16% vs. 12%).

The effect of amortizing a premium or discount is to gradually change the carrying amount of the bonds to the retirement (face) value of the bonds. At retirement, carrying amount is equal to face value under each scenario, as shown in Figure 10–2 below.

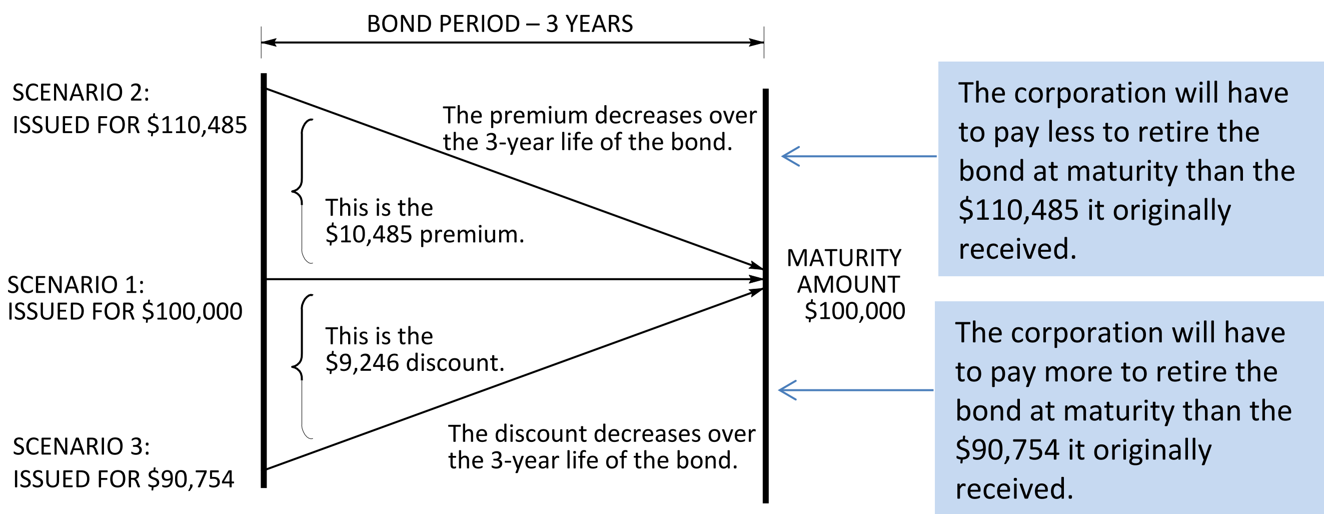


Figure 10–2 Straight-line Amortization of Bond Premium or Discount Over the Life of the Bond Issue

The combined effect on interest expense and carrying amount of issuing the bonds at a premium and amortizing this premium over the life of the bonds is shown in Figure 10–3 below:

Issue of $100,000 Bonds Payable for $110,485
Amortization Table

		A	B	C	D	E
Year	Six-month period ending	Beginning bond carrying amount	Cash interest paid	Periodic premium amortization	(B – C) Periodic interest expense	(A - C) Ending bond carrying value
2017	Jun. 30	$110,485.00	$ 6,000.00	$ 1,747.50	$ 4,252.50	$108,737.50
	Dec. 31	108,737.50	6,000.00	1,747.50	4,252.50	106,990.00
2018	Jun. 30	106,999.00	6,000.00	1,747.50	4,252.50	105,242.50

	Dec. 31	105,242.50	6,000.00	1,747.50	4,252.50	103,495.00
2019	Jun. 30	103,495.00	6,000.00	1,747.50	4,252.50	101,747.50
	Dec. 31	101,747.50	6,000.00	1,747.50	4,252.50	100,000.00
			$36,000.00	$10,485.00	$25,515.00	

The interest expense on the income statement will be decreased by the amount of the premium amortization.

Figure 10–3 Effect of Straight-line Amortization of Bond Premium at Each Interest Payment Date

The similar combined effect of a discount is shown in Figure 10–4:

Issue of $100,000 Bonds Payable for $90,754
Amortization Table

		A	B	C	D	E
Year	Six-month period ending	Beginning bond carrying amount	Cash interest paid	Periodic discount amortization	(B – C) Periodic interest expense	(A - C) Ending bond carrying value
2017	Jun. 30	$90,754	$ 6,000	$ 1,541	$ 7,541	$92,295
	Dec. 31	92,295	6,000	1,541	7,541	93,836
2018	Jun. 30	93,836	6,000	1,541	7,541	95,377
	Dec. 31	95,377	6,000	1,541	7,541	96,918
2019	Jun. 30	96,918	6,000	1,541	7,541	98,459
	Dec. 31	98,459	6,000	1,541	7,541	100,000
			$36,000	$9,246	$45,246	

The interest expense on the income statement will be increased by the amount of the discount amortization.

Figure 10–4 Effect of Straight-line Amortization of Bond Discount at Each Interest Payment Date

In the case of bonds issued at a discount, the interest rate consists of the 12% bond rate plus the amortized bond discount. The expense reported on the income statement is higher than the cash interest paid. Thus, whenever a corporation sells a bond for less than its face value, its total cost of borrowing is increased because of discount amortization.

Bond Redemption

A bond issue can also be retired in whole, or in part, before its maturity date. As discussed above, there are several different possibilities:

1. The bonds can be repurchased on the open market if the purchase is financially advantageous to the issuer.
2. A **call provision** is sometimes included in a bond indenture permitting early redemption at a specified price, usually higher than face value. The issuer may decide to exercise this call provision if it is financially advantageous.
3. The bondholder may be able to exercise a **conversion provision** if one was provided for in the bond indenture; in this case, the bonds can be converted into specified shares at the option of the bondholder.

Whenever bonds are retired before their maturity date, the amount payable to bondholders is the face amount of the bonds or the amount required by the call provision. Any unamortized premium or discount must be removed from the accounts. The accounting required for BDCC's January 1, 2017 issue of $100,000, 12% bonds has been illustrated. Suppose that ½, or $50,000 of face value bonds, are redeemed for cash at 102 (that is, for $50,000 x 102% = $51,000) on December 31, 2017, when the account balances are as follows:

2017	Bonds Payable (Dr.)	Bonds Payable (Cr.)	Premium on Bonds (Dr.)	Premium on Bonds (Cr.)	
Jan. 1		100,000		10,485.00	
Jun. 30			1,747.50		
Dec. 31			1,747.50		
				6,990.00	Bal.

Since $50,000 of the bonds is redeemed, only half of the $6,990 premium balance ($3,495) is removed from the accounting records. The journal entry would be:

2017

Dec. 31	Bonds Payable, 12%	50,000	
	Premium on Bonds	3,495	
	Cash		51,000
	Gain on Retirement		2,495
	To record retirement of 12% bonds at 102 ($50,000 x 1.02 = $51,000).		

In this case, retirement results in a gain.

Under different market conditions, a loss may result. If ½ of the outstanding bonds are redeemed at 97, cash of $48,500 would be received ($50,000 x 97%) and this journal entry would be recorded:

2017			
Dec. 31	Bonds Payable, 12%	50,000	
	Premium on Bonds	3,495	
	Loss on Retirement	4,995	
	Cash		48,500
	To record retirement of 12% bonds at 97.		

The BDCC retirement occurred on an interest payment date, December 31, 2020. If the retirement had occurred between interest payment dates, accrued interest also would be paid to the bondholders (this will be covered below) and the proportionate write-off of the remaining premium or discount would be recorded at that date.

Sale of Bonds between Interest Dates

Not all bonds are issued on the date when interest begins to accumulate. For example, consider the sale of an additional $50,000 of 12% BDCC bonds on April 1, 2017. Interest began to accumulate on January 1 per the terms of the bond indenture and, regardless of the date on which the bonds were issued, a six-month interest payment is made to the bondholders on June 30. This $3,000 payment ($50,000 x 12% x 6/12 mos.) is owing to the bondholders even though the bond has been issued for only three months, from April 1 to June 30.

If the bond is sold between interest dates, the purchaser pays the accrued interest to the issuer at the date of purchase. The purchaser will get the full six months of interest in cash on June 30, having only held the bonds for three months. In this case, $1,500 of interest has accrued on the bond from January 1 to April 1 ($50,000 x 12% x 3/12 mos.). Assuming the bonds are issued at par, the purchasers would pay a total of $51,500. The corporation would record the bond issue as follows:

2017			
Apr. 1	Cash	51,500	
	Bond Interest Payable		1,500
	Bond Payable		50,000
	To record issue of 12% bonds at par on April 1.		

The regular semi-annual interest payment on the $100,000 of issued bonds is then made on June 30. It is recorded as follows:

2017			
Jun. 30	Bond Interest Expense	4,500	
	Bond Interest Payable	1,500	
	Cash		6,000
	To record payment of interest on 12% bonds outstanding ($100,000 x 12% x 6/12 mos. = $6,000).		

In this way, interest expense is recorded on $50,000 of the bonds for three months ($50,000 x 12% x 3/12 mos. = $1,500) and for the remaining $50,000 of bonds for six months ($50,000 x 12% x 6/12 mos. = $3,000), for a total of $4,500.

If the bond has interest payment dates that do not coincide with the year-end of the issuing corporation, an adjusting journal entry is required at year-end to record interest owing at that date. Assume a corporation issued $200,000, 6% bonds on October 1, 2017 that pay interest semi-annually on April 1 and September 30. If it has a December 31 year-end, the following entry would be made at that date:

2017			
Dec. 31	Bond Interest Expense	2,000	
	Bond Interest Payable		2,000
	To accrue interest on 6% bonds issued October 1 ($200,000 x 6% x 2/12 mos. = $2,000).		

When the semi-annual payment is made on April 1 of the next year, this entry is made:

2018			
Apr. 30	Bond Interest Expense	4,000	
	Bond Interest Payable	2,000	
	Cash		6,000
	To record semi-annual interest payment on 6% bonds ($200,000 x 6% x 6/12 mos. = $6,000).		

Amortizing Premiums and Discounts on Bonds Sold Between Interest Dates

If bonds are sold between interest payment dates, it is also necessary to calculate the number of months remaining in the life of the bonds at the date the bonds are sold to record the amortization of premiums or discounts. Recall our original example. $100,000 of 12% bonds was sold on January 1, 2017; in one scenario, a bond premium of $10,485 resulted; in the other scenario, a bond discount of $9,246 resulted. Now assume the bonds were issued on April 1 instead of January 1. The amortization at June 30 would be calculated as follows:

Amortization of premium:

Premium is	$10,485(a)
Months left are	33(b)
Months amortized to date	3(c)

Calculation of amortization April 1 to June 30:
(a/b) x c
($10,485/33) x 3 mos. = $953 (rounded)
Every six months thereafter:
($10,485/33) x 6 mos. = $1,906

Amortization of discount:

Discount is	$9,246(a)
Months left are	33(b)
Months amortized to date	3(c)

Calculation of amortization April 1 to June 30:
(a/b) x c
($9,246/33) x 3 = $840 (rounded)
Every six months thereafter:
($9,246/33) x 6 mos. = $1,681

Appendix 1: Present Value Calculations

LO4 – Describe and calculate the effective interest method of amortization and explain how this differs from the straight-line amortization method.

Interest is the time value of money. If you borrow $1 today for one year at 10% interest, its future value in one year is $1.10 ($1 x 110% = $1.10). The increase of 10 cents results from the interest on $1 for the year. Conversely, if you are to pay $1.10 one year from today, the **present value** is $1 – the amount you would need to invest today at 10% to receive $1.10 in one year's time ($1.10/110% = $1). The exclusion of applicable interest in calculating present value is referred to as **discounting**.

If the above $1.10 amount at the end of the first year is invested for an additional year at 10% interest, its future value would be $1.21 ($1.10 x 110%). This consists of the original $1 investment, $.10 interest earned in the first year, and $.11 interest earned during the second year. Note that the second year's interest is earned on both the original $1 and on the 10 cents interest earned during the first year. This increase provides an example of **compound interest** – interest earned on interest.

The following formula can be used to calculate this:

$$F = P \times (1+i)^n$$

where F = future value, P = present value, i = the interest rate, and n = number of periods.

Substituting the values of our example, the calculation would be, F = $1[(1 + .1)^2]$, or $1.21.

If the **future value** of today's $1 at 10% interest compounded annually amounts to $1.21 at the end of 2 years, the present value of $1.21 to be paid in 2 years, discounted at 10%, is $1. The formula to calculate this is just the inverse of the formula shown above, or

$$P = \frac{F}{(1 + i)^n}$$

Substituting the values of our example,

$$P = \frac{\$1.21}{(1 + .1)^2} = \$1$$

That is, the present value of $1.21 received two years in the future is $1. The present value is always less than the future value, since an amount received today can be invested to earn a return (interest) in the intervening period. Calculating the present value of amounts payable or receivable over several time periods is explained more thoroughly below.

Future Cash Flows

The following example illustrates how the prices of $100,000 of bonds issued by Big Dog Carworks Corp. were derived. Recall the three scenarios:

1. Big Dog Carworks Corp. issues $100,000 of 3-year, 12% bonds on January 1, 2017 when the market rate of interest is also 12%. Interest is paid semi-annually.
2. BDCC's bonds are issued at a premium ($110,485) because the market rate of interest is 8% at the date of issue for similar bonds offered in the market.
3. BDCC's bonds are issued at a discount ($90,574). The market rate of interest is 16%.

There are two steps to calculate the present value of the bonds, because there are two types of future cash amounts that relate to the bond issue. The bond *principal* will be repaid at the end of three years, and *interest* payments will be received every six months for three years. The present value of each of these must be calculated and totaled to arrive at the present value of the bonds at the date of issue.

In the examples below, it will be shown that the resulting amount equals the issue price of the bonds in each scenario described above. First, the present value of the repayment of the bond principal at the end of three years for each of the three scenarios will be calculated.

Present Value of Bond Principal to be Repaid at End of Three Years

The present value of a single future amount — $100,000 in this case — can be calculated using table A below. Since semi-annual interest payments are made, the 6-month rate is used. This is half the annual rate, or 6% (12% x ½). Therefore the "6%" column below is used, rather than the 12% column. Also, because there are 6 interest payment periods over the 3-year life of the bond, the "6 period" row is used instead of the "3 period" row. The intersection of this row and column is $.704961 (see amount in blue in the table). This represents the present value of $1 to be received six periods hence, assuming an interest rate of 6% per period.

Table A

Present Value (P) of $1

$$P = \frac{1}{1 + i^n}$$

Periods	4%	6%	8%	10%	12%	14%	16%
1	.961538	.943396	.925926	.909091	.892857	.877193	.862069
2	.924556	.889996	.857339	.826446	.797194	.769468	.743163
3	.888996	.839619	.793832	.751315	.711780	.674972	.640658
4	.854804	.792094	.735030	.683013	.635518	.592030	.552291
5	.821927	.747258	.680583	.620921	.567427	.519369	.476113
6	**.790315**	**.704961**	**.630170**	.564474	.506631	.455587	.410442
7	.759918	.665057	.583490	.513158	.452349	.399637	.353830
8	.730690	.627412	.540269	.466507	.403883	.350559	.305025
9	.702587	.591898	.500249	.424098	.360610	.307508	.262953
10	.675564	.558395	.463193	.385543	.321973	.269744	.226684
11	.649581	.526788	.428883	.350494	.287476	.236617	.195417
12	.624597	.496969	.397114	.318631	.256675	.207559	.168463
13	.600574	.468839	.367698	.289664	.229174	.182069	.145227
14	.577475	.442301	.340461	.263331	.204620	.159710	.125195
15	.555265	.417265	.315242	.239392	.182696	.140096	.107927
16	.533908	.393646	.291890	.217629	.163122	.122892	.093041
17	.513373	.371364	.270269	.197845	.145644	.107800	.080207
18	.493628	.350344	.250249	.179859	.130040	.094561	.069144
19	.474642	.330513	.231712	.163508	.116107	.082948	.059607
20	.456387	.311805	.214548	.148644	103667	.072762	.051385

Scenario 1: The Bond Contract Interest Rate (12%) Is the Same as the Market Interest Rate (12%)

The present value of $100,000 principal to be received three years from now is $100,000 x 0.704961 = $70,496.

Scenario 2: The Market Interest Rate Is 8% (per Year)

Again, since semi-annual interest payments are made, the 6-month rate is half the annual rate. Therefore, the compounding rate this time is 4% (8% x ½); there are 6 periods of interest payments.

According to table A, the present value of $1 compounded at 4% for 6 periods is 0.790315 (see bolded amount in 4% column). The present value of the principal amount of the bonds is therefore calculated as: $100,000 x 0.790315 = $79,032.

Scenario 3: The Market Interest Rate Is 16% (per Year)

For these semi-annual interest payments, the 6-month rate is 8% (16% x ½); there are also 6 periods of interest payments.

According to table A, the present value of $1 compounded at 8% for 6 periods is 0.630170 (see bolded amount in 8% column). The present value of the principal amount of the bonds is therefore calculated as: $100,000 x 0.630170 = $63,017.

Present Value of Six Interest Payments to be Made Semi-annually for Three years

The present value of the interest payments can be calculated using table B. This formula is just the sum of the present value of each of the six interest payments made at varying points over the three-year life of the bonds. In this instance, interest of $6,000 is paid semi-annually for 6 periods on the bonds. Since BDCC's payments are made semi-annually, the rate used is half the prevailing market rate of interest.

Table B

Present Value (P) of a Series of Payments of $1

$$P = \left[\frac{1 - \frac{1}{1 + i^n}}{i} \right]$$

Periods	4%	6%	8%	10%	12%	14%	16%
1	.961538	.943396	.925926	.909091	.892857	.877193	.862069
2	1.886095	1.833393	1.783265	1.735537	1.690051	1.646661	1.605232
3	2.775091	2.673012	2.577097	2.486852	2.401831	2.321632	2.245890
4	3.629895	3.465106	3.312127	3.169865	3.037349	2.913712	2.798181
5	4.451822	4.212364	3.992710	3.790787	3.604776	3.433081	3.274294
6	**5.242137**	**4.917324**	**4.622880**	4.355261	4.111407	3.888668	3.684736
7	6.002055	5.582381	5.206370	4.868419	4.563757	4.288305	4.038565
8	6.732745	6.209794	5.746639	5.334926	4.967640	4.638864	4.343591
9	7.435332	6.801692	6.246888	5.759024	5.328250	4.946372	4.606544
10	8.110896	7.360087	6.710081	6.144567	5.650223	5.216116	4.833227
11	8.760477	7.886875	7.138964	6.495061	5.937699	5.452733	5.028644
12	9.385074	8.383844	7.536078	6.813692	6.194374	5.660292	5.197107
13	9.985648	8.852683	7.903776	7.103356	6.423548	5.842362	5.342334
14	10.563123	9.294984	8.244237	7.366687	6.628168	6.002072	5.467529
15	11.118387	9.712249	8.559479	7.606080	6.810864	6.142168	5.575456
16	11.652296	10.105895	8.851369	7.823709	6.963986	6.265060	5.668497
17	12.165669	10.477260	9.121638	8.021553	6.119630	6.372859	5.748704
18	12.659297	10.827603	9.371887	8.201812	7.249670	6.467420	5.817848
19	13.133939	11.158116	9.603599	8.364920	7.365777	6.550369	5.877455
20	13.590326	11.469921	9.818147	8.513564	7.469444	6.623131	5.928841

Scenario 1: The Market Interest Rate Is 12% (per Year)

According to table B, the sum of the present values of six regular payments of $1 compounded at 6% (l2% x ½) for six periods is 4.917324 (see bolded amount in 6% column). The total present value of the six, $6,000 interest payments made over the three-year life of the BDCC bonds under scenario 1 is therefore $6,000 x 4.917324 = $29,504.

Scenario 2: The Market Interest Rate Is 8% (per Year)

Again using table B, the sum of the present values of six regular interest payments of $1 compounded at 4% (8% x ½) for 6 periods is 5.242137 (see bolded amount in 4% column). The total present value of the six, $6,000 interest payments made over the three-year life of the BDCC bonds under scenario 2 is therefore $6,000 x 5.242137 = $31,453.

Scenario 3: The Market Interest Rate Is 16% (per Year)

The sum of the present values of six regular interest payments of $1 compounded at 8% (16% x ½) for 6 periods is 4.622880 according to table B. The total present value of the six, $6,000 interest payments made over the three-year life of the BDCC bonds under scenario 3 is therefore $6,000 x 4.622880 = $27,737.

Calculating the Total Present Value of the BDCC bonds

The total present value of the $100,000 BDCC bonds issued under each of the three scenarios is the sum of the present value of the principal and interest payments derived above.

Scenario 1: The Bond Contract Interest Rate (12%) Is the Same as the Market Interest Rate (12%)

In this case, the bonds are sold at face value. An investor is willing to pay face value because the present value of the future cash payments is $100,000 – the sum of the present value of the principal and interest payments of the bonds:

1. The $100,000 bond face value is due at the end of six periods. The present value of this cash flow is calculated as $100,000 x 0.704961 (table A)	$70,496
2. The semi-annual $6,000 interest is to be received for six periods in total. The present value of this cash flow is calculated as $6,000 x 4.917324 (table B)	29,504
Total present value of these bonds is	$100,000

When the bond contract interest rate is the same as the market interest rate, the present value of all cash flows is the same as the bond's face value. In actual practice, however, the market interest rate may be different from the bond indenture interest rate because of the time that elapses between the creation of the indenture and the time the bonds are actually sold on the bond market. Scenarios 2 and 3 deal with this situation.

Scenario 2: The Bond Contract Interest Rate (12%) Is Greater than the Market Interest Rate (8%)

Here the bonds are sold at a premium. An investor is willing to pay more than face value because the present value of the future cash flow amounts to $110,485, calculated as follows:

1. The $100,000 bond face value is due at the end of six periods. The present value of this cash flow is calculated as $100,000 x 0.790315 (table A)	$79,032
2. The semi-annual $6,000 interest is to be received for six periods in total. The present value of this cash flow is calculated as $6,000 x 5.242137 (table B)	31,453
Total present value of these bonds is	$110,485

Therefore, when the bond contract interest rate is greater than the market interest rate, the present value of principal and interest payments is greater than the face value of the bonds, other things being equal. This excess amount of $10,485 ($110,485 – 100,000) is the premium that was assumed in the original scenario 2 example in the main part of the chapter.

Scenario 3: The Bond Contract Interest Rate (12%) Is Less than the Market Interest Rate (16%)

In this case, the bonds are sold at a discount. An investor will pay less than face value because the present value of future cash flow amounts to only $90,754.

1. The $100,000 bond face value is due at the end of six periods. The present value of this cash flow is calculated as $100,000 x 0.630170 (table A)	$63,017
2. The semi-annual $6,000 interest is to be received for six periods in total. The present value of this cash flow is calculated as $6,000 x 4.622880 (table B)	27,737
Total present value of these bonds is	$90,754

Therefore, when the bond contract interest rate is less than the market interest rate, the present value of all cash flows is less than the face value of the bonds. This difference, calculated as $9,246 ($100,000 - $90,754) in this example, is the discount used in the original scenario 3 discussed earlier in the chapter.

Appendix 2: The Effective Interest Method of Amortization

As also discussed earlier, the bond premium or discount is amortized over the bond life remaining from the date of the bond's issue. The straight-line method allocates an equal amount of amortization to each semi-annual interest period. The simplicity of this method makes it appropriate as an introduction to the bond accounting process.

However, GAAP requires the use of the **effective interest** amortization method. Under this method, the amount of amortization calculated differs from one period to another but produces a more appropriate rate of interest expense when it is recognized in the income statement.

The calculation is facilitated through the preparation of an amortization table. To illustrate, assume that Big Dog Carworks Corp. uses this method of amortization and again issues 8%, three-year bonds with a face value of $100,000 on January 1, 2017. The issue price is $110,485.

Calculating Interest Expense and Premium Amortization

The amortization table shown in Figure 10–5 is prepared:

Issue of $100,000 Bonds Payable for $110,485
Amortization Table
Using Market Interest Rate of 8%

		A	B	C	D	E
Year	*Six-month period ending*	*Beginning bond carrying amount*	*Using 8% market rate to calculate six-month interest expense* ([½ of 8% = 4%] x A)	*Actual cash interest paid*	(B - C) *Periodic premium amortization*	(A - D) *Ending bond carrying amount*
2017	Jun. 30	$110,485	(4% x $110,485) = $4,419	$6,000	$1,581	$108,904
	Dec. 31	108,904	(4% x 108,904) = 4,356	6,000	1,644	107,260
2018	Jun. 30	107,260	(4% x 107,260) = 4,290	6,000	1,710	105,550
	Dec. 31	105,550	(4% x 105,550) = 4,222	6,000	1,778	103,772
2019	Jun. 30	103,772	(4% x 103,772) = 4,151	6,000	1,849	101,923
	Dec. 31	101,923	(4% x 101,923) = 4,077	6,000	1,923	100,000

Note the use of a constant interest rate under this method.

This amount is the interest expense for each 6-month period.

This amount is the amortization for each 6-month period.

Figure 10–5 Effective Interest Method of Bond Amortization

The calculation begins with the $110,485 issue amount in period 1 (January 1 to June 30, 2017). The objective of this amortization method is to reduce this carrying amount to the face value of $100,000 over the life of the bonds; the decrease is shown in column E of the table.

In this case, the market interest rate of 8% is expressed as an annual rate. Because BDCC makes semi-annual interest payments, the six-month rate is 4% (half of the 8% annual rate), which is the rate used in column B for each semi-annual period. (For convenience, all column B calculations are rounded to the nearest dollar.)

The calculation in column D provides the premium amortization amount for each period. In period 1, for example, the difference between the $4,419 market rate interest expense (column B) and the $6,000 actual bond contract interest paid (column C) determines the premium amortization of $1,581 (column B – column C). Columns E and A show the decreasing carrying amount of the bonds during their three-year life.

The advantage of the effective interest method is that it calculates interest expense at a constant 4% each period. Interest expense (column B) decreases each period. From a theoretical point of view, it is preferable to show a financing interest expense that decreases (column B) as the amount of bonds outstanding decreases (column A). This produces a constant rate of borrowing.

Recording Interest Payments and Premium Amortization

Journal entries to record interest payments and amortization of the premium are made every June 30 and December 31 in the same manner as for straight-line amortization shown in section C. The actual interest paid to bondholders amounts to $6,000 each semi-annual period; the amount of premium amortization for each period is taken from column D of the amortization table. These are the entries for June 30, 2017.

	Payment of interest:			*Amortization of premium:*		
Jun. 30	Interest Expense	6,000		Bond Premium	1,581	
	Cash		6,000	Interest Expense		1,581
	To record semi-annual bond interest.			*To record amortization of bond premium.*		

The entries for each remaining period are similar; only the amounts used for premium amortization differ, as shown in column D of the amortization table. After posting the June 30 entries, the following balances result:

Bonds Payable		Premium on Bonds		Bond Int. Expense	
	100,000		10,485	6,000	
		1,581			1,581
			8,904	4,419	

The bond carrying amount at June 30 is $108,904 ($100,000 + 8,904). This is the amount that appeared in column E of the amortization table.

$4,419 is the balance that was calculated in column B of the amortization table.

Note that the effective interest rate based on the income statement interest expense and the opening bond carrying value shown on the statement of financial position is 4% ($4,419/110,485, rounded).

Calculating Interest Expense and Discount Amortization

The following amortization table is prepared for the BDCC issue of $100,000 face value bonds at a discount for $90,754. The calculation begins with the $90,754 carrying amount in column A. The objective is to increase this carrying amount to the face value of $100,000 over the three-year life of the bond at a constant interest rate; this increase appears in column E.

The annual market interest rate in this case is 16%. Half this rate — 8% — is used in the column B calculations, since interest payments are made semi-annually. (For convenience, all column B calculations are rounded to the nearest dollar.) The calculation in column D provides the amortization amount. In period 1, for example, the difference between the $7,260 market rate interest expense (column B) and the $6,000 actual bond contract interest paid (column C) determines the discount amortization of $1,260 (column B – column C).

Issue of $100,000 Bonds Payable for $90,754
Amortization Table
Using Market Interest Rate of 16%

		A	B	C	D	E
Year	*Six-month period ending*	*Beginning bond carrying amount*	*Using 8% market rate to calculate six-month interest expense* ([½ of 16% = 8%] x A)	*Actual cash interest paid*	(B - C) *Periodic discount amortization*	(A .- D) *Ending bond carrying amount*
2017	Jun. 30	$90,754	(8% x $90,754) = $7,260	$6,000	$1,260	$ 92,014
	Dec. 31	92,014	(8% x 92,014) = 7,361	6,000	1,361	93,375
2018	Jun. 30	93,375	(8% x 93,375) = 7,470	6,000	1,470	94,845
	Dec. 31	94,845	(8% x 94,845) = 7,588	6,000	1,588	96,433
2019	Jun. 30	96,433	(8% x 96,433) = 7,715	6,000	1,715	98,148
	Dec. 31	98,148	(8% x 98,148) = 7,852	6,000	1,852	100,000

Columns E and A show the increasing carrying amount of the bonds during their three-year life. The effective interest method calculates interest expense at a constant 8% of each period's bond carrying amount. To achieve this, interest expense (column B) increases each period as the bond carrying amount increases.

Recording Interest Payments and Discount Amortization

Journal entries to record interest payments and amortization are made each June 30 and December 31 in the same manner as for the straight-line method (shown in section C). The actual interest paid to bondholders amounts to $6,000 each semi-annual period; the amount of discount amortization is taken directly from column D of the amortization table. These are the entries for period 1, January 1 to June 3

	Payment of interest:			*Amortization of discount:*		
Jun. 30	Interest Expense	6,000		Interest Expense	1,260	
	Cash		6,000	Bond Discount		1,260
	To record semi-annual bond interest.			*To record amortization of bond discount.*		

The entries for each remaining period are similar; only the amounts used for discount amortization differ, as shown in column D of the amortization table. After the posting of the June 30 entries, the following balances result:

Bonds Payable	
	100,000

Discount on Bonds	
9,246	
	1,260
7,986	

Bond Int. Expense	
6,000	
1,260	
7,260	

The bond carrying amount at June 30 is $92,014 ($100,000 – 7,986). This is the amount that appeared in column E of the amortization table.

$7,260 is the balance that was calculated in column B of the amortization table.

Comparison of the Effective Interest Method with the Straight-Line Method

A comparison of the two amortization methods can be made using the data applicable to the issue of BDCC's bonds at a discount; $100,000 face value bonds are issued for $90,754, resulting in a discount of $9,246 ($100,000 - $90,754). Under the straight-line method, this $9,246 discount is amortized in equal amounts over the 3-year life of the bonds. The discount is calculated for 6 -month periods, because amortization is recorded at the time that semi-annual interest payments are made. To recap: the straight-line method amortization is calculated as follows:

Discount	$9,246 (a)
Number of 6 -month periods remaining	6 (b)
Amortization (a/b)	$1,541

As explained in section C of this chapter, amortization of a discount increases interest expense. Therefore, the $1,541 is added to the $6,000 interest payment to calculate the $7,541 interest expense applicable to each 6 -month period. Under the straight-line method, the effective interest rate varies from period to period.

Under the effective interest method, the amortization of the $9,246 discount each period varies, but the effective interest rate is a constant 4%. Note that the total interest expense of $45,246 for the three-year period is the same under both methods.

	Effective Interest Method				Straight-Line Method		
Year	*Six-month period ending*	*Bond carrying amount (A)*	*Interest expense (B)*	*(B/A) %*	*Bond carrying amount (A)*	*Interest expense (B)*	*(B/A) %*
2017	Jun. 30	$90,754	$ 7,260	8	$90,754	$ 7,541	8.3
	Dec. 31	92,014	7,361	8	92,295	7,541	8.2
2018	Jun. 30	93,375	7,470	8	93,836	7,541	8.7
	Dec. 31	94,845	7,588	8	95,377	7,541	9.0
2019	Jun. 30	96,433	7,715	8	96,918	7,541	7.8
	Dec. 31	98,148	7,852	8	98,459	7,541	7.7
			$45,246			$45,246	

Under this method, the interest percentage is constant.

Under this method, the interest percentage varies.

This comparison involved the issue of bonds at a discount. A similar comparison for bonds issued at a premium would indicate a similar difference in the calculation of a periodic financing charge. Under the straight-line method, however, the percentage of financing charge would increase in the case of a premium, rather than decrease as shown here.

Summary of Chapter 10 Learning Objectives

LO1 – Describe the nature of bonds and the rights of bondholders.

A bond is a debt security that necessitates periodic interest payments during its life as well as a future repayment of the borrowed amount. A bond indenture is the contract that binds the corporation to the bondholders; it specifies the terms with which the corporation must comply and may restrict further borrowing by the corporation. A bondholder has the rights to receive the face value of the bond at a specified maturity date in the future; to receive periodic interest payments at a specified per cent of the bond's face value; and in some cases, to have the corporation pledge assets to protect the bondholder's investment.

LO2 – Describe how bonds, premiums, and discounts are recorded in the accounting records and disclosed on the statement of financial position.

If the bond contract interest rate is the same as the prevailing market interest rate, the bond will sell "at par". If the bond contract interest rate is higher than the prevailing market interest rate, the bond will sell at a premium. If the bond contract interest rate is lower than the prevailing market interest rate, the bond will sell at a discount. Premiums and discounts are recorded separately from the bonds payable in the accounting records.

LO3 – Describe and calculate how bond premiums and discounts are amortized.

Premiums and discounts are amortized over the remaining life of the bonds. Under GAAP, an unamortized premium (discount) is added to (deducted from) the face value of the bond so that the liability is recorded at its carrying amount on the statement of financial position.

LO4 – (Appendices) Describe and calculate the effective interest method of amortization and explain how this differs from the straight-line amortization method.

Under the straight-line amortization method, any premium or discount is written off in equal amounts over the remaining life of the bond. Under the effective interest method, the price of a bond is determined by combining the present value of the face value to be paid at maturity and interest payments made during the bond's life. Amortization under the effective interest method is calculated by applying the market rate of interest to the carrying amount of the bonds. The difference between this interest and the actual bond contract interest paid is the amortization applicable to the current period. The effective interest method produces a constant interest rate equal to the market rate of interest on the date the bonds were issued.

ASSIGNMENT MATERIALS

Concept Self-check

View Answers

1. What is a bond? a bond indenture? Why might a trustee be used to administer a bond indenture?
2. List and explain some bondholder rights.
3. What is the significance of shareholder approval before an issue of bonds?
4. How are different bond issues reported in the financial statements of a corporation?
5. Three main categories of bond terms are identified in this chapter. Identify these categories and list the major terms of each category.
6. What are three reasons why bonds might be redeemed before their maturity date?
7. Why would investors pay a premium for a corporate bond? Why would a corporation issue its bonds at a discount? Explain, using the relationship between the bond contract interest rate and the prevailing market interest rate.
8. How is an unamortized bond premium or discount disclosed in accordance with GAAP?
9. If the bond contract interest rate is greater than that required in the market on the date of issue, what is the effect on the selling price of the bond? Why?
10. What are two different methods used to amortize premiums and discounts? Explain.
11. How is the interest paid to bondholders calculated? How does this practice affect the sale of bonds between interest dates?
12. How is the amortization of bond premium recorded in the accounting records? the amortization of bond discount?
13. (Appendix 1) Distinguish between future value and present value. What is the time value of money? Why is it important?
14. (Appendix 1) How is the actual price of a bond determined? Give an example.
15. (Appendix 2) Explain how the amortization under the effective interest method is calculated. Use an example.

16. (Appendix 2) From a theoretical point of view, why is the effective interest method of amortization more acceptable than the straight-line method? Evaluate the usefulness of the effective interest method from a practical point of view.

Comprehension Problems

Note: Answer problems regarding present value calculations and the effective interest method of amortization only if the appendices were studied in your course. Recall as well that "issuing a $100,000 bond at 105", for example, means that the bond is sold for $100,000 x 105% = $105,000.

CP 10–1

View Answer

Required: Complete the following by responding either *premium* or *discount*.

1. If the market rate of interest is 15% and the bond interest rate is 10%, the bonds will sell at a _______________.
2. If a bond's interest rate is 10% and the market rate of interest is 8%, the bonds will sell at a _______________.
3. In computing the carrying amount of a bond, unamortized _______________ is subtracted from the face value of the bond.
4. In computing the carrying amount of a bond, unamortized _______________ is added to the face value of the bond.
5. If a bond sells at a _______________, an amount in excess of the face value of the bond is received on the date of issuance.
6. If a bond sells at a _______________, an amount less than the face value of the bond is received on the date of issuance.

CP 10–2

View Answer

On January 1, 2017, the date of bond authorization, Nevada Inc. issued a 3-year, 12-per cent bond with a face value of $100,000 at 94. Semi-annual interest is payable on June 30 and December 31.

Required:

1. Prepare journal entries to record the following transactions:
   a. The issuance of the bonds
   b. The interest payment on June 30, 2017
   c. The amortization of the discount on June 30, 2017 (use the straight-line method of amortization).
2. Calculate the amount of interest paid in cash during 2017 and the amount of interest expense that will appear in the 2017 income statement.
3. Prepare a partial statement of financial position at December 31, 2017 showing how the bonds payable and the discount on the bonds should be shown on the statement of financial position.
4. Prepare the journal entry to record the retirement of the bonds on December 31, 2019.
5. Prepare the journal entry on January 1, 2018, assuming the bonds were called at 102.

CP 10–3

View Answer

On January 1, 2019, the date of bond authorization, Sydney Corp. issued 3-year, 12-per cent bonds with a face value of $200,000 at 112. Semi-annual interest is payable on June 30 and December 31.

Required:

1. Prepare the journal entries to record the following transactions:
   a. The issuance of the bonds
   b. The interest payment on June 30, 2019
   c. The amortization of the premium on June 30, 2019 (use the straight-line method of amortization).
2. Calculate the amount of interest paid in cash during 2019 and the amount of interest expense that will appear in the 2019 income statement. Why are these amounts different?
3. Prepare a partial statement of financial position at December 31, 2019 showing how the bonds payable and the premium on bonds should be shown on the statement of financial position.
4. Prepare the journal entry on January 1, 2022 when the bonds were called at 106.

CP 10–4

View Answer

On January 1, 2020, the date of bond authorization, Paquette Inc. issued 3-year, 12-per cent bonds. Semi-annual interest is payable on June 30 and December 31. Paquette uses the straight-line method of amortization. The following journal entry records the first payment of interest:

2020			
June 30	Interest Expense	17,000	
	Cash		16,500
	Discount on Bonds		500

Required: Reconstruct the journal entry made to record the issuance of bonds on January 1, 2020.

CP 10–5

View Answer

Gaudette Inc. issued 3-year, 12-per cent bonds on January 1, 2018, the date of bond authorization. Semi-annual interest is payable on June 30 and December 31. Gaudette uses the straight-line method of amortization. The following journal entry records the payment of interest on December 31, 2018:

2018			
Dec. 31	Interest Expense	17,900	
	Premium on Bonds	100	
	Cash		18,000

Required: Reconstruct the entry made to record the issuance of bonds on January 1, 2018.

CP 10–6

View Answer

Leong Corporation was authorized to issue $500,000 face value bonds on January 1, 2017. The corporation issued $100,000 of face value bonds on that date. The bonds will mature on December 31, 2020. Interest is paid semi-annually on June 30 and December 31 each year. The bond interest rate per the terms of the indenture is 12% per year.

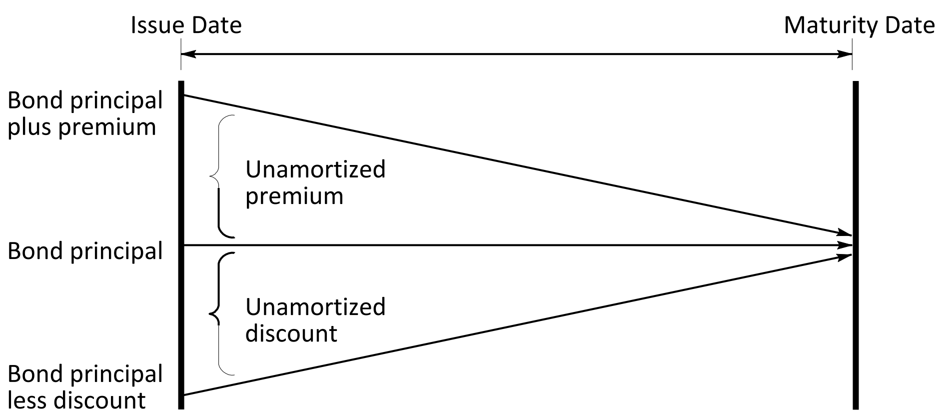
Required: Answer the questions for each of the following cases.
Case A: The bonds were issued at face value.
Case B: The bonds were issued for $112,000.
Case C: The bonds were issued for $88,000.

1. How much cash does Leong receive for the bonds?
2. How much annual interest must the corporation pay? On what amount does the corporation pay?
3. Prepare the journal entry to record the sale of the bonds.
4. Record the entries applicable to interest and straight-line amortization for June 30, 2017 and for December 31, 2017.

CP 10–7

View Answer

The following diagram shows how the carrying amount of bonds payable changes over time for bonds issued at a premium, at par, and at a discount.



Required:
1. Explain the change in carrying amount of the bonds, in terms of the difference between the periodic interest expense recorded on the corporation's income statement and the cash interest paid to investors.
2. Does the diagram illustrate the straight-line or effective interest method of bond premium and discount amortization? How can you tell?

CP 10–8 (Appendix)

View Answer

Night Owl Distributors Ltd. was authorized to issue $500,000 of 12% bonds on January 1, 2017. On this date, the corporation issued $200,000 of bonds for $210,152. The market rate of interest was 10%. Interest is paid semi-annually on June 30 and December 31.

Required:

1. Calculate the amount of interest paid every interest payment date.
2. Complete the amortization table below using the effective interest method of amortization.

Issuance of $200,000 Bonds Payable for $210,152
Amortization Table
Using Market Interest Rate of 10%

		A	B	C	D	E
Year	*Period ending*	*Beginning bond carrying amount*	*Using 10% market rate to calculate six-month interest expense* ([½ of 10% = 5%] x A)	*Cash interest paid*	(B - C) *Periodic premium amortization*	(A - D) *Ending bond carrying amount*
2017	Jun. 30	$210,152	(5% x $210,152) = $10,507			
	Dec. 31		(5% x) =			
2018	Jun. 30		(5% x) =			
	Dec. 31		(5% x) =			
2019	Jun. 30		(5% x) =			
	Dec. 31		(5% x) =			

3. Using the following table, calculate the interest percentage under the effective interest method of amortization for each six-month period.

		A	B	
Year	*Six-month period ending*	*Beginning bond carrying amount*	*Using 10% market rate to calculate six-month interest expense* ([½ of 10% = 5%] x A)	*Interest %*
2017	Jun. 30	$210,152	(5% x $210,152 =) $10,507	
	Dec. 31		(5% x =)	
2018	Jun. 30		(5% x =)	
	Dec. 31		(5% x =)	
2019	Jun. 30		(5% x =)	
	Dec. 31		(5% x =)	

4. Comment on the interest percentage that results in each period. Do you think that this should remain constant from period to period? Why or why not?

Problems

P 10–1

View Answer

Round Corporation was authorized to issue $300,000 of bonds. On January 1, 2017, the corporation issued $150,000 of bonds for $147,000. Details of the bond indenture are as follows:

Date of authorization	*Term*	*Interest rate*	*Interest payment dates*
January 1, 2017	3 years	12%	Semi-annually on June 30 and December 31

Required:

1. Calculate
   a. The amount of interest paid every interest payment date
   b. The amount of amortization to be recorded at each interest payment date (use the straight-line method of amortization).
2. Calculate actual interest expense for each six-month period.
3. Prepare the journal entries to record the interest and amortization at June 30, 2017.
4. Prepare a partial statement of financial position showing the bond liability and discount on December 31, 2017 and 2018 assuming the bonds will be redeemed on December 31, 2019.

P 10–2

View Answer

Consider the following information:

2017

Jun. 1 Zenith Manufacturing Company Limited received authorization to issue $8,000,000 3-year, 12-per cent bonds. The interest is to be paid semi-annually June 1 and December 1 of each year.

Jun. 1 Issued $4,000,000 of bonds for $4,142,800 cash.

2018

Sep. 1 Issued another $4,000,000 of bonds at 97.76 plus accrued interest.

The year-end of Zenith is December 31.

Required: Prepare the journal entries to record:

1. The issue of the bonds on June 1, 2017;
2. The payment of bond interest expense on December 1, 2017;
3. The accrual of bond interest expense and recording of amortization at year-end on December 31, 2017;
4. The payment of bond interest expense on June 1, 2018;
5. The issue of bonds on September 1, 2018; and
6. The final interest payment, premium and discount amortization, and retirement of the bonds at maturity, June 1, 2020.

P 10–3

View Answer

On the date of bond authorization, Esther Corporation issued $100,000 of callable bonds. Bond indenture information included the following:

Date of authorization	*Term*	*Interest rate*	*Interest payment dates*
January 1, 2017	3 years	12%	Semi-annually on June 30 and December 31

Required: Consider these three cases. Case A: the bonds are issued at face value. Case B: the bonds are issued for $103,000. Case C: the bonds are issued for $94,000. For each case:

1. Calculate
   a. The amount of interest paid every interest payment date
   b. The amount of amortization to be recorded at each interest payment date as applicable (Use the straight-line method of amortization.)
2. Prepare journal entries to record
   a. The issue of bonds on January 1, 2017
   b. The payment of interest on June 30, 2017
   c. The amortization on June 30, 2017
   d. The payment of interest on December 31, 2017
   e. The amortization on December 31, 2017
   f. The payment of interest on December 31, 2019
   g. The amortization on December 31, 2019
   h. The redemption of the bonds at maturity, January 1, 2020.
3. Calculate the amount of interest expense shown in the income statement at December 31, 2017. Is this amount the same as cash interest paid by Esther? Why or why not?
4. Assume now that on December 31, 2018, the corporation exercised a call feature included in the bond indenture and retired $50,000 of face value bonds issued January 1, 2017. The bonds were called at 102. Prepare the December 31, 2018 journal entry to record the exercise of the call option. Assume interest has been paid and the discount or premium amortized for the period ended December 31, 2018.

P 10–4

View Answer

Otter Products Inc. was authorized to issue $1,000,000 of bonds. On January 1, 2017, Otter issued $300,000 of bonds for $272,263. Terms of the bond indenture included the following:

Date of authorization	*Term*	*Interest rate*	*Interest payment dates*
January 1, 2017	3 years	12%	Semi-annually on June 30 and December 31

Required:

1. Calculate
   a. The amount of interest paid every interest payment date
   b. The amount of amortization to be recorded at each interest payment date (use the straight-line method).

2. Prepare an amortization table showing interest expense, and beginning and ending bond carrying amounts at the end of each period over the three years. Use the following format:

Issue of $300,000 Bonds Payable for $272,263
Amortization Table
(straight-line)

		A	*B*	*C*	*D*	*E*
Year	*Six-month period ending*	*Beginning bond carrying amount*	*(C + D) Periodic interest expense*	*Actual cash interest paid*	*Periodic discount amort.*	*(A + D) Ending bond carrying amount*
2017	Jun. 30					
	Dec. 31					
2018	Jun. 30					
	Dec. 31					
2019	Jun. 30					
	Dec. 31					

3. Calculate the actual interest rate under the straight-line method of amortization for each six-month period. Round all percentage calculations to one decimal place. Use the following format:

Calculation of Actual Interest Rate

		A	*B*	
Year	*Six month period ending*	*Bond carrying amount*	*Six-month interest expense*	*% (B/A)*
2017	Jun. 30			
	Dec. 31			
2018	Jun. 30			
	Dec. 31			
2019	Jun. 30			
	Dec. 31			

4. Comment on the interest rate that results in each period.
5. Prepare a partial statement of financial position at December 31, 2017 and 2018 assuming the bonds will be redeemed on December 31, 2019.

P 10–5

View Answer

Selected accounts from three trial balances of the Lake Corporation at December 31 are presented below:

	Adjusted		*Unadjusted*
	2017	*2018*	*2019*
Debits			
Interest Expense	$22,100	$44,200	$43,800
Credits			
9% Bonds Payable	500,000	500,000	500,000
Premium on Bonds	23,600	21,200	20,000

The 9% bonds were authorized on July 1, 2017. Interest is paid semi-annually on June 30 and December 31. The bonds were issued on November 1, 2017. Any premium or discount is amortized on a straight-line basis, and amortization is recorded each time the interest expense is recorded.

Required:

1. Compute the following:
   a. original issue price as of November 1, 2017
   b. maturity date.
2. Reconstruct the journal entry to record the issuance of the bonds on November 1, 2017.
3. Prepare any required adjusting entries as of December 31, 2019.
4. Calculate the carrying value of the bonds on December 31, 2019.

P 10–6

View Answer

A 3-year $1,000,000, 10% bond issue was authorized for Mega Corporation on April 1, 2017. Interest is payable on March 31 and September 30. The year-end of the Corporation is December 31.

Required: Consider the following independent cases:

1. The Mega Corporation issued the bonds on April 1, 2017 at 97. Prepare the journal entries required on April 1, 2017, September 30, 2017, and December 31, 2017. Assume straight-line amortization.
2. The bonds are issued at 106 on April 1, 2017. Prepare the journal entries to record the sale of the bonds on April 1, 2017 and entries required on September 30, 2017 and December 31, 2017.
3. The bonds are not issued until December 1, 2018 at 103 plus accrued interest. Prepare the journal entries on December 1, 2018 and December 31, 2018 (year-end). Assume straight-line amortization.

P 10–7 (Appendices)

View Answer

On January 1, 2017, Pete's Planes Inc. was authorized to issue 5-year, $500,000, 12% bonds. Interest was payable on June 30 and December 31. All the bonds were issued on January 1, 2017.

Required: Answer the questions for each of these independent cases.
Case A: the bonds were issued when the market rate of interest was 12%.
Case B: the bonds were issued when the market rate of interest was 16%
Case C: the bonds were issued when the market rate of interest was 8%

1. Calculate
   a. the amount of each semi-annual cash interest payment on the issued bonds;
   b. the issue price of the bonds, consisting of the present value of the bond face value and the present value of the 10 semi-annual interest payments to be made during the 5-year period (for convenience, round all calculations to the nearest dollar);
   c. the amount of amortization applicable to each interest payment date up to and including December 31, 2019; and
   d. the carrying amount of the bonds at December 31, 2019.
2. Prepare journal entries to record the 2019 transactions.

P 10–8 (Appendix)

View Answer

Beacon Products Inc. was authorized to issue $1,000,000 of bonds as follows:

Date of authorization	*Term*	*Interest rate*	*Interest payment dates*
January 1, 2017	3 years	12%	Semi-annually on June 30 and December 31

On January 1, 2017, Beacon issued $300,000 of bonds for $272,263. On this date, the market rate of interest was 16%.

Required:

1. Calculate the amount of cash received from the bond issue on January 1, 2017.
2. Prepare an amortization table. Use the effective interest method of amortization.
3. Calculate the effective interest rate for each six-month period.
4. Comment on the results in each period. Do you think the results are appropriate? Why or why not?

CHAPTER ELEVEN

Equity Financing

Corporations sometimes finance a large portion of their operations by issuing equity in the form of shares. This chapter discusses in detail the nature of the corporate form of organization, the different types of shares used to obtain funds for business activities, and how these transactions are recorded. It also expands on the concept of dividends.

Chapter 11 Learning Objectives

LO1 – Identify and explain characteristics of the corporate form of organization and classes of shares.

LO2 – Evaluate relative financing effects of bonds, common shares, and preferred shares.

LO3 – Record and disclose preferred and common share transactions including share splits.

LO4 – Record and disclose cash dividends.

LO5 – Calculate and explain the book value per share ratio.

LO6 – (Appendix 1) Record and disclose share dividends.

LO7 – (Appendix 2) Explain and record restrictions on retained earnings.

A. The Corporate Structure

LO1 – Identify and explain characteristics of the corporate form of organization and classes of shares.

The accounting equation expresses the relationship between assets owned by a corporation and the claims against those assets by creditors and shareholders. Accounting for equity in a corporation requires a distinction between the two main sources of shareholders' equity: share capital and retained earnings**.** Their relationship to the accounting equation is shown in Figure 11-1.

ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY

SHARE CAPITAL	RETAINED EARNINGS
This is the amount shareholders have paid to purchase ownership interests in a company	This is the total net income earned by a company over its life that has not been distributed to shareholders as dividends.

Figure 11–1 Share Capital Versus Retained Earnings

Corporate Characteristics

A unique characteristic of corporations is that they are legally separate from their owners, who are called shareholders. Each unit of ownership of a corporation is called a **share**. If a corporation issues 1,000 shares and you own 100 of them, you own 10% of the company. Corporations can be **privately-held** or **publicly-held**. A privately-held corporation's shares are not issued for sale to the general public. A publicly-held corporation offers its shares for sale to the general public, sometimes on a stock market like the Toronto Stock Exchange or the New York Stock Exchange.

A corporation has some of the same rights and obligations as individuals. For instance, it pays income taxes on its earnings, can enter into legal contracts, can own property, and can sue and be sued. A corporation also has distinctive features. It is separately regulated by law, has an indefinite life, its owners have limited liability, and it can usually acquire capital more easily than an individual. These features are discussed below.

Creation by law

A corporation is formed under legislation enacted by a country or a political jurisdiction within it. For instance, in Canada a corporation can be formed under either federal or provincial laws. Although details may vary among jurisdictions, a legal document variously described as **articles of incorporation**, a **memorandum of association**, or **letters patent** is submitted for consideration to the appropriate government by prospective shareholders. The document lists the **classes** or types of shares that will be issued as well as the total number of shares of each class that can be issued, known as the **authorized** number of shares.

When approved, the government issues a **certificate of incorporation**. Investors then purchase shares from the corporation. They meet and elect a **board of directors**. The board formulates corporation policy and broadly directs the affairs of the corporation. This includes the appointment of a person in charge of day-to-day operations, often called a president, chief executive officer, or similar title. This person in turn has authority over the employees of the corporation.

A shareholder or group of shareholders who control more than 50% of the voting shares of a corporation are able to elect the board of directors and thus direct the affairs of the company. In a large public corporation with many shareholders, minority shareholders with similar ideas about how the company should be run sometimes delegate their votes to one person who will vote on their behalf by signing a **proxy statement**. This increases their relative voting power, as many other shareholders may not participate in shareholders' meetings.

Shareholders usually meet annually to vote for a board of directors—either to re-elect the current directors or to vote in new directors. The board meets regularly, perhaps monthly or quarterly, to review the operations of the corporation and to set policies for future operations. The board may decide to distribute some assets of the corporation as a dividend to shareholders. It may also decide that some percentage of the assets of the corporation legally available for dividends should be made unavailable; in this case, a **restriction** is created. Accounting for such restrictions is discussed in an appendix of this chapter.

Wherever it is incorporated, a company is generally subject to the following regulations:

1. It must provide timely financial information to investors.
2. It must file required reports with the government.
3. It cannot distribute profits arbitrarily but must treat all shares of the same class alike.
4. It is subject to special taxes and fees.

Despite these requirements, a corporation’s advantages usually outweigh its disadvantages when compared to other forms of business such as a proprietorship or partnership. These features of a corporation are described further below. Proprietorships and partnerships are discussed in more detail in a later chapter.

Indefinite life

A corporation has an existence separate from that of its owners. Individual shareholders may die, but the corporate entity continues. The life of a corporation comes to an end only when it is dissolved, becomes bankrupt, or has its charter revoked for failing to follow laws and regulations.

Limited liability

The corporation’s owners are liable only for the amount that they have invested in the corporation. If the corporation fails, its assets are used to pay creditors. If insufficient assets exist to pay all debts, there is no further liability on the part of shareholders. This situation is in direct contrast to a proprietorship or a partnership. In these forms of organization, creditors have full recourse to the personal assets of the proprietorship or partners if the business is unable to fulfil its financial obligations. For the protection of creditors, the limited liability of a corporation must be disclosed in its name. The words “Limited,” “Incorporated,” or “Corporation” (or the abbreviations Ltd., Inc., or Corp.) are often used as the last word of the name of a company to indicate this corporate form.

Ease of acquiring capital

Issuing shares allows many individuals to participate in the financing of a corporation. Both small and large investors are able to participate because of the relatively small cost of a share, and the ease with which ownership can be transferred—shares are simply purchased or sold. Large amounts of capital can be raised by a corporation because the risks and rewards of ownership can be spread among many investors.

A corporation only receives money when shares are first issued. Once a share is issued, it can be bought and sold a number of times by various investors. These subsequent transactions between investors do not affect the corporation's statement of financial position.

Income Taxes on Earnings

Because corporations are considered separate legal entities, they pay income taxes on their earnings. To encourage risk-taking and entrepreneurial activity, certain types of corporations may be taxed at rates that are lower than other corporations and individual shareholders' income tax rates. This can encourage research and development activity or small-company start-ups, for instance.

Classes of Shares

There are many types of shares, with differences related to voting rights, dividend rights, liquidation rights, and other preferential features. The rights of each shareholder depend on the class or type of shares held.

Every corporation issues **common shares**. The rights and privileges usually attached to common shares are outlined below.

- The right to participate in the management of the corporation by voting at shareholders' meetings (this participation includes voting to elect a board of directors; each share normally corresponds to one vote).
- The right to receive dividends when they are declared by the corporation's board of directors.
- The right to receive assets upon liquidation of the corporation.
- The right to appoint auditors through the board of directors.

For other classes of shares, some or all of these rights are usually restricted. The articles of incorporation may also grant the shareholders the **pre-emptive** right to maintain their proportionate interests in the corporation if additional shares are issued.

If the company is successful, common shareholders may receive dividend payments. As well, the value of common shares may increase. Common shareholders can submit a proposal to raise any matter at an annual meeting and have this proposal circulated to other shareholders at the corporation's expense. If the corporation intends to make fundamental changes in its business, these shareholders can often require the corporation to buy their shares at their fair value. In addition, shareholders can apply to the courts for an appropriate remedy if they believe their interests have been unfairly disregarded by the corporation.

Some corporations issue different classes of shares in order to appeal to as large a group of investors as possible. This permits different risks to be assumed by different classes of shareholders in the same company. For instance, a corporation may issue common shares but divide these into different classes like class A and class B common shares. When dividends are declared, they might only be paid to holders of class A shares.

Shareholders who hold **preferred shares** are entitled to receive dividends before common shareholders. These shares usually do not have voting privileges. Preferred shareholders typically assume less risk than common shareholders. In return, they receive only a limited (but more predictable) amount of dividends. Issuing preferred shares allows a corporation to raise additional capital without requiring existing shareholders to give up control. Other characteristics of preferred shares and dividend payments are discussed later in this chapter.

The shares of a corporation can have a different status at different points in time. They can be **unissued** or **issued**, issued and **outstanding**, or issued and reacquired by the corporation (called **treasury shares**). The meaning of these terms is summarized in Figure 11-2:

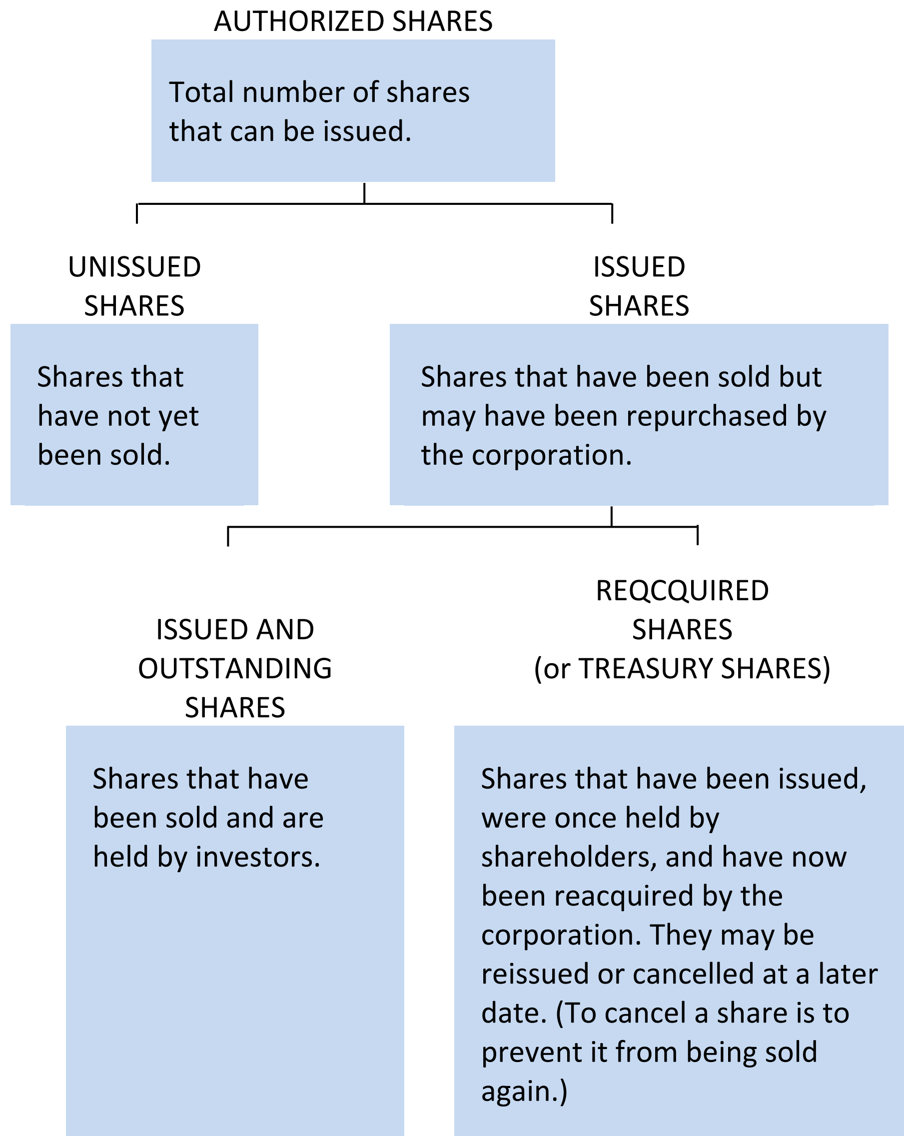


Figure 11–2 Status of Shares

B. The Debt Versus Equity Financing Decision

LO2 – Evaluate relative financing effects of bonds, common shares, and preferred shares.

Many factors influence management in its choice between the issue of debt and the issue of share capital. One of the most important considerations is the potential effect of each of these financing methods on the present shareholders.

Consider the example of Old World Corporation, which has 100,000 common shares outstanding, is a growth company, and is profitable. Assume Old World requires $30 million in cash to finance a new plant.

Management is currently reviewing three financing options:

1. Issue 12% debt, due in three years
2. Issue 300,000 preferred shares (dividend $8 per share annually)
3. Issue an additional 200,000 common shares at $30 each.

Management estimates that the new plant should result in income before interest and income taxes of $6 million. The income tax rate is 50%. Management has prepared the following analysis to compare and evaluate each financing option.

	Plan 1	*Plan 2*	*Plan 3*
	Issue debt	*Issue preferred shares*	*Issue common shares*
Income before interest and income taxes	$ 6,000,000	$ 6,000,000	$ 6,000,000
Less: Interest expense ($30M x 12%)	(3,600,000)	-0-	-0-
Income before income taxes	$ 2,400,000	$ 6,000,000	$ 6,000,000
Less: Income taxes (50%)	(1,200,000)	(3,000,000)	(3,000,000)
Net income	1,200,000	3,000,000	3,000,000
Less: Preferred dividends (300,000 x $8 per share)	-0-	(2,400,000)	-0-
Net income available to common shareholders	$ 1,200,000	$ 600,000	$ 3,000,000
Number of common shares outstanding	100,000	100,000	300,000
Earnings per common share	$ 12	$ 6	$ 10

Plan 1, the issue of debt, has several advantages for existing common shareholders.

Advantage 1: Earnings per share

If the additional long-term financing were acquired through the issue of debt, the corporate earnings per share (EPS) on each common share would be $12. This EPS is greater than the EPS earned through financing with either preferred shares or additional common shares. On this basis alone, the issue of debt is more financially attractive to existing common shareholders.

Advantage 2: Control of the corporation

Creditors have no vote in the affairs of the corporation. If additional common shares were issued, there might be a loss of corporate control by existing shareholders because ownership would be distributed over a larger number of shareholders, or concentrated in the hands of one or a few new owners. In the Old World case, issuing common shares would increase the number threefold from 100,000 to 300,000 shares.

Advantage 3: Income taxes expense

Interest expense paid on debt is deductible from income for income tax purposes. Dividend payments are distributions of retained earnings, which is after-tax income. Thus, dividends are not deductible again for tax purposes. With a 50% income tax rate, the after-tax interest expense to the corporation is only 6% (12% x 50%). The effective interest rate on preferred shares in this example is much higher, at 40% ($8/$20).

Debt Financing Disadvantages

There are also some disadvantages in long-term financing with debt that must be carefully reviewed by management and the board of directors. The most serious disadvantage is the possibility that the corporation might earn less than $6 million before interest expense and income taxes. The interest expense is a fixed amount. It must be paid to creditors at specified times, unlike dividends. If actual income before interest and income taxes decreased by only $400,000, net income under plan 1 would fall to $1,000,000. Earnings per share would then be the same as that of plan 3 ($10 per common share).

Another disadvantage is the fact that debt must be repaid at maturity, whether or not the corporation is financially able to do so. Shares do not have to be repaid.

C. Recording Share Transactions

LO3 – Record and disclose preferred and common share transactions including share splits.

Shares have a **stated** or **nominal** value—the amount for which they are issued. Alternatively, but rarely, shares will have a **par-value** which is the amount stated in the corporate charter below which shares cannot be sold upon initial offering. For consistency, we will assume all shares have a stated value.

To demonstrate the issuance and financial statement presentation of shares, assume that New World Corporation is authorized to issue share capital consisting of an unlimited number of voting common shares and 100,000 non-voting preferred shares.

Transaction 1: On January 1, 2017, New World sells 1,000 common shares to its first shareholders for $10 per share, or $10,000 cash.

New World would record the following entry:

2017			
Jan. 1	Cash	10,000	
	Common Shares		10,000
	To record the issuance of 1,000 common shares at $10 per share.		

Transaction 2: On February 1, 2017, 2,500 preferred shares are issued to the owner of land and buildings that have a fair value of $35,000 and $50,000, respectively. The journal entry to record this transaction is:

2017			
Jan. 1	Land	35,000	
	Building	50,000	
	Preferred Shares		85,000
	To record the issuance of 2,500 preferred shares in exchange for land and buildings.		

Usually, one or more individuals decide to form a corporation. Before the corporation is created, they may use their own funds to pay for legal and government fees, travel and promotional costs, and so on. When the corporation is legally formed, it is not unusual for the corporation to issue shares to these organizers for these amounts. These start-up expenditures are referred to as **organization costs** and are usually expensed unless they are a large amount, in which case they are capitalized.

Transaction 3: On March 1, 2017, 500 common shares are issued to the organizers of New World to pay for their services, valued at $5,000. The journal entry to record this transaction is:

2017			
Jan. 1	Organization Expense	5,000	
	Common Shares		5,000
	To record the issuance of 500 common shares in exchange for organization efforts.		

Assuming no further share transactions, and net income of $480,000 earned during the first year of operations, the shareholders' equity section of the New World Corporation statement of financial position would show the following at December 31, 2017:

Shareholders' Equity	
Share capital (Note X)	$ 100,000
Retained earnings	480,000
Total shareholders' equity	$580,000

The relevant note to the financial statements would state:

Note X

The authorized share capital of New World Corporation consists of an unlimited number of no par-value common shares and 100,000 no par-value, non-voting preferred shares. Preferred shares take precedence when dividends are declared and upon repayment of capital. Common shares represent one vote each at shareholders' meetings of New World Corporation.

During the year, 1,500 common shares were issued to founding shareholders for a stated value of $10 per share. This represented 100% of total common shares issued. 2,500 preferred shares were issued for a stated value of $34 per share in consideration for land and buildings used in the company's operations. This represented 100% of total preferred shares issued. Information related to number of shares outstanding is as follows:

	Common shares	*Preferred shares*	*Total shares*
Shares outstanding at January 1, 2017	-0-	-0-	-0-
Shares issued during 2017	1,500	8,500	10,000
Shares outstanding at December 31, 2017	1,500	8,500	10,000

The statement of changes in equity would show:

	Common shares	*Preferred shares*	*Retained earnings*	*Total equity*
Balance at Jan. 1, 2017	$ -0-	$ -0-	$ -0-	$ -0-
Shares issued	15,000	85,000		100,000
Net income			480,000	480,000
Balance at Dec. 31, 2017	$15,000	$85,000	$480,000	$580,000

Transaction 4: Corporate legislation permits a company to reacquire some of its shares, provided that the purchase does not cause insolvency. A company can repurchase and then cancel the repurchased shares. When repurchased shares are cancelled, they are no longer issued and no longer outstanding. A company can also repurchase shares and then hold them in treasury. Treasury shares are issued but not outstanding. A company give treasury shares to employees as an incentive or bonus, for instance.

Assume that New World Corporation decides to repurchase 200 common shares on December 1, 2018 and hold them in treasury. Assume that the price of each share is the average issue price of the outstanding common shares, or $10. The journal entry to record the repurchase is:

2018			
Dec. 1	Treasury shares	2,000	
	Cash		2,000
	To record the repurchase of 200 common shares at $10 per share to be held in treasury.		

Assuming 2018 net income of $200,000 and no further transactions, the shareholders' equity section of the New World Corporation statement of financial position would show the following at December 31, 2018:

Shareholders' Equity

	2018	*2017*
Share capital (Note X)	$100,000	$100,000
Retained earnings	680,000	480,000
Treasury shares	(2,000)	-0-
Total shareholders' equity	$778,000	$580,000

The relevant note to the financial statements would state:

Note X

The authorized share capital of New World Corporation consists of an unlimited number of no par-value shares and 100,000 no par-value, non-voting preferred shares. Preferred shares take precedence when dividends are declared and upon repayment of capital. Common shares represent one vote each at shareholders' meetings of New World Corporation.

During the year, 200 common shares with a stated value of $10 per share were repurchased by the corporation and are held as treasury shares. This represents 13.3% of common shares issued as of December 31, 2018. Information related to number of shares outstanding is as follows (bolded for illustration purposes):

Information is disclosed for the current and prior year when comparative financial statements are prepared.

	Common shares	*Preferred shares*	*Treas. shares*
Shares outstanding at January 1, 2017	-0-	-0-	-0-
Shares issued during 2017	1,500	8,500	-0-
Shares outstanding at December 31, 2017	1,500	8,500	-0-
Shares reacquired and held as treasury shares during 2018		**-0-**	**(200)**
Shares outstanding at December 31, 2018	1,500	2,500	(200)

The statement of changes in equity would show (bolded for illustrative purposes):

	Common shares	*Preferred shares*	*Retained earnings*	*Treas. shares*	*Total equity*
Balance at Jan. 1, 2017	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
Shares issued	15,000	85,000			100,000
2017 net income			480,000		480,000
Balance at Dec. 31, 2017	15,000	85,000	480,000	$ -0-	580,000
Shares reacquired and held as treasury shares during 2018				**(2,000)**	**(2,000)**
2018 net income			200,000		200,000
Balance at Dec. 31, 2018	$15,000	$85,000	$680,000	**$ (2,000)**	$778,000

The repurchase of shares does not affect issued share capital ($15,000 + $85,000) but the number of shares outstanding decreases by 200 shares.

Share Splits

A corporation may find its shares are selling at a high price on a stock exchange, perhaps putting them beyond the reach of many investors. To increase the marketability of a corporation’s shares, management may opt for a **share split**. A share split increases the number of shares issued and outstanding, and lowers the cost of each new share. The originally-issued shares are exchanged for a larger number of new shares

Assume that on December 1, 2019 New World Corporation declares a 3-for-1 common share split. This results in three new common shares replacing each currently-issued and outstanding common share. The number of issued and outstanding shares has now been tripled. The market price of each share will decrease to about one-third of its former market price. Since there is no change in the dollar amount of common shares, no debit-credit entry is required to record the share split. Instead, a memorandum entry would be recorded in the general ledger indicating the new number of shares issued and outstanding, as follows:

GENERAL LEDGER

Common Shares — Acct. No. 320

Date 2019		Description	Folio	Debit	Credit		Balance
Jan.	1	Memorandum: Because of a 3-for-1 split, the issued and outstanding common shares increased respectively from 1,500 and 1,300, to 4,500 and 3,900 shares.					

The dollar amount shown on the statement of financial position and statement of changes in equity will not change. The only change is an increase in the number of issued and outstanding common shares. After the share split, the shareholders' equity section of the New World Corporation statement of financial position and statement of changes in equity would be unchanged.

This would be added to the usual note to the financial statements:

> The company holds 600 issued common shares as treasury shares. On December 1, 2019 the company declared a 3:1 share split on common shares. The effect of this was as follows:

	Before share split	*After share split*
Number of common shares outstanding	1,300	3,900
Stated value per outstanding commons share	$10	$3.33
Total stated value of outstanding common shares	$13,000	$13,000

The total stated value is not affected by the share split.

D. Cash Dividends

LO4 – Record and disclose cash dividends.

Both creditors and shareholders are interested in the amount of assets that can be distributed as dividends. The paid-in share capital is not available for distribution as dividends. Legally, dividends are limited to the amount of retained earnings unless a corporation is dissolved. Shareholders are prevented from withdrawing their initial investment as this would shift all risk to the creditors. This restriction protects creditors. For example, assume total assets are $40,000; total liabilities $39,000; and total shareholders' equity $1,000, consisting of $900 in common shares and $100 of retained earnings. The maximum dividends that could be declared in this situation is $100, the balance in retained earnings.

Dividend Policy

Sometimes the board of directors may choose not to declare any dividends. There may be financial conditions in the corporation that make the payment impractical.

Consideration 1: There may not be adequate cash

Corporations regularly reinvest their earnings in assets in order to make more profits. In this way, growth occurs and reliance on creditor financing can be minimized. As a result, there may not be enough cash on hand to declare and pay a cash dividend. The assets of the corporation may be tied up in property, plant, and equipment, for instance.

Consideration 2: A policy of the corporation may preclude dividend payments

Some corporations pay no dividends. Instead, they reinvest their earnings in the business. Shareholders generally benefit because the market price for the corporation's shares should rise. A statement to this effect can alert investors. This type of dividend policy is often found in growth-oriented corporations.

Consideration 3: No legal requirement that dividends have to be paid

The board of directors may decide that no dividends should be paid. Legally, there is no requirement to do so. If shareholders are dissatisfied, they can elect a new board of directors or sell their shares.

Consideration 4: Dividends may be issued in shares of the corporation rather than in cash

Share dividends may be issued to conserve cash or to increase the number of shares to be traded on the stock market. Share dividends are discussed in Appendix 1 of this chapter.

Dividend Declaration

Dividends can be paid only if they have been officially declared by the board of directors. The board must pass a formal resolution authorizing the dividend payment. Notices of the dividend are then published. Once a dividend declaration has been made public, the dividend becomes a liability and must be paid. An example of a dividend notice by Nouveau Corporation is shown in Figure 11-3.

Nouveau Corporation
Dividend Notice

On May 25, 2018 the board of directors of Nouveau Corporation declared a cash dividend of $0.50 per share on common shares outstanding (3,900). The dividend will be paid on June 26, 2018 to shareholders of record on June 7, 2018.

By order of the board

[signed]
Lee Smith
Secretary
May 25, 2018

Figure 11–3 An Example of a Dividend Notice

There are three dates associated with a decision to pay dividends. Usually dividends are declared on one date, the **date of declaration** (May 25, 2018 in this case); they are payable to shareholders on a second date, the **date of record** (June 7, 2018); and the dividend is paid on a third date, the **date of payment** (June 26, 2018).

Date of Declaration

The dividend declaration provides an official notice of the dividend. It specifies the amount of the dividend as well as which shareholders will receive the dividend. The liability for the dividend is recorded in the books of the corporation at its declaration date.

The following entry would be made in the general ledger of Nouveau Corporation on May 25, 2018, the date of declaration:

2018			
May 25	Cash Dividends Declared	1,950	
	Dividends Payable		1,950
	To record $0.50 per common share cash dividend declared; 3,900 shares x $0.50/share = $1,950.		

Date of Record

Shareholders who own shares on the date of record will receive the dividend even if they have sold the shares before the dividend is actually paid. No journal entry is made in the accounting records at the date of record.

Date of Payment

When the dividend is paid it is recorded as:

2018			
Jun. 26	Dividends Payable	1,950	
	Cash		1,950
	To record payment of dividend.		

Preferred Shareholder Dividends

Preferred shares are offered to attract investors who have lower tolerance for risk than do common shareholders. Preferred shareholders are content with a smaller but more predictable share of a corporation's profits. For instance, preferred shareholders are entitled to dividends before any dividends are distributed to common shareholders. Also, most preferred shares specifically state what amount of dividends their holders can expect each year. For example, owners of $8 preferred shares would be paid a dividend of $8 per year for each share held. These dividends are often paid even if the corporation experiences a net loss in a particular year.

Preferred shares may also have other dividend preferences, depending on what rights have been attached to preferred shares at the date of incorporation. Two additional preferences can be

- the accumulation of undeclared dividends from one year to the next — referred to as **cumulative dividends**.

- the participation of preferred shares with common shares in dividend distributions beyond the usual preferred dividends — referred to as a **participating** feature of preferred shares.

Cumulative Dividend Preferences

Cumulative preferred shares require that any unpaid dividends accumulate from one year to the next and are payable from future earnings when a dividend is eventually declared by a corporation. These accumulated dividends must be paid before any dividends are paid on common shares. The unpaid dividends are called **dividends in arrears**. Dividends in arrears are not recorded as a liability on the statement of financial position of the company until they have been declared by the board of directors. However, disclosure of dividends in arrears must be made in a note to the financial statements.

If a preferred share is **non-cumulative**, a dividend not declared by the board of directors in any one year is never paid to shareholders.

Participating Dividend Preferences

A **participating** feature is sometimes added to preferred shares to make them more attractive to investors. Under certain circumstances, this feature permits the preferred shares to receive a portion of the earnings of the corporation in excess of a stipulated rate. The extent of this participation can be **limited** (partially participating) or **unlimited** (fully participating). Non–participating preferred shares do not receive a share of additional dividends.

The relationship among these preferred share characteristics is shown in Figure 11–4 below:

PREFERRED SHARE DIVIDENDS

These usually have to be paid before dividends are paid to common shareholders.

ARREARS OF DIVIDENDS

This feature deals with dividends that have not been declared in previous years.

CUMULATIVE

1. Dividends in arrears must be declared and paid before any dividends on common shares.
2. Dividends in arrears are not a liability of the corporation until they have been declared.

NON-CUMULATIVE

Dividends not declared in previous years *lapse* – that is, they do not have to be paid in future years.

AMOUNT OF DIVIDENDS

This feature deals with the amount of dividends to which preferred shares are entitled.

PARTICIPATING

Preferred shares are entitled to participate in dividends with common shares after common shares have received a certain dividend percentage.

FULLY PARTICIPATING

Preferred shares are entitled to receive the same amount of additional dividends per share as common shares.

PARTIALLY PARTICIPATING

Preferred shares are entitled to only a portion of additional dividends per share as common shares.

NON-PARTICIPATING

Preferred shares are only entitled to the fixed dividend rate, regardless of the amount of dividends declared for common shares.

Figure 11–4 The Relationships Among Dividend Types

Assume that Bernard Williams Inc. declared dividends totalling $92,000 when the shareholders' equity section of its statement of financial position disclosed the following information:

Shareholders' Equity	
Preferred shares, $10 nominal value, $8 dividends, cumulative, non-participating	
Authorized—3,000 shares	
Issued and outstanding—2,000 shares	$200,000
Common shares, $1 nominal value	
Authorized—350,000 shares	
Issued and outstanding—300,000 shares	300,000
Total shareholders' equity	$500,000

A note to the statement of financial position indicates that there are two years of preferred dividends in arrears. If a $92,000 cash dividend declared, the preferred shares are entitled to $16,000 dividends per year (2,000 shares x $8) whenever dividends are declared. Because these shares have a cumulative preference, they are also entitled to dividends in arrears. The dividend distribution would be calculated as:

Shareholder preference to dividends		*Dividend distribution*		
		To preferred	*To common*	*Balance*
	Total dividends declared			$92,000
1st preference	Arrears ($16,000 x 2 years)	$ 32,000	$ -0-	60,000
2nd preference	Current year – preferred	16,000	-0-	44,000
	Balance to common	-0-	44,000	-0-
	Total	$ 48,000	$ 44,000	

The cumulative preference has resulted in the payment to preferred shareholders of dividends unpaid in the previous two years; this amounts to $32,000. For the current year, preferred shareholders receive another $16,000 for a total of $48,000. Because the preferred shares are non-participating, the remainder of the $92,000 dividend ($44,000) is paid to common shareholders.

E. Book Value

LO5 – Calculate and explain the book value per share ratio.

The **book value** of a share is the amount of net assets represented by one share. When referring to common shares, book value represents the amount of net assets not claimed by creditors and preferred shareholders. When referring to preferred shares, book value represents the amount that preferred shareholders would receive if the corporation were liquidated.

Book value per preferred share =

$$\frac{\text{Paid-in capital for preferred shares plus dividends in arrears}}{\text{Number of preferred shares outstanding}}$$

Book value per common share =

$$\frac{\text{Total equity less (stated capital for preferred shares plus dividends in arrears)}}{\text{Number of common shares outstanding}}$$

Calculation of the Book Value of Shares

The calculation of the book value of preferred and common shares can be illustrated by using the following data:

Shareholders' Equity	
Preferred shares	
Authorized—5,000 shares	
Issued and outstanding—1,000 shares	$ 10,000
Common shares	
Authorized—200,000 shares	
Issued and outstanding—60,000 shares	20,000
Retained earnings	105,000
Total shareholders' equity	$135,000

Note: There are $5,000 dividends in arrears on preferred shares.

Book value is calculated as:

Preferred shares		*Common shares*	
Dividends in arrears	$ 5,000	Total shareholders' equity	$135,000
Plus: Stated capital	10,000	*Less:* Preferred claims (a)	15,000
Balance (a)	$15,000	Balance	$120,000
Shares outstanding (b)	1,000	Shares outstanding	60,000
Book value per share (a/b)	$15	Book value per share	$2

Comparison of book value with market value provides insight into investors' evaluations of the corporation. For instance, if the book value of one common share of Corporation A is $20 and its common shares are traded on a public stock exchange for $40 per share (market value), it is said to be trading for "two times book value." If Corporation B is trading for three times book value, investors are indicating that the future profit prospects for corporation B are higher than those for Corporation A. They are willing to pay proportionately more for shares of Corporation B than Corporation A, relative to the underlying book values.

Some shares regularly sell for less than their book value on various stock exchanges. This does not necessarily mean they are a bargain investment. The market price of a share is related to such factors as general economic outlook and perceived potential of the company to generate earnings.

Appendix 1: Share Dividends

LO6 – Record and disclose share dividends.

A **share dividend** is a dividend payable to shareholders in shares of a corporation, rather than in cash. In this way, the declaring corporation is able to retain cash in the business and reduce the need to finance its activities through borrowing.

Accounting for Share Dividends

Assume that the Sherbrooke Corporation declares a 10% share dividend to common shareholders. The dividend is declared on July 15, 2018 payable to shareholders of record as of July 31, 2018. The share dividends were issued on August 5, 2018. At the time of the dividend declaration, the shareholders' equity of the corporation consisted of the following:

Shareholders' Equity	
Common shares, stated value $5	
Authorized — 20,000 shares	
Issued and outstanding — 5,000 shares	$ 25,000
Retained earnings	200,000
Total shareholders' equity	$225,000

Assume that at the date of dividend declaration, the common shares of the corporation were trading on the stock exchange at $4.

In this case, the share dividend is expressed as a percentage of the outstanding common shares. The dividend amounts to 500 shares (5,000 outstanding shares x 10%). This means that an individual investor owning 1,000 shares receives 100 new shares when the dividend is issued.

The market price of the shares is used to record a share dividend. This market price is usually the closing market price per share on the day preceding the declaration of the dividend. Since the shares are recorded at market value, the amount transferred from retained earnings to common shares is $2,000 (500 shares x $4 market value).

The $2,000 transfer to common shares means that this amount becomes a part of stated capital and the assets represented by the $2,000 are no longer available for the payment of future cash dividends. After the transfer has been recorded, shareholders' equity appears as shown in Figure 11–5 below.

SHAREHOLDERS' EQUITY

COMMON SHARES		RETAINED EARNINGS
$25,000	Balance before share dividend	$200,000
+ 2,000	Share dividend transfer	(2,000)
$27,000	Balance after share dividend	$198,000

Only the composition of shareholders' equity has changed. Total shareholders' equity = $225,000 as before ($198,000 + 27,000).

The $2,000 is a transfer on paper only.

Figure 11–5 Shareholders' Equity After Dividend Transfer

This transfer reduces retained earnings and increases common shares by the same $2,000 amount. Total shareholders' equity remains unchanged, however. This is different from the distribution of a cash dividend, which reduces both retained earnings and cash and results in a *lower* amount of total shareholders' equity.

Two journal entries at different dates are required to record the share dividend. The original dividend declaration would be recorded as follows:

2018			
July 15	Share Dividends Declared	2,000	
	Share Dividends to be Issued		2,000
	To record the declaration of a 10% common share dividend (5,000 x 10% x $4)		

The effect of this entry is to transfer $2,000 from retained earnings to share capital. No assets are paid by the corporation when the additional shares are issued as a shares dividend, and therefore *the total shareholders' equity remains unchanged at* $225,000.

As with cash dividends, there is no effect on the accounting records on July 31 (individual shareholders of record are determined at that date).

When the shares dividend is actually issued, the following entry would be made:

2018			
Aug. 5	Share Dividends to be Issued	2,000	
	Common Shares		2,000
	To record the issuance of the common share dividend.		

At the December 31 year-end of the corporation, the Share Dividend Declared account would be closed to the Retained Earnings account in the same way a Cash Dividend account is closed. The closing entry for a shares dividend would be:

2018			
Dec. 31	Retained Earnings	2,000	
	Share Dividends Declared		2,000
	To close the Share Dividends Declared account.		

Assume that the retained earnings of $200,000 include $20,000 of net income earned in the 2018 year. The statement of changes in equity at December 31, 2018 would show (bolded for illustrative purposes):

	Common shares	*Retained earnings*	*Total equity*
Balance at beginning of year	$25,000	$180,000	$205,000
Net income		20,000	20,000
Common share dividend declared	2,000	**(2,000)**	
Balance at end of tear	$27,000	$198,000	$225,000

Is There Any Change in the Investor's Percentage of Corporate Ownership?

Since a share dividend is issued to all shareholders of a particular class, each shareholder has a larger number of shares. However, ownership percentage of the company remains the same for each shareholder, as illustrated in the following example.

Assume that there are five shareholders in Sherbrooke Corporation, each of whom owns 1,000 shares before the share dividend. Each of these shareholders receives a 10 per cent share dividend, that is, 100 new shares. Corporation ownership before and after the share dividends is as follows:

	Corporate ownership			
	Before share dividend		*After share dividend*	
Shareholder	Shares	Per cent	Shares	Per cent
A	1,000	20%	1,100	20%
B	1,000	20%	1,100	20%
C	1,000	20%	1,100	20%
D	1,000	20%	1,100	20%
E	1,000	20%	1,100	20%
	5,000	100%	5,500	100%

Each shareholder has received 100 new shares but ownership percentage of the company remains at 20 per cent. Since total shareholders' equity does not change, the proportion owned by each is still $25,000 ($125,000 total shareholders' equity x 20%).

Appendix 2: Retained Earnings

LO7 – Explain and record restrictions on retained earnings.

Retained earnings represent the net income earned by a company over its life that has not been distributed as dividends to shareholders.

Retained earnings can be either **restricted** or **unrestricted** with respect to dividend distributions, as follows:

RETAINED EARNINGS

Retained earnings represent the net income accumulated by a corporation that has not been distributed as dividends to shareholders.

RESTRICTED RETAINED EARNINGS

This amount represents assets that the board of directors has made unavailable for dividends. These earnings are to be kept in the company for a special purpose.

UNRESTRICTED RETAINED EARNINGS

This represents the amount of net income that has been earned in the company and is available for distribution to shareholders as dividends. Rarely are all retained earnings paid out as dividends.

Figure 11–6 Restricted and Unrestricted Retained Earnings

Assume that New World Corporation has retained earnings of $800,000 at December 31, 2020. The board of directors passes a resolution at the 2020 year-end to restrict $70,000 of retained earnings for a plant expansion. The full cycle of the restriction within retained earnings is shown in Figure 11–7.

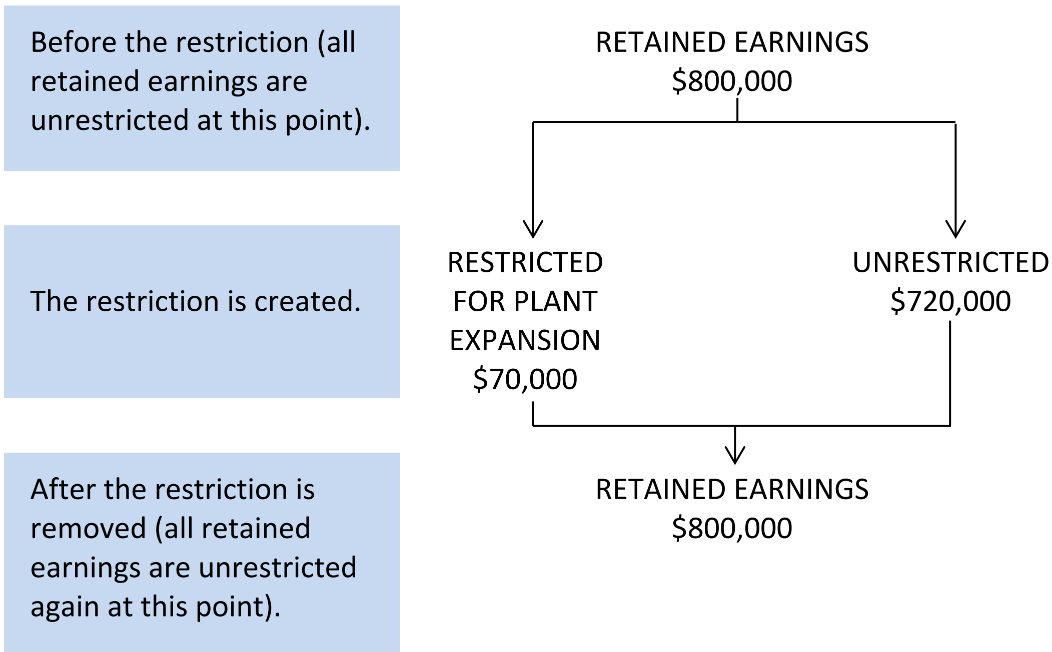


Figure 11–7 Restriction for Plant Expansion: Creation and Removal

As can be seen, the creation of a restriction on retained earnings divides the $800,000 amount into a restricted component of $70,000 and an unrestricted component of $720,000.

The creation of a restriction on retained earnings indicates management's intention to use assets for a particular purpose. It is reported on the financial statements so that investors and creditors are informed that these assets are unavailable for dividends. These restrictions do not in any way alter the total amount of retained earnings or shareholders' equity.

The journal entry to record the creation of the above $70,000 restriction for plant expansion would be:

2020			
Dec. 31	Retained Earnings	70,000	
	Retained Earnings – Restriction for Plant Expansion		70,000
	To record the restriction on retained earnings.		

This restriction records a portion of these earnings in an account specifically designated to indicate its purpose—plant expansion. The restricted amount is still part of retained earnings. It is classified as retained earnings in the shareholders' equity section of the statement of financial position at December 31, 2020 as follows:

Shareholders' Equity

	2020	*2019*
Share capital	$ 98,000	$ 98,000
Retained earnings (Note Y)	800,000	760,000
Total shareholders' equity	$898,000	$858,000

The relevant note to the financial statements would state:

Note Y

On December 31, 2020 the board of directors authorized a $70,000 restriction on the retained earnings of the company for plant expansion.

The statement of changes in equity would show (bolded for illustrative purposes):

	Common shares	*Preferred shares*	*Retained earnings*		*Total equity*
			Unrestricted	*Restricted*	
Balance at Jan. 1, 2019	$ 13,000	$ 85,000	$680,000	$ -0-	$778,000
2019 net income			80,000		80,000
Balance at Dec. 31, 2019	13,000	85,000	760,000	-0-	858,000
2020 net income			40,000		40,000
Restriction for plant addition (Note Y)			**(70,000)**	**70,000**	
Balance at Dec. 31, 2020	$ 13,000	$ 85,000	$730,000	70,000	$898,000

It is important to understand that recording a restriction for plant expansion does not set up some kind of cash fund for the expansion. It merely ensures that investors are aware that all the retained earnings of the corporation are not eligible to be paid out as dividends while the restriction is in place and that the assets represented by the restriction will be used for another purpose in the meantime.

When the special restriction account has served its purpose and the requirement for which it was set up no longer exists, the amount in the restriction account is returned to the retained earnings account from which it was created. The entry setting up the restriction is reversed. The construction of the plant is recorded in the normal manner.

Assume that the plant expansion costs $70,000 and is paid in cash on August 31, 2021. The construction and payment is recorded as follows.

2021			
Aug. 31	Plant	70,000	
	Cash		70,000
	To record the payment for plant expansion.		

This journal entry records the actual plant expenditure. It also shows that restricted retained earnings are *not* used to pay for the plant. The expenditure is paid with the asset cash. At August 31, 2021, the entry to reverse the original journal entry and eliminate the restricted amount for plant expansion is made:

2021			
Aug. 31	Retained Earnings – Restriction for Plant Expansion	70,000	
	Retained Earnings		70,000
	To record expiry of the restriction on retained earnings.		

The restriction account is reversed when the plant has been built because dividends are no longer restricted by the need for a plant expansion.

Summary of Chapter 11 Learning Objectives

LO1 – Identify and explain characteristics of the corporate form of organization and classes of shares.

A corporation is a legal entity that is separate from its owners, known as shareholders. The board of directors is responsible for corporate policy and broad direction of the corporation, including hiring the person in charge of day-to-day operations. A corporation has an indefinite life, its shareholders have limited liability, it can acquire capital more easily than a sole proprietorship or partnership, and it pays income taxes on its earnings since it is a separate legal entity. A corporation can issue common and preferred shares. Common shares have voting rights while preferred shares do not. Preferred shares are listed before common shares in the shareholders' equity section of the statement of financial position. Preferred shareholders are entitled to receive dividends before common shareholders. Authorized shares are the total number of shares that can be issued or sold. Shares that have been issued can be repurchased by the corporation and either held in treasury for subsequent sale/distribution or cancelled. Outstanding shares are those that have been issued and are held by shareholders. Shares repurchased by a corporation are not outstanding shares.

LO2 – Evaluate relative financing effects of bonds, common shares, and preferred shares.

One of the most important considerations between the issue of debt or share capital is the potential effect of each of these financing methods on the present shareholders. These include effects on earnings per share, control of the corporation, and income taxes expense. Differences between projected and actual results can result in wrong decisions.

LO3 – Record and disclose preferred and common share transactions including share splits.

Common and preferred shares can be issued for cash or other assets. Organization costs are expensed when incurred and organizers sometimes accept shares in lieu of cash for their work in organizing the corporation. When more than one type of share has been issued, the shareholders' equity section of the statement of financial position must be classified by including a Contributed Capital section. When a corporations shares are selling at a high price, a share split may be declared to increase the marketability of the shares. There is no journal entry for a share split. Instead, a memorandum entry is entered into the records detailing the split. A share split increases the number of shares but does not change any of the dollar amounts on the financial statements.

LO4 – Record and disclose cash dividends.

Cash dividends are a distribution of earnings to the shareholders and are declared by the board of directors. On the declaration date, cash dividends declared (or retained earnings) is debited and dividends payable is credited. On the date of record, no journal entry is recorded. Shareholders who hold shares on the date of record are eligible to receive the declared dividend. On the date of payment, dividends payable is debited and cash is credited. Preferred shares may have a feature known as cumulative or non-cumulative. Cumulative preferred shares accumulate undeclared dividends from one year to the next. These unpaid dividends are called dividends in arrears. When dividends are subsequently declared, dividends in arrears must be paid before anything is paid to the other shareholders. Non-cumulative preferred shares do not accumulate undeclared dividends.

LO5 – Calculate and explain the book value per share ratio.

The book value of a share is the amount of net assets represented by one share. Book value per common share is the amount of net assets not claimed by creditors and preferred shareholders. Preferred book value per share is the net assets that preferred shareholders would receive if the corporation were liquidated.

LO6 – (Appendix 1) Record and disclose share dividends.

Share dividends distribute additional shares to shareholders and are declared by the board of directors. On the declaration date, share dividends declared (or retained earnings) is debited and common share dividends distributable, a share capital account, is credited. When the share dividend is distributed to shareholders, the Common Share Dividends Distributable account is debited and common shares is credited. Share dividends cause an increase in the number of shares issued and outstanding but do not affect account balances. Share dividends simply transfer an amount from retained earnings to share capital within the shareholders' equity section of the statement of financial position.

LO7 – (Appendix 2) Explain and record restrictions on retained earnings.

Retained earnings can be restricted by the board of directors for certain purposes, like a plant expansion. These restricted amounts are unavailable for dividends. Restrictions do not affect the total amount of retained earnings or total shareholders' equity. A restriction does not set aside cash to fund the activity. To set up a restriction, the Retained Earnings account is debited and an account (for example, Retained Earnings – Restriction for Plant Expansion) is credited. When the expansion is complete, the entry is merely reversed.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. What are some advantages of the corporate form of organization?
2. What is meant by *limited liability* of a corporation?
3. What rights are attached to common shares? Where are these rights indicated?
4. Describe a typical incorporation process.
5. What is a board of directors and whom does it represent? Are the directors involved in the daily management of the entity?
6. Describe:
   a. two main classes of shares that can be issued by a corporation; and
   b. the different terms relating to the status of a corporation's shares.
7. In what ways can shares be "preferred"? In which ways are they similar to common shares? Different from common shares?
8. Describe the accounting treatment of reacquired shares.
9. Why do corporations sometimes opt for a share split?
10. Assume a 2-for-1 share split occurs. Explain
    a. the effect on the total number of issued and outstanding shares; and
    b. the effect on stated capital.
11. Identify the major components of the shareholders' equity section of a statement of financial position. Why are these components distinguished?
12. What are the main issues a board of directors considers when making a dividend declaration decision?
13. Even if a corporation is making a substantial net income each year, why might the board of directors decide to not pay any cash dividends?
14. Distinguish among the date of dividend declaration, the date of record, and the date of payment.
15. Explain the different dividend preferences that may be attached to preferred shares. Why would preferred shares have these preferences over common shares? Does it mean that purchasing preferred shares is better than purchasing common shares?
16. What are dividends in arrears? Are they a liability of the corporation?
17. What does the book value of shares represent? How is it calculated?

18. A corporate entity has both preferred and common classes of shares. How is the book value of common shares calculated in this case? What is meant by the liquidation value of preferred shares?
19. Of what value is the calculation of book value per share?
20. If the market price of a share is less than its book value; is it a bargain? Why or why not?
21. (Appendix 1) What is the difference in accounting between cash dividends and share dividends? Give a sample journal entry for each.
22. (Appendix 1) How does a share dividend differ from a share split?
23. (Appendix 1) Does a share dividend change an investor's percentage of corporate ownership? Explain, using an example.
24. (Appendix 2) What is the difference between restricted and unrestricted retained earnings? Why would some retained earnings be restricted? Prepare the journal entries used to make a restriction.
25. (Appendix 2) How can retained earnings be said to be reinvested in a corporation?

Comprehension Problems

CP 11–1

View Answer

The following captions are sub–totals appearing in the shareholders' equity section of the statement of financial position for Hudson Day Corporation:

a. Total share capital
b. Total retained earnings

Required: For each event listed below, indicate, in the format provided, whether the amount of each subtotal is increased (↑) or decreased (↓). Indicate with an 'x' if there is no change to a particular subtotal. Consider each event to be unrelated to the others.

		Total share capital	*Retained earnings*
1.	Company is incorporated.	X	X
2.	Issued shares with a stated value of $1.		
3.	Split the common shares 2 for 1.		
4.	Recorded net income for the year.		
5.	Reacquired common shares previously outstanding.		
6.	Declared a cash dividend.		
7.	Paid a cash dividend.		
8.	(Appendix 1) Declared a share dividend.		
9.	(Appendix 2) Created a restriction on retained earnings.		

CP 11-2

View Answer

Bagan Corporation, a profitable growth company with 200,000 shares of common shares outstanding, is in need of approximately $40 million in new funds to finance required expansion. Currently, there are no other securities outstanding. Management has three options open:

a. Sell $40 million of 12-per cent bonds at face value.
b. Sell 10% preferred shares: 400,000 shares at $100 per share (dividend $10 per share).
c. Sell another 200,000 common shares at $200 per share.

Operating income (before interest and income taxes) on completion of the expansion is expected to average $12 million per year; the income tax rate is 50%.

Required:

1. Complete the schedule below and calculate the earnings per common share.

	12% bonds	*Preferred shares*	*Common shares*
Income before interest and income taxes	$12,000,000	$12,000,000	$12,000,000
Less: Interest expense			
Income before taxes			
Less: Income taxes at 50%			
Net income			
Less: Preferred dividends			
Net income available to common shareholders			
Number of common shares outstanding			
Earnings per common share			

2. Which financing option is most advantageous to the common shareholders? Why?

CP 11–3

View Answer

Essential Financial Service Corp. was incorporated on January 1, 2018 to prepare business plans for small enterprizes seeking bank financing.

Required: Prepare journal entries to record the following transactions on January 2, 2018:

1. Received an incorporation charter authorizing the issuance of an unlimited number of no par-value common shares and 10,000, 4% preferred shares.
2. Issued in exchange for incorporation costs incurred by shareholders 10,000 common shares at $1.
3. Issued for cash 1,000 preferred shares at $3 each.

CP 11–4

View Answer

A tract of land valued at $50,000 has been given to a corporation on July 31, 2018 in exchange for 1,000 preferred shares.

Required:

1. Prepare the journal entry to record the transaction.
2. Where would the transaction be classified in the statement of financial position?

CP 11–5

View Answer

The shareholders' equity section of Gannon Oilfield Corporation's statement of financial position at December 31, 2018 is shown below.

Preferred shares	
Authorized—100 shares	
Issued and outstanding—64 shares	$3,456
Common shares	
Authorized—2,000 shares	
Issued and outstanding—800 shares	1,680
Retained earnings	600
Total shareholders' equity	$5,736

Required:

1. What is the average price received for each issued preferred share?
2. What is the average price received for each issued common share?
3. What is the total stated capital of the company?

CP 11–6

View Answer

The general ledger accounts of Human Services Corp. have the following amounts recorded during December 2018:

Cash	
30,000	5,000
15,000	8,000
7,000	6,000
4,000	

Land	
10,000	4,000

Building	
12,000	
8,000	

Incorp. Costs	
14,000	

Preferred Shares	
6,000	15,000
	14,000

Common Shares	
5,000	30,000
	22,000
	7,000

Required: Reconstruct the transactions that occurred during December and prepare the journal entries to record these transactions, including descriptions. The transactions and related journal entries do not need to be listed in a particular order.

CP 11–7

View Answer

Strada Controls Inc. has 100,000 common shares outstanding on January 1, 2018. On May 25, 2018, the board of directors declared a semi-annual cash dividend of $1 per share. The dividend will be paid on June 26, 2018 to shareholders of record on June 7, 2018.

Required: Prepare journal entries for

1. the declaration of the dividend;
2. the payment of the dividend.

CP 11–8

View Answer

Landers Flynn Inc. has 1,000, $5 cumulative preferred shares outstanding. Dividends were not paid last year. The corporation also has 5,000 common shares outstanding. Landers Flynn declared a $14,000 cash dividend to be paid in the current year.

Required: Calculate the amount of dividends received by

1. the preferred shareholders;
2. the common shareholders.

CP 11–9

View Answer

The following information is extracted from the shareholders' equity section of the statement of financial position of Gibson Clothing Inc. at December 31, 2018:

Preferred shares, stated value $10, non-cumulative	
Issued and outstanding — 5,000 shares	$ 20,000
Common shares, stated value $2	
Issued and outstanding — 20,000 shares	40,000
Retained earnings	150,000
Total shareholders' equity	$210,000

Additional information:

a. There are $2,000 of dividends in arrears on the preferred shares.
b. The liquidation value of the preferred shares is $25,000.

Required: Calculate the book value of preferred and common shares.

CP 11–10

View Answer

The shareholders' equity section of Pembina Valley Manufacturing Limited's statement of financial position at December 31, 2018 is shown below.

Preferred shares, non-cumulative	
Authorized — 500 shares	
Issued and outstanding — 300 shares	$ 300
Common shares	
Authorized — 100 shares	
Issued and outstanding — 20 shares	500
Retained Earnings	192

Total shareholders' equity	$992

Note: There is $30 of dividends in arrears on the preferred shares. The liquidation value of preferred shares is $300.

Required:

1. Calculate the book value per share of
   a. the preferred shares; and
   b. the common shares.
2. Assume that the common shares were split 2 for 1 on January 2, 2019 and that there was no change in any other account at that time. Calculate the new book value of common shares immediately following the share split.

CP 11–11

View Answer

The following note appeared on the statement of financial position of Sabre Rigging Limited:

> As of December 31, 2018, dividends on the cumulative preferred shares were in arrears for three years to the extent of $15 per share or $15,000 in total.

Required:

1. Does the amount of the arrears appear as a liability on the December 31, 2018 statement of financial position? Explain your answer.
2. Why might the dividends be in arrears?
3. The comptroller of Sabre Rigging projects net income for the 2019 fiscal year of $35,000. When the company last paid dividends, the directors allocated 50 per cent of current year's net income for dividends. If dividends on preferred shares are resumed at the end of 2019 and the established policy of 50 per cent is continued, how much will be available for dividends to the common shareholders if the profit projection is realized?

CP 11–12 (Appendix 1)

View Answer

The shareholders' equity section of Lakeview Homes Corporation's statement of financial position at December 31, 2018 is reproduced below:

Shareholders' Equity	
Common shares	
Authorized 10,000 shares	
Issued 5,000 shares	$ 20,000
Retained earnings	100,000
Total shareholders' equity	$120,000

On January 15, 2018, Lakeview Homes declared a 10 per cent share dividend to holders of common shares. At this date, the common shares of the corporation were trading on the stock exchange at $10 each. The share dividend was issued February 15, 2018

Required: Prepare the journal entries to record the share dividend.

CP 11–13 (Appendix 1)

View Answer

Arrow Streaming Corporation has 10,000 common shares outstanding at January 1, 2018 with a stated value of $100,000. On April 1, Arrow Streaming declared a 10 per cent share dividend, payable on April 15 to shareholders of record on April 10. The market value of Arrow's shares on April 1 was $15. On June 1, the company declared a $2 cash dividend per share to common shareholders of record on June 10, and paid the dividend on June 30. Assume the year-end of the corporation is December 31.

Required: Prepare journal entries for the above transactions, including closing entries.

CP 11–14 (Appendix 1)

View Answer

Blitz Power Tongs Inc. received a charter that authorized it to issue an unlimited number of common shares. The following transactions were completed during 2018:

Jan.	5	Issued 10 common shares for a total of $150 cash.
	12	Exchanged 50 shares of common shares for assets listed at their fair values: machinery — $100; building — $100; land — $50.
Feb.	28	Declared a 10% share dividend. Market value is $7 per share. Net income to date is $60.
Mar.	15	Issued the share dividend.
Dec.	31	Closed the 2018 net income of $200 from the Income Summary account in the general ledger to the Retained Earnings account.
Dec.	31	Declared a $1 per share cash dividend.

Required

1. Prepare journal entries for the 2018 transactions, including closing entries.
2. Prepare the shareholders' equity section of the statement of financial position at
   a. January 31, 2018
   b. February 28, 2018
   c. December 31, 2018.

CP 11–15 (Appendix 2)

View Answer

Acme Corporation has $100,000 of common shares outstanding and $200,000 of retained earnings at December 31, 2018. The board of directors passes a resolution at that date to restrict $80,000 of retained earnings for a plant expansion.

Required:

1. Record the restriction in journal entry form.
2. Show the shareholders' equity section of the statement of financial position and appropriate note disclosure at December 31, 2018.
3. Record the construction of the building when completed on June 30, 2019 for a cost of $90,000, paid in cash.
4. Record the journal entry to record the lifting of the restriction on July 31, 2019.

CP 11–16 (Appendices 1 and 2)

View Answer

Stetson Auto Inc. was incorporated on January 1, 2018 and commenced operations at that date. A $2,000 common share dividend was declared and paid on October 31, 2018. The following information was taken from the company's records at December 31, 2018:

Common shares, stated value $1	
Issued and outstanding—10,000 shares	$ 10,000
Restriction—plant addition	150,000
Revenues (total for 2018)	2,575,000
Expenses (total for 2018)	2,000,000
Cash dividends declared	23,000

Required: Prepare the shareholders' equity section of Stetson Auto's statement of financial position at December 31, 2018 and the statement of changes in shareholders' equity for the year then ended.

Problems

P 11–1

View Answer

The board of directors of Megalopolis Inc. has approved management's recommendation to expand the production facilities. The firm currently manufactures only heavy machinery, but plans are being developed for diversifying the corporation's activities through the production of smaller and more versatile equipment. The directors are considering the following financing methods raise $2 million of additional capital:

a. Sell $2 million of 12% bonds at face value.
b. Sell $8 preferred shares: 20,000 shares at $100 a share (no other preferred shares are outstanding).
c. Sell another 50,000 shares of common shares at $40 a share (currently 40,000 common shares are outstanding).

Income before interest and income taxes is expected to average $1,000,000 per year following the expansion; the income tax rate is 50%.

Required:
1. Calculate the earnings per common share for each alternative.
2. As representatives of common shareholders, which financing method most likely meets the board of directors' needs?
3. What other factors should the board of directors consider?

P 11–2

View Answer

Crystal Clear Electronics Inc. was incorporated on January 1, 2018 and was authorized under its charter to issue the following shares — 20,000 non-cumulative, non-voting, 5% preferred shares and an unlimited number of no par-value, voting common shares.

Required:
1. Prepare journal entries to record the following 2018 transactions:
   a. Issued 3,000 preferred shares for $6 cash each on January 2.
   b. Issued 2,000 common shares for $2 cash each on January 2.
   c. Issued 5,000 preferred shares for $5 cash each on January 12.
   d. Issued 1,000 common shares for $1 cash each on August 1.
   e. Issued 500 preferred shares for land valued at $15,000 on December 15.
2. Prepare the shareholders' equity section of the statement of financial position at December 31, 2018 and the related note to the financial statements.
3. On December 15, 2019, the common shares were split 2 for 1. Assuming no other transactions occurred during 2018 or 2019, prepare the statement of changes in equity for the years ended December 31, 2018 and 2019.

P 11–3

View Answer

Following is the shareholders' equity section of Critter Contracting Inc. shown before and after a share split on April 15, 2019.

Before split		**After split**	
Shareholders' Equity		*Shareholders' Equity*	
Common shares		Common shares	
Authorized — 5,000 shares		Authorized— ? shares	
Issued and outstanding—		Issued and outstanding —	
1,000 shares	$100,000	? shares	$?

On April 15, the board of directors authorized a 5 for 1 share split.

Required:
1. Complete the shareholders' equity section of the statement of financial position after the split.
2. Record a memorandum indicating the new number of shares.
3. If the market value per share was $40 before the split, what would be the approximate market value after the split? Why?

P 11–4

View Answer

Relevant financial information for Gearing Gravel Limited at January 1, 2018 is as follows:

5% Preferred shares, non-cumulative, non-voting	
Authorized — 1,000 shares	
Issued and outstanding — 10 shares	$ 50,000
Common shares, voting	
Authorized — unlimited	
Issued and outstanding — 200 shares	10,000
Retained earnings	100,000
Total shareholders' equity	$160,000

During the year, total cash dividends of $3,000 were declared. Net income for the year amounted to $20,000. 100 common shares were issued on February 28, 2018 for $5,000. 20 common shares were reacquired on December 31 for $1,000 and held as treasury shares.

Required: Prepare the statement of changes in equity for the year ended December 31, 2018 and the related note to the financial statements.

P 11–5

View Answer

Required: For each event listed below, indicate, in the format provided, whether the amount of each sub–total is increased (↑) or decreased (↓). Indicate with an 'x' if there is no change to a particular subtotal. Consider each event to be unrelated to the others, unless otherwise indicated.

	Assets	*Liabilities*	*Shareholders' Equity*
1. Commons shares were issued for cash.	↑	X	↓
2. Declared a cash dividend.			
3. Common shares split 3:1.			
4. Calculated book value of common shares.			
5. Paid cash dividend related to item 2 above.			
6. (Appendix 2) Recorded a restriction of retained earnings.			

P 11–6

View Answer

The following information relates to River Valley Produce Limited as at December 31, 2018:

Shareholders' Equity		
Share capital		
Preferred shares, $8, stated value $100, non-voting		
Authorized — 1,000 shares		
Issued and outstanding — 150 shares	$15,000	
Common shares, stated value $5, voting		
Authorized — 10,000 Shares		
Issued and outstanding — 4,800 shares	24,000	
Total share capital		$ 39,000
Retained earnings		40,000
Total shareholders' equity		$79,000

The following transactions occurred during 2019:

a. Reacquired 400 common shares at $10 each; held as treasury shares.
b. Split the common shares 2 for 1.
c. Issued an additional 200 common shares for $3 cash each.
d. Transferred net income of $19,500 from the Income Summary account in the general ledger to the Retained Earnings account.
e. The board authorized a $5,000 of retained earnings to be restricted for plant expansion.*

*complete only if Appendix 2 is covered

Required:

1. Prepare journal entries for the 2019 transactions.
2. Prepare the statement of changes in equity for the year ended December 31, 2019.
3. What amount of is available for distribution to shareholders as of December 31, 2019?

P 11–7

View Answer

The following is the shareholders' equity section of the statement of financial position of Tridon Construction Limited at December 31, 2018.

Shareholders' Equity

Common Shares, voting	
Authorized — 500 shares	
Issued and outstanding — 300 shares	$3,070
Retained earnings	500
Total shareholders' equity	$3,570

Required:

1. What is the stated value per common share? the book value per common share?
2. On December 31, 2018 the Tridon Construction common shares traded at $24. Why is the market value different from the book value of commons shares?

P 11–8 (Appendix 1)

View Answer

The shareholders' equity section of the statement of financial position of TWR Contracting Inc. at December 31, 2019 showed the following amounts:

Shareholders' Equity	
Preferred shares, $.60, non-voting, cumulative, non-participating	
Issued and outstanding — 40 shares	$ 400
Common shares, voting	
Issued and outstanding — 2,000 shares	2,000
Retained earnings	900
Total shareholders' equity	$3,300

The following transactions occurred during 2020:

Feb.	15	Declared the regular $0.30 per share semi-annual cash dividend on its preferred shares and a $0.05 per share cash dividend on the common shares to holders of record March 5, payable April 1.
Apr.	1	Paid the dividends declared on February 15.
May	1	Declared a 10 per cent share dividend to common shareholders of record May 15 to be issued June 15, 2018. The market value of the common shares at May 1 was $2 per share.
June	15	Issued the dividends declared on May 1.
Aug.	15	Declared the regular semi–annual cash dividend on preferred shares and a cash dividend of $0.05 on the common shares to holders of record August 31, payable October 1.
Oct.	1	Paid the dividends declared on August 15.
Dec.	15	Declared a 10 per cent common share dividend to common shareholders of record December 20 to be issued on January 15, 2021. The market value of the common shares at December 15 was $3 per share.
Dec.	31	Net income for the year ended December 31, 2020 was $1,400.

Required:

1. Prepare journal entries to record the 2020 transactions, including closing entries. Show calculations. Descriptions are not necessary.
2. Prepare the statement of changes in equity for the year ended December 31, 2020.

P 11–9 (Appendices 1 and 2)

View Answer

At December 31, 2018, the shareholders' equity section of the statement of financial position for the Apex Auto Corporation totalled $2,000,000. Following are the balances of various general ledger accounts at that date.

Preferred shares, $.40, cumulative	Issued 50,000 shares	$500,000
Common shares	Issued 50,000 shares	750,000
Retained earnings—unrestricted		750,000

The following transactions occurred during 2019.

Mar. 20	A cash dividend of $0.20 per preferred share was declared, payable April 1 to shareholders of record on March 25.
Apr. 1	Payment of previously declared dividend on preferred shares was made.
June 15	The regular semi-annual cash dividend on common shares of $0.40 per share was declared, payable July 10 to shareholders of record on July 1.
July 10	Payment of the previously-declared dividend on common shares was made.
Aug. 1	10,000 common shares were issued for $200,000 cash.
Nov. 15	The board of directors met and restricted an additional $75,000 for the plant extension.*
Dec. 15	The regular semi-annual dividend of $0.40 per common share was declared payable December 31, 2019.
Dec. 31	A cash dividend totalling $25,000 was paid.

*complete only if Appendix 2 is covered

Required:

1. What amount of cash dividends would be distributed to common shareholders on December 31, 2019?
2. Prepare journal entries for the 2019 transactions. Ignore closing entries. Descriptions are not necessary.
3. Prepare the statement of changes in equity for the year ended December 31, 2019 assuming net income for the year amounted to $165,000.

CHAPTER TWELVE

Proprietorships and Partnerships

To this point, the corporate form of business organization has been studied. This chapter will discuss the nature of proprietorships and partnerships, and how to account for various types of transactions within these entities. Note that IFRS do not apply to proprietorships and partnerships. Specific accounting conventions may be prescribed by legislation in various political jurisdictions.

Chapter 12 Learning Objectives

LO1 – Describe the characteristics of a proprietorship.

LO2 – Describe how the financial statements of a proprietorship are different from those of a corporation.

LO3 – Describe the characteristics of a partnership.

LO4 – Account for a partnership's profits and losses and prepare a statement of partner's capital.

LO5 – Account for the admission or withdrawal of partners from a partnership.

LO6 – Account for the liquidation of a partnership.

A. Proprietorships

LO1 - Describe the characteristics of a proprietorship.

A **proprietorship** is a business owned by one person. It is not a separate legal entity like a corporation. This means that the business and the owner are considered to be the same. For example the profits of a proprietorship are taxed as part of the owner's personal income tax return. Also, a corporation has limited liability. Creditors cannot normally access the personal assets of shareholders to satisfy debts. On the other hand, a proprietorship has **unlimited liability**. If the business cannot pay its debts, the owner is responsible for these even if the business' debts are greater than the owner's personal resources. Another difference: a corporation has unlimited life. Shares can be bought or sold, or inherited by others. A proprietorship ceases to exist when the owner dies.

Investing in a Proprietorship

When the shareholders invest in a corporation, shares are issued. A typical journal entry would be:

2017			
Jan. 1	Cash	10,000	
	Common Shares		10,000
	To record the issuance of 1,000 common shares at $10 per share.		

The shares represent how much of the corporation is owned by each shareholder. In a proprietorship, there is only one owner, and the proprietorship and owner are not considered to be separate legal entities. As a result, there is no need to keep track of share capital and retained earnings in separate accounts as in a corporation. When an owner invests in a proprietorship, a typical journal entry would be:

2017			
Jan. 1	Cash	10,000	
	Proprietor's Capital		10,000
	To record a cash contribution by the owner.		

When a corporation earns net income, it is closed to the Retained Earnings at the end of each fiscal year. When a proprietorship earns net income, the income statement accounts are closed to the same **Proprietor's Capital** account.

Distribution of Income in a Proprietorship—Withdrawals

A corporation distributes a portion of income earned to shareholders in the form of dividends. In a proprietorship, the owner distributes a portion of the business's income in the form of **withdrawals** and these are recorded as debits to the Proprietor's Withdrawals account. At year-end, this account is closed to Proprietor's Capital account. A typical journal entry to record a cash withdrawal would be:

2017			
Jan. 31	Proprietor's Withdrawals	1,000	
	Cash		1,000
	To record a cash withdrawal by the owner.		

Closing Entries for a Proprietorship

In effect, all transactions with the proprietor are recorded in one account – Proprietor's Capital. Because of this, the four closing entries for a proprietorship are slightly different from those of a corporation:

Figure 12–1 compares the closing entries for a proprietorship and a corporation, assuming revenue of $10,000, expenses of $6,000, and withdrawals/dividends of $1,000 for the year ended December 31, 2018.

	Corporation			Proprietorship		
2018	(1)			(1)		
Dec. 31	Revenue	10,000		Revenue	10,000	
	Income Summary		10,000	Income Summary		10,000
	To close revenue to the Income Summary.			To close revenue to the Income Summary.		
	(2)			(2)		
Dec. 31	Income Summary	6,000		Income Summary	6,000	
	Expenses		6,000	Expenses		6,000
	To close expenses to the Income Summary.			To close expenses to the Income Summary.		
	(3)			(3)		
Dec. 31	Income Summary	4,000		Income Summary	4,000	
	Retained Earnings		4,000	Proprietor's Capital		4,000
	To close the Income Summary to Retained Earnings.			To close the Income Summary to Proprietor's Capital.		

	(4)			(4)		
Dec. 31	Retained Earnings	1,000		Proprietor's Capital	1,000	
	Dividends		1,000	Prop. Withdrawals		1,000
	To close dividends to Retained Earnings.			To close withdrawals to Proprietor's Capital.		

Figure 12–1 Comparing Closing Entries for a Proprietorship and Corporation

Financial Statements of a Proprietorship

LO2 – Describe how the financial statements of a proprietorship are different from those of a corporation.

The financial statements for a proprietorship are much the same as those of a corporation. One difference is that the income statement of a proprietorship does not include income taxes expense (since its profits are included in the owner's personal income tax return). As well, no salaries expense paid the proprietor is recorded on a proprietorship's income statement , since the proprietor receives all the net income of the business. This is the owner's remuneration.

The effects of these differences are shown in Figure 12–2, Assume a slight variation on the information presented above: revenue of $10,000, salaries to owner of $2,000, income taxes expense of $500, other expenses of $3,500. The 2018 income statement s (bolded for illustrative purposes) would show:

ABC **Corporation**
Income Statement
For the Year Ended December 31, 2018

Revenue		$10,000
Salaries	**$2,000**	
Other expenses	3,500	5,500
Income before income taxes		4,500
Income taxes		**500**
Net income		$ 4,000

ABC **Proprietorship**
Income Statement
For the Year Ended December 31, 2018

Revenue	$10,000
Other expenses	3,500
Net income	$ 6,500

Figure 12–2 Comparing the Income Statement of a Corporation and a Proprietorship

Net incomes are different because salaries expense and income taxes expense are included in the corporation's income statement , but excluded from the proprietorship's income statement . Rather, these two expenditures are considerd to be proprietor withdrawals, and are included in the statement of proprietor's capital. This is illustrated below.

The statement of changes in equity for each of a proprietorship and corporation includes the same elements: beginning equity, additional investments by the shareholders/owner, net income, distribution of income to the shareholders/owner, and the ending equity. However, the proprietorship statement combines all the equity items in one account, the Proprietor's Capital account. In a corporation, shareholders' equity is divided between share capital and retained earnings. These differences are illustrated in Figure 12–3. Assume the same information as above. In addition, assume that no opening equity balances, shares issued/ proprietor's contributions of $5,000 for the year, and cash dividends/withdrawals of $1,000. The statements of changes in equity (bolded for illustrative purposes) would show:

ABC Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earning*	*Total equity*
Bal. at Jan. 1, 2018	$ -0-	$ -0-	$ -0-
Shares issued	5,000		5,000
Net income		**4,000**	4,000
Dividends		**(1,000)**	(1,000)
Bal. at Dec. 31, 2018	$ 5,000	$ 3,000	$ 8,000

ABC Proprietorship
Statement of Proprietor's Capital
For the Year Ended December 31, 2018

Bal. at Jan. 1, 2018	$ -0-
Contributions	5,000
Net income	**6,500**
Withdrawals	**(3,500)**
Bal. at Dec. 31, 2018	$ 8,000

Figure 12–3 Comparing the Statement of Changes in Equity for a Corporation and a Proprietorship

Although net income differs, ending total equity ($8,000) is the same in both cases. Salaries and income taxes expenses omitted on the proprietorship income statement are instead added to the proprietor withdrawals. These differences offset each other.

The statement of financial position for each of a proprietorship and corporation includes the same elements: assets, liabilities, and equity. Only the equity section of the statement differs. In a proprietorship, all the equity items are combined in one account, the owner's capital account. In a corporation, equity is divided between share capital and retained earnings. These differences are illustrated in Figure 12–4. Asset and liability amounts are all assumed. (Items are bolded for illustrative purposes.)

ABC Corporation Statement of Financial Position At December 31, 2018		
Assets		
Current		
Cash		$ 9,500
Accounts receivable		8,500
Total assets		$18,000
Liabilities		
Current		
Accounts payable		$10,000
Shareholders' Equity		
Share capital	$5,000	
Retained earnings	3,000	8,000
Total liabilities and **shareholders' equity**		$18,000

ABC Proprietorship Statement of Financial Position At December 31, 2018	
Assets	
Current	
Cash	$9,500
Accounts receivable	8,500
Total assets	$18,000
Liabilities	
Current	
Accounts payable	$10,000
Proprietor's Capital	
AB Carr, capital	8,000
Total liabilities and **proprietor's capital**	$18,000

Figure 12–4 Comparing the Statement of Financial Position of a Corporation and a Proprietorship

B. Partnerships

LO3 - Describe the characteristics of a partnership.

A partnership is an unincorporated business owned by more than one person. Partners should have a **partnership agreement** that stipulates such things as each partner's rights and duties, the sharing of net income, limits on withdrawals, and means to terminate the partnership. Like a proprietorship, a partnership is not a separate legal entity. For example, each partner's share of the partnership profits is included as income on the partner's personal income tax return. Also like a proprietorship, partnerships have unlimited liability.[1] Each partner is personally liable for debts that the partnership cannot pay. In the event that a partner is unable to pay a proportionate share of partnership debts, the other partners can required by creditors to pay these.

Also like a proprietorship, a partnership has a limited life. For example, an existing partnership is dissolved when a new partner is admitted, or an existing partner withdraws or dies. Partner dissolution does not

[1] Limited liability partnerships (LLP) are permitted in certain jurisdictions. The details of this type of business organization are beyond the scope of this text.

necessarily mean that normal operations cease. Usually the same business continues under a new partnership agreement. Accounting for partnership capital therefore involves issues related to the formation and dissolution of partnerships and to the allocation of the profits and losses to the individual partners.

Partnerships also have a number of unique characteristics. These include mutual agency, co-ownership of assets, and sharing of profit and losses. As a result, accounting for partners' capital differs from accounting for shareholders' equity and proprietor's capital. These characteristics are described below.

Mutual Agency

Unless otherwise stated in the partnership agreement, each partner is able to make decisions that are legally binding, not only on the partnership, but also on the other partners. This is known as **mutual agency**. The only exception involves activities that fall outside the normal activities of the partnership. For example, a partnership formed to sell used cars would not normally include the buying and selling of footwear; in this case, partners would not be legally bound to footwear contracts signed by only one of the partners.

Co–Ownership of Assets

Unless the partnership agreement specifies otherwise, all assets contributed to the partnership by individual partners are **co-owned** by all partners. Each partner, therefore, has a claim against all partnership assets up to the amount of his/her capital balance. Therefore, partnership assets are often sold on liquidation to facilitate their distribution to partners in the form of cash.

Sharing of Profits and Losses

The partnership agreement usually stipulates the manner in which profits and losses will be shared. If no such provision is specified, then partners share all profits and losses equally. Accounting issues related to the division of profits and losses are discussed below.

Advantages of a Partnership

A partnership has several advantages over other forms of business organizations. It can be easily formed, without the legal process and costs involved in incorporation. A partnership is less subject to government supervision; there are usually fewer government regulations and less paper work regarding partnerships than corporations. Because a partnership is not a legal entity, it is not subject to corporate income tax; individual partners file personal income tax returns, which include their allocation of partnership profits. Since a partnership includes at least two individuals, it has access to more capital and expertise than does a proprietorship.

Disadvantages of a Partnership

Partners have to answer to other partners for their actions and each has mutual agency and unlimited liability. Therefore, individual partners are legally liable for the financial debt arising from actions of other partners. A partnership is dissolved on the death or withdrawal of a partner, although the business may continue with new partners. This arrangement is more cumbersome than the selling of shares in a corporation. Shares can usually be transferred easily among investors. Also, a corporation usually has access to a larger amount of capital, since shares can be issued to a wider range investors, particularly those who want to be involved with running the business. Corporate tax rates can be more favourable than personal tax rates.

Partnership Accounting

Before considering the differences in record keeping for incorporated and unincorporated businesses, we will examine the differences in the statement of financial position reporting for each type of organization. The example below shows the owners' equity section of the statement of financial position for three businesses that have identical financial positions. Although the asset and liability presentation is the same, the presentation of the equity section differs in each case, as follows:

a. Corporation

Shareholders' Equity	
Share capital	$10,000
Retained earnings	5,000
Total shareholders' equity	$15,000

b. Proprietorship

Proprietor's Capital	
Jane Jones, capital	$15,000

c. Partnership

Partners' Capital	
Jane Jones, capital	$7,500
Jack Brown, capital	7,500
Total partners' capital	$15,000

As discussed before, the shareholders' equity section of a corporation's statement of financial position is divided into two categories – share capital and retained earnings. The first category represents the owner's investments in shares of the company. The second category is the accumulated earnings of the corporation less any dividends paid to owners from commencement of operations.

For a partnership, and similar to that of a proprietorship, each owners' equity is shown as individual **Partner's Capital** accounts . The capital account reflects each partner's capital contributions to the business, the partner's share of accumulated earnings, and any withdrawals by the particular partner.

Business transactions for a partnership are recorded in the same manner as those for a proprietorship. Distributions are recorded in a **Partner's Withdrawals** account. Individual capital and withdrawal accounts are maintained for each partner in the general ledger. The withdrawals account balance is closed to each partner's capital account at the end of the accounting time period.

Partnership Capital Accounts

Each partner has an individual account that is credited with capital contributions to the partnership. The following entry records a $5,000 cash contribution by partner A.

Cash	5,000	
A, Capital		5,000
To record investment by A.		

If non–cash assets are contributed, then the appropriate asset account is debited instead of cash.

Partner withdrawals of assets from the partnership are recorded in each partner's withdrawals account. If partner

A withdraws $1,000 cash, for example, the following entry is recorded:

A, Withdrawals	1,000	
Cash		1,000
To record withdrawals by A.		

At year-end, each partner's withdrawals account is closed to their capital account. The following closing entry would close partner A's withdrawals account, assuming no further withdrawals have been made.

Each withdrawals account is closed directly to the capital account of the applicable partner.

A, Capital	1,000	
A, Withdrawals		1,000
To close partner A withdrawals to A's capital account.		

If a partner withdraws any asset, including cash for personal use, the withdrawals account is debited for the cost of the asset and the appropriate asset account is credited for the same amount. For example, if partner A takes a dress from the business with a cost of $20 and a selling price of $100, the journal entry will be:

A, Withdrawals	20	
Inventory		20
To record dress taken from inventory by partner A.		

If an owner uses the business's funds to pay personal debts, the withdrawals account is again debited. For example, if partner B writes a cheque drawn on the partnerships' bank account for $35 to pay for his child's swimming lessons, the journal entry will be:

B, Withdrawals	35	
Cash		35
To record personal expenditure by partner B.		

C. Allocation of Partnership Profits and Losses

LO4 – Account for a partnership's profits and losses and prepare a statement of partner's capital.

Recall that individual revenue and expense accounts are closed to the Income Summary general ledger account at the end of each fiscal year. In a partnership, and similar to a proprietorship, the Income Summary is then closed directly to each partner's capital account in the general ledger at the fiscal year-end in accordance with an agreed-upon formula.

For example, if a partnership earned $15,000 and the partnership agreement states that profits and losses are to be split evenly between partner A and partner B, the closing entry would be:

Income Summary	15,000	
A, Capital		7,500
B, Capital		7,500
To close Income Summary to partners' capital accounts.		

Profits and losses are allocated according to a formula. This is usually specified in the partnership agreement. The formula may consider three factors: a return to each partner for the amount of capital invested in the partnership, a payment to each partner for services rendered, and a further division of any remaining profit (or loss) according to a specified profit and loss sharing ratio.

Division Using a Fixed Ratio

The division of profits and losses according to a fixed ratio is appropriate when each partner makes an equal contribution to the business. Ideally, each partner would have an equal amount of capital invested in the partnership and would devote an equal amount of time and effort in the business. However, usually the amount of capital differs, and time and effort devoted to the business is unequal. The initial calculation of a fixed ratio inclusion in the partnership agreement considers these factors. Partners can agree to share profits in any manner – for example, in a fixed ratio, such as 3:2. A ratio of '3:2' means that 60 per cent (3/5) of the partnership income is allocated to partner A and 40 per cent (2/5) is allocated to Partner B. Assuming that A and B share profits in the ratio of 3:2, a $15,000 profit would be divided and recorded by the following entry:

Income Summary	15,000	
A, Capital (3/5 x 15,000)		9,000
B, Capital (2/5 x 15,000)		6,000
To record division of partnership profits.		

Partnership losses are allocated in the same manner. Assume that partners A and B share profits and losses at a fixed ration of 4:5. In this case, a $9,000 loss would be divided as follows:

A, Capital (4/9 x 9,000)	4,000	
B, Capital (5/9 x 9,000)	5,000	
Income Summary		9,000
To record division of partnership loss.		

Division Using Salary and Interest Allocations

Since the time and effort devoted by individual partners to the business is often unequal and the amount of capital balance varies among partners, other allocation method may be used. Profits and losses can be allocated by **interest on partners' capital balances** and **salaries to partners** to each partner, in accordance with individual contributions. Any remaining profits and losses can be divided through the profit and loss sharing ratio. It is important to understand that the salary and interest allocations are not deducted as expenses on the income statement; *salary* and *interest* used here refer only to individual factors used in dividing profits and losses among partners.

To illustrate: Before beginning their partnership, A and B agreed that 12 per cent interest would be allocated to their capital balances and that A deserved more compensation because of his valuable technical skills. Accordingly, allocation of profit was also to be based on salaries of $7,000 to A and $5,000 to B. They also agreed that any remaining profit and loss should be shared in the ratio of 3:2.

Assume A and B have each contributed $10,000 to the partnership, and that net income for the year is $15,000. The net income would be allocated as follows:

	A	*B*	*Total*
Amount of profit to be allocated to partners			$15,000
Salary allocation	7,000	5,000	(12,000)
Balance			3,000
Interest allocation:			
A: $10,000 x 12%	$ 1,200		
B: $10,000 x 12%		$ 1,200	(2,400)
Balance			600
Balance allocated in profit and loss sharing ratio:			
A: $600 x 3/5	360		
B: $600 x 2/5		240	(600)
Balance			–0–
Allocated to partners	$ 8,560	$ 6,440	

The following entry records this profit allocation between A and B:

Income Summary	15,000	
A, Capital		8,560
B, Capital		6,440

To record division of profit per partnership agreement and schedule.

If the $15,000 partnership income had been inadequate to cover the salary and interest allocated to A and B, the difference would have been allocated in the profit and loss sharing ratio. Assuming that partnership net income had amounted to $9,000, the following calculation of amounts allocated to the partners would be made:

	A	*B*	*Total*
Amount of loss to be allocated to partners			($9,000)
Salary allocation	$ 7,000	$ 5,000	(12,000)
Balance			(3,000)
Interest allocation:			
A: $10,000 x 12%	1,200		
B: $10,000 x 12%		1,200	(2,400)
Balance			(5,400)
Balance allocated in profit and loss sharing ratio:			
A: ($5,400) x 3/5	(3,240)		
B: ($5,400) x 2/5		(2,160)	5,400
Balance			–0–
Allocated to partners	$ 4,960	$ 4,040	

The journal entry to allocate the loss would be:

Income Summary	9,000	
A, Capital		4,960
B, Capital		4,040

To record division of loss per partnership agreement and schedule.

Partnership Financial Statements

Like a proprietorship, the income statement of a partnership or proprietorship is similar to that of a corporation, except that there is no income taxes expense. Income taxes are paid personally by partners on all sources of income, including their amounts of partnership income allocated each year. A partnership income statement also does not record any salaries expense paid to partners. “Salaries” consist of the allocation of net income or loss each year to the respective partner, as described above.

Similar to a proprietorship’s statement of equity, a **statement of partners’ capital** shows each partner’s contributions to the business, net income (or loss) allocations, and withdrawals during the year.

Assume that for the year ended December 31, 2018, partners A and B each had opening capital balances of $10,000. Each contributed $5,000 to the partnership during the fiscal year. Net income for the year equalled $15,000, allocated as A: $8,560; B: 6,400. Partner A withdrew $10,000 during the year; partner B withdrew $15,000. The statement of partners’ capital for A and B Partnership would appear as follows:

A and B Partnership
Statement of Partners’ Capital
For the Year Ended December 31, 2018

	A	*B*	*Total*
Bal. at Jan. 1, 2018	$ 5,000	$ 5,000	$10,000
Contributions	5,000	5,000	10,000
Net income	8,560	6,440	15,000
Withdrawals	(10,000)	(15,000)	(25,000)
Bal. at Dec. 31, 2018	$ 8,560	$ 1,440	$10,000

The statement of financial position of a partnership can show the equity of each partner if there are only a few. For instance, the partners’ capital section of A and B Partnership could appear as follows on the statement of financial position:

Partners’ Capital	
A, capital	$ 8,560
B, capital	1,440
Total partners’ capital	$10,000

If there are many partners, only a total capital amount could be shown ($10,000 in this case), with details of each partner’s capital account disclosed in the statement of partners’ capital.

D. Admission and Withdrawal of Partners

LO5 – Account for the admission or withdrawal of partners from a partnership.

The admission of a new partner results in the creation of a new partnership. Although the business of the former partnership can continue, the former partnership ceases to exist. Since the liability, agency, and profit sharing arrangements may be altered, a new partnership agreement is required.

Assume the following statement of financial position information.

A and B Partnership
Statement of Financial Position
At December 31, 2018

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	22,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	20,000
	$27,000			$27,000

New partner C wants to enter the A and B partnership. C can be admitted either by purchasing an existing partner's interest or by contributing assets to the partnership.

Purchase of an Existing Partner's Interest

Assume C is going to purchase B's interest in A and B Partnership, and B will leave. The purchase of an existing partner's interest in a partnership is a private transaction between the new partner and the applicable existing partner. The new partner C makes a payment to the existing partner B, who in turn transfers the partnership interest. This type of purchase does not affect the assets of the partnership. Only an entry recording the change in ownership is made in the partnership books. The following entry illustrates the recording of C's purchase of B's interest.

B, Capital	10,000	
C, Capital		10,000
To record transfer of B's partnership interest to C.		

The statement of financial position of the partnership would show the following:

A and C Partnership
Statement of Financial Position
At December 31, 2018

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	22,000			
		Partners' capital		
		A, capital	$10,000	
		C, capital	10,000	20,000
	$27,000			$27,000

The amount paid by C to B is not reflected in the partnership records. Assume now that C purchased only ½ of B's interest. In this case, only half of B's interest would be transferred to C by the following entry:

B, Capital	5,000	
C, Capital		5,000
To record transfer of half B's partnership interest to C.		

The statement of financial position of the partnership would show the following:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	22,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	5,000	
		C, capital	5,000	20,000
	$27,000			$27,000

Investment in the Partnership

Rather than purchase an existing partner's interest, the new partner could contribute cash or other assets in return for a partnership interest. This method differs from the purchase of an existing partner's interest; in this case, both the assets and equity of the partnership are increased. Assume that C contributes assets at their fair value of $10,000 (referred to as *other assets* for illustrative purposes) to the partnership for a one-third interest in the partnership capital after his contribution.

This investment is recorded as follows:

Other Assets	10,000	
C, Capital		10,000
To record C's investment in the partnership.		

Following the investment, the statement of financial position would appear as follows:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets				
($22,000 + 10,000)	32,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	
		C, capital	10,000	30,000
	$37,000			$37,000

In some cases, C may receive more or less than a $10,000 capital balance because a **bonus** may be given either to the new partner or to the existing partners.

The partnership may want to add a new partner who can bring certain technical skills, management abilities, or some other desirable business strengths. To entice a desirable individual, a bonus may be offered in excess of the amount invested by the new partner. In this case, the existing partners allocate a portion of their capital to C.

Bonus to the New Partner

Assume instead that C invests assets at their fair value of $4,000 into the partnership for a one-third ownership interest. The new total capital amounts to $24,000 ($10,000 + 10,000 + 4,000); of this amount, $8,000 ($24,000 x 1/3) belongs to C. In this case, an equal amount of capital must be contributed by A and B to C to make up the difference between what C contributes and C's capital balance. A bonus is used to accomplish this. Assuming that A and B share profits equally, the new partner's entry is recorded as follows:

Other Assets	4,000	
A, Capital	2,000	
B, Capital	2,000	
C, Capital		8,000
To record payment of bonus to partner C on admission.		

The partnership statement of financial position following the recording of C's investment would appear as follows:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets				
($22,000 + 4,000)	26,000			
		Partners' Capital		
		A, capital	$8,000	
		B, capital	8,000	
		C, capital	8,000	24,000
	$31,000			$31,000

Bonus to Existing Partners

If the partnership business is particularly successful and profitable, the existing partners may require the new partner to pay them a bonus as an admission requirement. Assume that C invests assets at their fair value of $13,000 in the partnership for a one-third ownership interest. The new total capital amounts to $33,000 ($10,000 + 10,000 + 13,000); of this amount, $11,000 ($33,000 x 1/3) belongs to C.

The bonus to existing partners is recorded as follows:

Other Assets	13,000	
A, Capital		1,000
B, Capital		1,000
C, Capital		11,000

To record admission of partner C and payment of bonus to existing partners.

The $13,000 invested by C results in only an $11,000 capital balance for C. A and B receive a $1,000 increase in each of their capital balances as a result of C's $13,000 investment in the partnership.

The partnership statement of financial position, following the recording of C's investment, would appear as follows:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets				
($22,000 + 13,000)	35,000			
		Partners' Capital		
		A, capital	$11,000	
		B, capital	11,000	
		C, capital	11,000	33,000
	$40,000			$40,000

Withdrawal of an Existing Partner

It is common for an existing partner to withdraw from a partnership. Settlement of the exiting partner's ownership interest is made in accordance with provisions of the partnership agreement.

The withdrawal of a partner can be accounted for as a sale to a new partner, as a sale to one or more of the existing partners, or through a payment of partnership assets to the withdrawing partner. The following statement of financial position of A, B, and C Partnership will be used to illustrate the concepts in this section:

A, B, and C Partnership
Statement of Financial Position
At December 31, 2018

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	32,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	
		C, capital	10,000	30,000
	$37,000			$37,000

Sale to a New Partner

This method is similar to the purchase of an existing partner's interest. Assume C sells a partnership interest to D. Payment for the ownership interest is a private transaction, though the existing partners must approve the new arrangement. There is no change in either the assets or the capital of the partnership as a result of this transaction. However, the following journal entry would be made:

C, Capital	10,000	
D, Capital		10,000
To record transfer of C's partnership interest to D.		

The statement of financial position would show the following:

A, B, and D Partnership
Statement of Financial Position
At December 31, 2018

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	32,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	
		D, capital	10,000	30,000
	$37,000			$37,000

Sale to the Remaining Partners

An alternate method is for the withdrawing partner to the ownership interest to the remaining partner(s). This transaction is also private. The assets and the total equity of the partnership are not altered. An entry is made to record the change in the partnership books. If C wants to withdraw, and A and B both purchase C's interest, the following entry would be recorded:

C, Capital	10,000	
A, Capital		5,000
B, Capital		5,000
To record transfer of C's partnership interest to A and B.		

Although more or less than $10,000 may have been paid personally by A and B to C, the entry to transfer C's ownership is based on the capital balance of the partnership.

The statement of financial position would show the following:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	32,000			
		Partners' Capital		
		A, capital	$15,000	
		B, capital	15,000	30,000
	$37,000			$37,000

Payment from Partnership Assets

A third method involves a payment to the withdrawing partner for the amount of her capital balance. Assuming the payment is made in cash, the following entry would be prepared:

C, Capital	10,000	
Cash		10,000
To record C's withdrawal from the partnership.		

The statement of financial position would now show:

Assets		*Liabilities*		
Other assets	$ 32,000	Bank overdraft	$5,000	
		Accounts payable	7,000	$ 12,000
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	20,000
	$32,000			$32,000

Note that this transaction results in a $5,000 bank overdraft. The remaining partners will have to contribute more cash, or the partnership will have to sell of its assets for cash, or obtain a bank loan to cover the cash deficiency.

Often, the withdrawing partner may receive either more or less than the recorded capital balance. The difference can result from undervalued or overvalued partnership assets, anticipated future profitable operations in excess of normal returns to which the exiting partner is entitled, or to settle inter–personal conflicts among partners. As a result, the partners calculate an agreed amount that is due to C; the difference is treated as a bonus to either the withdrawing partner or the remaining partners. For instance, if C is paid $12,000, or $2,000 more than her capital balance, the capital balances of both A and B would each be reduced by $1,000.

C, Capital	10,000	
A, Capital	1,000	
B, Capital	1,000	
Cash		12,000
To record C's withdrawal from the partnership.		

In this case, the two remaining partners are assumed to share the difference equally. C, therefore, receives a total of $12,000, represented by the $10,000 capital balance and a bonus of $2,000, which is paid equally by A and B.

If C is paid $3,000 less than his capital balance, the capital balances of both A and B would be increased by $1,500.

C, Capital	10,000	
A, Capital		1,500
B, Capital		1,500
Cash		7,000
To record C's withdrawal from the partnership.		

C receives $7,000 in cash; the $3,000 difference, shared equally by A and B, increases their capital balances.

E. Liquidation of a Partnership

LO6 – Account for the liquidation of a partnership.

The **liquidation** of a partnership results in a termination of the partnership business. Its assets are sold, debts are paid, and any remaining cash or unsold assets are distributed to the partners in settlement of their capital balances. The amount of cash available to partners depends on the amount of proceeds from the sale of partnership assets after liabilities have been paid. The following partnership post–closing statement of financial position at December 31, 2018 will be used to illustrate the accounting for the liquidation of A, B, and C Partnership.

A, B, and C Partnership
Statement of Financial Position
At December 31, 2018

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 7,000
Other assets	32,000			
		Partners' Capital		
		A, capital	$10,000	
		B, capital	10,000	
		C, capital	10,000	30,000
	$37,000			$37,000

For purposes of this section, profits and losses are assumed to be shared in a ratio of 5:3:2 (A: 50%; B: 30%; C: 20%). All the following transactions take place on January 1, 2019.

Gain on Sale of Assets

Each partner's share of gains realized on the sale of assets is recorded as an increase in his/her capital account. If the other assets are sold for $42,000, the following entry is prepared to record the gain.

Cash	42,000	
Gain on Sale of Assets		10,000
Other Assets		32,000
To record the gain on sale of other assets.		

The $10,000 gain is then divided among the partners in their 5:3:2 profit and loss sharing ratio:

Gain on Sale of Assets	10,000	
A, Capital		5,000
B, Capital		3,000
C, Capital		2,000
To record the division of the gain from sale of other assets.		

The liabilities are then paid; the journal entry to record the payment follows.

Accounts Payable	7,000	
Cash		7,000
To record payment of liabilities.		

At this point, the statement of financial position would show:

Assets		*Partners' Capital*	
Cash	$40,000	A, capital	$15,000
		B, capital	13,000
		C, capital	12,000
	$40,000		$40,000

The following entry is prepared to record payment of the three capital account balances and complete the liquidation of the partnership:

A, Capital	15,000	
B, Capital	13,000	
C, Capital	12,000	
Cash		40,000
To record payment of capital accounts.		

Note that all capital account balances are zero following the distribution of cash.

Loss on Sale of Assets

In the case of a loss on sale of assets, losses resulting from the conversion of assets to cash are also allocated to partners in their profit and loss sharing ratio. The discussion that follows assumes the partners' capital balances are sufficient to absorb the applicable share of the loss.

Adequate Amount of Capital Balances

Assume that the sale of the $32,000 of other assets in the example given earlier realizes only $22,000. The following entry records the sale:

Cash	22,000	
Loss on Sale of Assets	10,000	
Other Assets		32,000
To record loss on sale of assets.		

The $10,000 loss is then allocated to each partner in accordance with the 5:3:2 profit and loss sharing ratio.

A, Capital	5,000	
B, Capital	3,000	
C, Capital	2,000	
Loss on Sale of Assets		10,000
To record the division of loss from sale of assets.		

The payment of liabilities is then recorded.

Accounts Payable	7,000	
Cash		7,000
To record payment of accounts payable.		

The partnership statement of financial position would show:

Assets		*Partners' Capital*	
Cash	$20,000	A, capital	$ 5,000
		B, capital	7,000
		C, capital	8,000
	$20,000		$20,000

The following entry records the final distribution of cash to the partners:

A, Capital	5,000	
B, Capital	7,000	
C, Capital	8,000	
Cash		20,000
To record payment of capital accounts.		

Note that the balance in each capital account is again zero following the distribution of cash, and the liquidation is complete.

Inadequate Amount of Capital Balances

The sale of partnership assets may result in a debit balance in one partner's capital account following allocation of the loss. Assume that sale of the previous $32,000–worth of other assets realizes only $8,000.

The following entry records the sale:

Cash	8,000	
Loss on Sale of Assets	24,000	
Other Assets		32,000
To record loss on sale of assets.		

This $24,000 loss is next allocated to each partner in accordance with the 5:3:2 profit and loss sharing ratio.

A, Capital	12,000	
B, Capital	7,200	
C, Capital	4,800	
Loss on Sale of Assets		24,000
To record the division of loss from sale of assets.		

The payment of liabilities is then recorded.

Accounts Payable	7,000	
Cash		7 000
To record payment of accounts payable.		

The partnership statement of financial position now appears as follows:

Assets		*Partners' Capital (Deficiency)*	
Cash	$ 6,000	A, deficiency	$(2,000)
		B, capital	2,800
		C, capital	5,200
	$ 6,000		$ 6,000

Partner A has a deficiency (debit balance) in his capital account. A would be expected to contribute $2,000 cash to the partnership to make up this debit balance. If A does not contribute this amount, then this $2,000 debit balance is allocated to the remaining partners in their agreed profit and loss sharing ratio, in this case 3:2. The following entry illustrates the allocation of A's debit balance to B and C.

B, Capital	1,200	
C, Capital	800	
A, Capital		2,000
To record allocation of A's debit balance.		

At this point, the partnership statement of financial position shows:

Assets		*Partners' Capital*	
Cash	$ 6,000	B, capital	$ 1,600
		C, capital	4,400
	$ 6,000		$ 6,000

The distribution of cash to B and C would be recorded by the following entry, and the liquidation would be complete:

B, Capital	1,600	
C, Capital	4,400	
Cash		6,000
To record payment of capital accounts.		

Statement of Partnership Liquidation

A **statement of partnership liquidation** can be prepared to show the progress of the liquidation over a period of time. The prior information involving the sale of $32,000 of other assets for $8,000, allocation of loss to the partners, payment of liabilities, allocation of A's debit balance to B and C, and final distribution of cash, are summarized in the following statement.

A, B, and C
Statement of Partnership Liquidation
For the Day Ending January 1, 2019

	Cash	*Other assets*	*Accounts payable*	*Partners' capital* A	*Partners' capital* B	*Partners' capital* C
Opening balance	$5,000	$32,000	$7,000	$10,000	$10,000	$10,000
Sale of other assets	8,000	(32,000)				
Allocation of loss ($24,000)				(12,000)	(7,200)	(4,800)
Balances	13,000	$ –0–	7,000	(2,000)	2,800	5,200
Payment of liabilities	(7,000)		(7,000)			
Balances	6,000		$ –0–			
Allocation of A's debit balance				2,000		
B: 3/5 x $2,000					(1,200)	
C: 2/5 x $2,000						(800)
Balances				$ –0–	1,600	4,400
Distribution of cash	(6,000)				(1,600)	(4,400)
Balances	$ –0–				$ –0–	$ –0–

Summary of Chapter 12 Learning Objectives

LO1 – Describe the characteristics of a proprietorship.

A proprietorship is a business owned by one person. It is not a separate legal entity, which means that the business and the owner are considered to be the same. The profits of a proprietorship are reported on the owner's personal income tax return. A proprietorship has unlimited liability. If the business cannot pay its debts, the owner would be responsible even if the business's debts were greater than the owner's personal resources. A proprietorship has limited life. It ceases to exist upon the proprietor's death, for instance.

LO2 – Describe how the financial statements of a proprietorship are different from those of a corporation.

A proprietorship's income statement does not show items like salaries paid to the proprietor or income taxes expense, since the business and owner are the same legal entity. A proprietorship's statement of equity and statement of financial position do not distinguish between share capital and retained earnings. All contributions, withdrawals, and net income or losses are recorded in the Proprietor's Capital account.

LO3 – Describe the characteristics of a partnership.

A partnership is a business owned by more than one person. Like a proprietorship, a partnership is not a separate legal entity. It also has unlimited liability and a limited life. The partnership ceases when a partner joins or leaves the firm, or upon the death of a partner. Unlike a proprietorship, partners are subject to mutual agency. Each partner is an authorized agent of the partnership. A partner can commit the partnership to a contract. The closing entries for a partnership are the same as those for a proprietorship except there is more than one capital account and more than one withdrawals account. The closing of the income summary to each partner's capital account is based on the allocation of net income, which should be detailed in the partnership agreement.

LO4 – Account for a partnership's profits and losses and prepare a statement of partner's capital.

Profits and losses are allocated according to a formula. This is usually specified in the partnership agreement. The formula may consider three factors: a return to each partner for the amount of capital invested in the partnership, a payment to each partner for services rendered, and a further division of any remaining profit (or loss) according to a specified profit and loss sharing ratio. Individual revenue and expense accounts are closed to the Income Summary general ledger account at the end of each fiscal year. The Income Summary is then closed directly to each partner's capital account in the general ledger at the fiscal year-end.

LO5 – Account for the admission or withdrawal or partners from a partnership.

The admission of a new partner results in the creation of a new partnership. New partners can be admitted either by purchasing an existing partner's interest or by contributing assets to the partnership. A bonus may be paid to the new partner, or by the new partner to existing partners. The withdrawal of a partner can be accounted for as a sale to a new partner, as a sale to one or more of the existing partners, or through a payment of partnership assets to the withdrawing partner.

LO6 – Account for the liquidation of a partnership.

The liquidation of a partnership results in a termination of the partnership business. Its assets are sold, debts are paid, and any remaining cash or unsold assets are distributed to the partners in settlement of their capital balances.

A S S I G N M E N T   M A T E R I A L S

Concept Self-Check

View Answers

1. What are some of the characteristics of a proprietorship that are different from those of a corporation?
2. What is the journal entry to record the investment of cash by the owner into a proprietorship?
3. How are the closing entries for a proprietorship different than those recorded for a corporation?
4. Why is there only one equity account on a sole proprietorship's statement of financial position and multiple accounts in the equity section of a corporate statement of financial position?
5. Define a partnership and briefly explain five characteristics.
6. What are the advantages and disadvantages of partnerships?
7. How does accounting for a partnership differ from that for a corporation?
8. How can partnership profits and losses be divided among partners?
9. Why are salary and interest bases used as a means to allocate profits and losses in a partnership?
10. How are partners' capital balances disclosed in the statement of financial position?
11. What is a partnership bonus? How is it calculated when a new partner is admitted?
12. Distinguish between the sale of a withdrawing partner's interest to a new partner and sale of an interest to his/her existing partner(s).
13. Explain how a deficiency (debit balance) in one partner's capital account is handled if that partner is unable to contribute additional assets to cover it.

Comprehension Problems

CP 12–1

View Answer

You are given the following data for the proprietorship of R. Black.

R. Black Proprietorship
Trial Balance
December 31, 2018

	Debit	*Credit*
Cash	$ 10,000	
Accounts receivable	20,000	
Merchandize inventory	30,000	
Accounts payable		$ 25.000
R. Black, capital		5,000
R. Black, withdrawals	7,000	
Sales		166,000
Cost of goods sold	100,000	
Rent expense	24,000	
Income taxes expense	5,000	
Totals	$196,000	$196,000

Black contributed $5,000 capital during the year.

Required:

1. Prepare an income statement for the year.
2. Prepare a statement of proprietor's capital for the year in the following format:

R. Black Proprietorship
Statement of Proprietor's Capital
For the Year Ended December 31, 2018

Balance at Jan. 1, 2018	$
Contributions	
Net income	
Withdrawals	
Balance at Dec. 31, 2018	$

3. Prepare a statement of financial position at December 31, 2018.
4. Prepare closing entries at year-end.

CP 12–2

View Answer

Refer to CP 12–1. Assume that the proprietorship is instead a corporation named R. Black Ltd., with 1,000 common shares issued on January 1, 2018 for a stated value of $5 per share. Assume there are no opening retained earnings and consider withdrawals to be dividends. Assume income taxes expense applies to corporate earnings.

Required:

1. Prepare an income statement for the year ended December 31, 2018.
2. Prepare a statement of changes in equity.
3. Prepare a statement of financial position at December 31, 2018.
4. Prepare closing entries at year-end.

CP 12–3

View Answer

Assume the following information just prior to the admission of new partner **I**:

Assets		*Liabilities*		
Cash	$ 5,000	Accounts payable		$ 8,000
Accounts receivable	43,000			
		Partners' Capital		
		G, Capital	$30,000	
		H, Capital	10,000	40,000
	$48,000			$48,000

Required: Prepare journal entries to record the following unrelated scenarios:

5. New partner I purchases partners G's partnership interest for $40,000.
6. New partner I receives a cash bonus of $2,000 and a one-tenth ownership share, allocated equally from the partnership interests of G and H.
7. New partner I contributes land with a fair value of $100,000. Relative ownership interests after this transaction are:

Partner	*Ownership interest*
G	20%
H	5%
I	75%
	100%

CP 12–4

View Answer

Assume the following information just prior to the withdrawal of Partner X:

Assets		*Liabilities*		
Cash	$20,000	Accounts payable		$ 5,000
Inventory	50,000			
		Partners' Capital		
		X, Capital	$10,000	
		Y, Capital	20,000	
		Z, Capital	35,000	65,000
	$70,000			$70,000

Required: Prepare journal entries to record the following unrelated scenarios:

1. Partner X sells his interest to new partner T for $25,000.
2. Partner X sells his interest to partner Y for $30,000.
3. Partner X sells his interest and is paid a share of partnership net assets as follows

Cash	$ 5,000
Inventory	5,000
Accounts payable	(2,000)
	$ 8,000

Partner Y receives a 60% share of the partnership interest of X. Partner Z receives 40%.

CP 12–5

View Answer

The following statement of financial position is for the partnership of Able, Brown, and Crown at November 1, 2018.

Assets		*Liabilities*		
Cash	$ 20,000	Accounts payable		$ 50,000
Other assets	180,000			
		Partners' Capital		
		Able, capital	$37,000	
		Brown, capital	65,000	
		Crown , capital	48,000	150,000
	$200,000			$200,000

The profit and loss sharing ratio is Able 40%; Brown: 40%, and Crown: 20%. The partnership is dissolved and liquidated during November by selling the other assets for $100,000 and paying off the creditors.

Required:

1. Prepare a schedule of partnership liquidation for the month ending November 30, 2018. Assume any capital deficiency is absorbed by the other partners.
2. Prepare the journal entries to record the dissolution.

Problems

P 12–1

View Answer

You are given the following data for the partnership of B. White and C. Green.

B. White and C. Green Partnership
Trial Balance
December 31, 2018

	Debit	*Credit*
Cash	$ 41,000	
Accounts receivable	68,400	
Merchandize inventory	27,000	
Accounts payable		$ 45,800
B. White, capital		30,000
B. White, withdrawals	7,000	
C. Green, capital		20,000
C. Green, withdrawals	5,000	
Sales		322,000
Cost of goods sold	160,500	
Rent expense	36,000	
Advertizing expense	27,200	
Delivery expense	9,600	
Office expense	12,800	
Utilities expense	23,300	
Totals	$417,800	$417,800

Each partner contributed $10,000 capital during the year; the opening credit balance in each capital account was White $20,000 and Green $10,000. The partners share profits and losses equally.

Required:
1. Prepare an income statement for the year.
2. Prepare a statement of partners' capital for the year in the following format:

Statement of Partners' Capital
For the Year Ended December 31, 2018

	White	*Green*	*Total*
Balance at Jan. 1, 2018	$	$	$
Contributions			
Net income			
Withdrawals			
Balance at Dec. 31, 2018	$	$	$

3. Prepare a statement of financial position at December 31, 2018.
4. Prepare closing entries at year-end.

P 12–2

View Answer

Refer to P 12–1.

Required: Prepare the equivalent statement of partners' capital at December 31, 2018 assuming that the partnership is instead:
1. A proprietorship owned by B. White. (Combine C. Green balances and transactions with those of B. White.)
2. A corporation named BW and CG Ltd. with 100 common shares issued to each of B. White and C. Green for a stated value of $1 per share. Assume opening retained earnings equal $29,800 and that 20,000 common shares were issued during 2018 for a stated value of $1 per share.

P 12–3

View Answer

Refer to P 12–1.

Required: Prepare the journal entry to allocate net income to each of the partners assuming the following unrelated scenarios:
1. Net income is allocated in a fixed ratio of 5:3 (White: Green).
2. Net income is allocated by first paying each partner 10% interest on opening capital balances, then allocating salaries of $30,000 for

White and $10,000 for Green, then splitting the remaining unallocated net income in a fixed ratio of 3:2 (White:Green).

P 12–4

View Answer

On January 1, 2018, Bog, Cog, and Fog had capital balances of $60,000, $100,000, and $20,000 respectively in their partnership. In 2018 the partnership reported net income of $40,000. None of the partners withdrew any assets in 2018. The partnership agreed to share profits and losses as follows:

a. A *monthly* salary allowance of $2,000, $2,500, and $4,000 to Bog, Cog and Fog respectively.
b. An annual interest allowance of 10 per cent to each partner based on her capital balance at the beginning of the year.
c. Any remaining balance to be shared in a 5:3:2 ratio (Bog:Cog:Fog).

Required:

1. Prepare a schedule to allocate the 2018 net income to partners.
2. Assume all the income statement accounts for 2018 have been closed to the income summary account. Prepare the entry to record the division of the 2018 net income.

P 12–5

View Answer

Bo and Diddley have decided to establish a partnership. Bo contributes $50,000 in cash; Diddley contributes $100,000 cash. They are evaluating two plans for a profit and loss sharing agreement:

Plan A Bo to receive a salary of $15,000 per year, the balance to be divided between Bo and Diddley according to their opening capital balance ratios.

Plan B Bo to receive a salary of $12,000 per year; Bo and Diddley to receive 8 per cent interest per year each on their opening capital balances, and the balance of profit or loss to be split equally.

Required:

1. Calculate the division under each plan in the following schedule, assuming: (a) a profit of $60,000 per year, and (b) a loss of $30,000 per year.

Profit and loss sharing plan	*Division with profit of $60,000*		*Division with loss of $30,000*	
	Bo	Diddley	Bo	Diddley
Plan A:				
Salary				
Balance				
Total				
Plan B:				
Salary				
Interest				
Balance				
Total				

2. Comment on the advantages and disadvantages of each plan.

P 12–6

View Answer

Good, Hood, and Food are partners, sharing profits equally. They decide to admit Mood for an equal partnership (25%). The balances of the partners' capital accounts are:

Good, capital	$30,000
Hood, capital	26,000
Food, capital	19,000
	$75,000

Required: Prepare journal entries to record admission of Mood, using the bonus method:

1. assuming the bonus is paid to the new partner; Mood invests $15,000 cash;
2. assuming the bonus is paid to existing partners; Mood invests $45,000 cash; the remaining partners benefit equally from the bonus.

P 12–7

View Answer

The statement of financial position of A, B, and C Partnership is shown below. The partnership has decided to liquidate. The general ledger shows the following balances on March 1, 2018:

Cash	$ 10,000
Other assets	125,000
Accounts payable	10,000
A, capital	25,000
B, capital	37,500
C, capital	62,500

Proceeds from the sale of non-cash assets during March were $42,500.

Required:

1. Prepare a statement of partnership liquidation for the month ending March 31, 2018. Assume profits and losses are shared equally and that any capital deficiency is absorbed by the other partners.
2. Prepare the journal entries to record the dissolution. Dates are not required.

CHAPTER THIRTEEN
Financial Statement Analysis

Financial statements can be used by shareholders, creditors, and other interested parties to analyze a corporation's liquidity, profitability, and financial structure compared to prior years and other similar corporations. As part of this analysis, financial evaluation tools are used. Some of these tools are discussed in this chapter.

Chapter 13 Learning Objectives

LO1 – Describe ratio analysis, and explain how liquidity, profitability, leverage, and market ratios are used to analyze and compare financial statements.

LO2 – Describe horizontal and vertical trend analysis, and explain how they are used to analyze financial statements.

LO3 – (Appendix) Describe the Scott formula and explain how it is used to analyze financial statements.

A. Introduction to Ratio Analysis

LO1 - Describe ratio analysis, and explain how liquidity, profitability, leverage, and market ratios are used to analyze and compare financial statements.

A common way to evaluate financial statements is through **ratio analysis***.* As noted in a previous chapter, a *ratio* is a relationship between two numbers of the same kind. For example, if there are two apples and three oranges, the ratio of the number of apples to the number of oranges is 2:3 (read as "two to three"). A **financial ratio** is a measure of the relative magnitude of two selected numerical values taken from a corporation's financial statements. For instance, the gross profit ratio expresses the numerical relationship between gross profit and sales. If a corporation has a gross profit ratio of 0.25:1, this means that for every $1 of sales, the corporation earns $0.25 on average to cover expenses other than cost of goods sold. Another way of stating this is to say that the gross profit ratio is 25%.[1]

Financial ratios are effective tools for measuring the financial performance of a corporation because they provide a common basis for evaluation—for instance, the amount of gross profit generated by each dollar of sales for different corporations. Numbers that appear on financial statements need to be evaluated in context. It is their relationship to other numbers and the relative changes of these numbers that provide some insight into the financial health of a business.

One of the main purposes of ratio analysis is to highlight areas that require further analysis and investigation. Ratio analysis alone will not provide a definitive financial evaluation. It is used as one analytic tool, which, when combined with informed judgment, offers insight into the financial performance of a business.

For example, one business may have a completely different product mix than another corporation even though both operate in the same broad industry. To determine how well one corporation is doing relative to others, or to identify whether key indicators are changing, ratios are often compared to **industry averages**. To determine trends in one corporation's performance, ratios are often compared to past years' ratios of the same corporation.

To perform a comprehensive analysis, qualitative information about the corporation as well as ratios should be considered. For example,

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[1] Any ratio in the form X:1 can be expressed as a percentage by multiplying both the numerator and denominator by 100. For example, a 0.25:1 ratio would equal 25% [(0.25 x 100)/(1 x 100) = 25/100 = 25%]

although a business may have sold hundreds of refrigerators last year and all of the key financial indicators suggest growth, qualitative information from trade publications and consumer reports may indicate that the trend will be towards the use of significantly different technologies in refrigerators in the next few years. If the corporation does not have the capacity or necessary equipment to produce these new appliances, the present positive financial indicators may not accurately reflect the likely future financial performance of the corporation.

An examination of qualitative factors provides valuable insights and contributes to the comprehensive analysis of a corporation. An important source of qualitative information is also found in the notes to the financial statements, which are an integral part of the corporation's financial statements, and in other information like trade publications, industry statistics, and other information that may be filed with regulatory authorities.

In this chapter, financial ratios will be used to provide insights into the financial performance of Big Dog Carworks Corp. (BDCC). The ratios will focus on financial information contained within the income statement, statement of changes in equity, and statement of financial position of BDCC for the three years 2021, 2022, and 2023. This information is shown on the following pages. Note that figures in these statements are reported in thousands of dollars (000s).

Big Dog Carworks Corp.
Statement of Financial Position
At December 31
(In thousands of dollars)

	2023	2022	2021
Assets			
Current			
Cash	$ 20	$ 30	$ 50
Marketable investments	36	31	37
Accounts receivable	544	420	257
Inventories	833	503	361
	1,433	984	705
Non-current			
Property, plant, and equipment, net	1,053	1,128	712
Total assets	$2,486	$2,112	$1,417
Liabilities			
Current			
Borrowings	$ 825	$ 570	$ 100
Accounts payable	382	295	219
Income taxes payable	48	52	50
	1,255	917	369
Shareholders' Equity			
Share capital	1,063	1,063	963
Retained earnings	168	132	85
	1,231	1,195	1,048
Total liabilities and shareholders' equity	$2,486	$2,112	$1,417

Figure 13–1 BDCC Financial Statements

Big Dog Carworks Corp.
Income Statement
For the Year Ended December 31
(In thousands of dollars)

	2023	*2022*	*2021*
Sales (net)	$3,200	$2,800	$2,340
Cost of goods sold	2,500	2,150	1,800
Gross profit	700	650	540
Operating expenses			
Selling and marketing	212	183	154
Administration	188	193	182
	400	376	336
Income from operations	300	274	204
Finance costs			
Interest	89	61	-0-
Income before income taxes	211	213	204
Income taxes	95	96	92
Net income and comp. income	$ 116	$ 117	$ 112

Big Dog Carworks Corp.
Statement of Changes in Equity
For the Year Ended December 31
($000s)

	2023			*2022*	*2021*
	Share capital	*Retained earnings*	*Total equity*	*Total equity*	*Total equity*
Balance, Jan. 1	$1,063	$132	$1,195	$1,148	$ 143
Shares issued					953
Net income		116	116	117	112
Dividends declared		(80)	(80)	(70)	(60)
Balance, Dec. 31	$1,063	$168	$1,231	$1,195	$1,148

Figure 13–1 BDCC Financial Statements (continued)

Assume that 100,000 common shares are outstanding at the end of 2021, 2022, and 2023.

There are four major types of financial ratios: a) *liquidity ratios* that measure the ability of a corporation to satisfy demands for cash as they arise in the near-term (such as payment of current liabilities); b) *profitability ratios* that measure various levels of return on sales, total assets employed, and shareholder investment; c) *leverage ratios* that measure the financial structure of a corporation, its amount of relative debt, and its ability to cover interest expense; and d) *market ratios* that measure financial returns to shareholders, and perceptions of the stock market about the corporation's value.

B. Liquidity Ratios: Analyzing Short-term Cash Needs

Liquidity is the ability of a corporation to satisfy demands for cash as they arise in the near-term (such as payment of current liabilities). Initial insights into the financial performance of BDCC can be derived from an analysis of relative amounts of current and non-current borrowings. This analysis is addressed in this section.

Current (Short-term) versus Non-current (Long-term) Debt

Short-term and long-term financing strategies both have their advantages. The advantage of some current debt (repayable within one year of the statement of financial position date) is that it often does not require interest payments to creditors. For example, accounts payable may not require payment of interest if they are satisfied within the first 30 days they are outstanding. As well, certain debt like trade accounts payable may be unsecured. Current debt also has its disadvantages; payment is required within at least one year, and often sooner. Interest rates on current debt are often higher than on non-current debt. An increase in the proportion of current debt is more risky because it must be renewed and therefore renegotiated more frequently.

The advantages of non-current debt are that payment may be made over an extended period of time. Risk may be somewhat reduced through the use of a formal contractual agreement that is often lacking with current debt. The disadvantages of non-current debt are that interest payments must be made at specified times and the amounts owing may be secured by assets of the corporation.

Analyzing Financial Structure

As a general rule, non-current financing should be used to finance non-current assets.

Note that in BDCC's case, property, plant, and equipment assets amount to $1,053,000 at December 31, 2023 yet the firm has no non-current liabilities. This is unusual.

An analysis of the corporation’s statement of financial position reveals the following:

In thousands of dollars	*2023*	*2022*	*2021*
Current liabilities	$1,255	$917	$369
Non-current liabilities	-0-	-0-	-0-

2023 information indicates that BDCC’s management relies solely on short-term creditor financing, part of which is $382,000 of accounts payable that may bear no interest and $825,000 of borrowings that also need to be repaid within one year. The risk is that management will likely need to replace current liabilities with new liabilities. If creditors become unwilling to do this, the ability of BDCC to pay its short-term creditors may be compromised. As a result, the corporation may experience a **liquidity crisis** —the inability to pay its current liabilities as they come due.

Even though a corporation may be earning net income each year (as in BDCC’s case), it may still be unable to pay its current liabilities as needed because of a shortage of cash. There can be many negative consequences:

Current liabilities

- Creditors can refuse to provide any further goods or services on account.
- Creditors can sue for payment.
- Creditors can put the corporation into receivership or bankruptcy.

Non-current liabilities

- Non-current creditors can refuse to lend additional cash.
- Creditors can demand repayment of their non-current debts, under some circumstances.

Shareholders’ equity

- Shareholders may be unwilling to invest in additional share capital of the corporation.
- Shareholders risk the loss of their investments if the corporation declares bankruptcy.

There are several ratios that can be used to analyze the liquidity of a corporation.

Working Capital

Working capital is the difference between a corporation's current assets and current liabilities at a point in time. BDCC's working capital calculation is as follows:

In thousands of dollars	*2023*	*2022*	*2021*
Current assets			
Cash	$ 20	$ 30	$ 50
Marketable investments	36	31	37
Accounts receivable	544	420	257
Inventories	833	503	361
Total current assets (a)	1,433	984	705
Current liabilities			
Borrowings	825	570	100
Accounts payable	382	295	219
Income taxes payable	48	52	50
Total current liabilities (b)	1,255	917	369
Working capital (a-b)	$ 178	$ 67	$336

In the schedule above, working capital amounts to $178,000 at December 31, 2023. Between 2021 and 2023, working capital decreased by $158,000 ($336,000 – 178,000). BDCC is less liquid in 2023 than in 2021, though its liquidity position has improved since 2022 when it was only $67,000.

In addition to calculating an absolute amount of working capital, ratio analysis can also be used. The advantage of a ratio is that it is usually easier to interpret.

Current Ratio

Is BDCC able to repay short-term creditors? The **current ratio** can help answer this question. It expresses working capital as a proportion of current assets to current liabilities and is calculated as:

$$\frac{\text{Current assets}}{\text{Current liabilities}}$$

The relevant BDCC financial data required to calculate this ratio is taken from the statement of financial position, as follows:

In thousands of dollars		*2023*	*2022*	*2021*
Current assets	(a)	$1,433	$ 984	$ 705
Current liabilities	(b)	1,255	917	369
Current ratio	(a/b)	1.14:1	1.07:1	1.91:1

This ratio indicates how many current asset dollars are available to pay current liabilities at a point in time. The expression "1.14:1" is read, "1.14 to 1." In this case it means that at December 31, 2023, $1.14 of current assets exist to pay each $1 of current liabilities. This ratio is difficult to interpret in isolation. There are two types of additional information that could help. First, what is the trend within BDCC over the last three years? The ratio declined between 2021 and 2022 (from 1.91 to 1.07), then recovered slightly between the end of 2022 and 2023 (from 1.07 to 1.14). The overall decline may be a cause for concern, as it indicates that in 2023 BDCC had fewer current assets to satisfy current liabilities as they became due.

A second interpretation aid would be to compare BDCC's current ratio to a similar corporation or that of BDCC's industry as a whole. Information is available from various trade publications and business analysts' websites that assemble financial ratio information for a wide range of industries.

Some analysts consider that a corporation should maintain a 2:1 current ratio, depending on the industry in which the firm operates. The reasoning is that, if there were $2 of current assets to pay each $1 of current liabilities, the corporation should still be able to pay its current liabilities as they become due, even in the event of a business downturn. However, no one current ratio is applicable to all entities; other factors—such as the composition of current assets—must also be considered to arrive at an acceptable ratio. This is illustrated below.

Composition of Specific Items in Current Assets

In the following example, both Corporation A and Corporation B have a 2:1 current ratio. Are the corporations equally able to repay their short-term creditors?

		Corp. A	*Corp. B*
Current assets			
Cash		$ 1,000	$10,000
Accounts receivable		2,000	20,000
Inventories		37,000	10,000
Total current assets	(a)	$40,000	$40,000
Current liabilities	(b)	$20,000	$20,000
Current ratio	(a/b)	2:1	2:1

The corporations have the same dollar amounts of current assets and current liabilities. However, they have different current debt-paying abilities because Corporation B has more liquid current assets than does Corporation A. Corporation B has less inventory ($10,000 vs. $37,000) and more in cash and accounts receivable. If Corporation A needed more cash to pay short-term creditors quickly, it would have to sell inventory, likely at a lower-than-normal gross profit. So, Corporation B is in a better position to repay short-term creditors.

Since the current ratio doesn't consider the components of current assets, it is only a rough indicator of a corporation's ability to pay its debts as they become due. This weakness of the current ratio is partly remedied by the ratio discussed below.

Acid-Test Ratio

A more rigid test of liquidity is provided by the **acid-test ratio**; also called the **quick ratio**. To calculate this ratio, current assets are separated into *quick* current assets and *non-quick* current assets.

Quick Current Assets

Cash Marketable investments Accounts receivable	These current assets are considered to be readily convertible into cash.

Non-quick current assets

Inventories Prepaid expenses	Cash cannot be obtained either at all or easily from these current assets.

Inventory and prepaid expenses cannot be converted into cash in a short period of time, if at all. Therefore, they are excluded in the calculation of this ratio. The acid-test ratio is calculated as:

$$\frac{\text{Quick current assets}}{\text{Current liabilities}}$$

The BDCC information required to calculate this ratio is:

In thousands of dollars		*2023*	*2022*	*2021*
Cash		$ 20	$ 30	$ 50
Marketable investments		36	31	37
Accounts receivable		544	420	257
Quick current assets	(a)	$ 600	$481	$344
Current liabilities	(b)	$1,255	$917	$369
Acid-test ratio	(a/b)	0.48:1	0.52:1	0.93:1

This ratio indicates how many quick asset dollars exist to pay each dollar of current liabilities. What is an adequate acid-test ratio? It is generally considered that a 1:1 acid test ratio is adequate to ensure that a firm will be able to pay its current obligations. However, this is a fairly arbitrary guideline and is not appropriate in all situations. A ratio lower than 1:1 can often be found in successful corporations.

In BDCC's case, the 2021 ratio of $0.93 is less than 1:1 but may be reasonable. In 2022, the acid-test ratio of $0.52 seems low. There was only $0.48 of quick assets available to pay each $1 of current liabilities in 2023. This amount also appears inadequate. Of particular concern to financial analysts would be BDCC's declining acid-test ratio trend over the three years.

Additional analysis can also be performed to determine the source of liquidity issues by comparing items on the statement of financial position with those on the income statement. These are discussed next.

Accounts Receivable Collection Period

Liquidity is affected by management decisions related to trade accounts receivable. Slow collection of receivables can result in a shortage of cash to pay current obligations. The effectiveness of management decisions relating to receivables can be analyzed by calculating the **accounts receivable collection period**. This indicates **t**he average number of days needed to collect an amount due to the corporation. It indicates the efficiency of collection procedures when the collection period is compared with the firm's sales terms (in BDCC's case, assume the sales terms are *net 30* meaning that amounts are due within 30 days of the invoice date).

The accounts receivable collection period is calculated as:

$$\frac{\text{Average accounts receivable}^{2}}{\text{Net credit sales}} \times 365 \text{ days}$$

The BDCC financial information required to make the calculation is shown below (the 2021 calculation cannot be made because the 2020 accounts receivable amount is not available). Assume all of BDCC's sales are on credit.

In thousands of dollars		*2023*	*2022*
Net credit sales	(a)	\$3,200	\$2,800
Average accounts receivable [(Opening balance + closing balance)/2]	(b)	\$ 482[1]	\$ 338[2]
Average collection period [(b/a) x 365 days]		55 days	44 days[3]

[1] (\$420 + 544)/2 = \$482
[2] (\$257 + 420)/2 = \$338 (rounded)
[3] Note that the 2021 ratio is excluded. Average balances cannot be calculated since 2020 ending balances are not provided.

When BDCC's 30-day sales terms are compared to the 55-day collection period, it can be seen that an average 25 days of sales (55 days – 30 days) have gone uncollected beyond the regular credit period in 2023. The collection period in 2023 is increasing compared to 2022. Therefore, some over-extension of credit and possibly ineffective collection procedures are indicated by this ratio. Quicker collection would improve BDCC's cash position. It may indicate that older amounts are buried in the total amount of receivables, and should be investigated.

Whether the increase in collection period is good or bad depends on several factors. For instance, more liberal credit terms may generate more sales (and therefore profits) if bad debt expense does not

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[2] Average statement of financial position amounts are used when income statement amounts are compared to statement of financial position amounts in a ratio. This is because the income statement item is assumed to be earned or expended equally over a fiscal year. On the other hand, statement of financial position amounts are reported as at the end of each fiscal year. Averaging opening and ending amounts shown on the statement of financial position is an attempt to approximate the amount at the midpoint in the fiscal year, to better match SPL amounts with SFP amounts.

increases proportionately. The root causes of the change in the ratio need to be investigated.

In BDCC's case, however, the ratio seems to indicate that effectiveness of credit and collection procedures between 2022 and 2023 has declined. This may be problematic.

Number of Days of Sales in Inventory

The effectiveness of management decisions relating to inventory can be analyzed by calculating the **number of days of sales in inventory** . The ratio is calculated as follows:

$$\frac{\text{Average merchandize}}{\text{Cost of goods sold}} \quad \text{X} \quad \text{365 days}$$

This measure indicates relative inventory levels compared to cost of goods sold. The BDCC financial data for 2022 and 2023 required to calculate this ratio are shown below.

In thousands of dollars		*2023*	*2022*
Cost of goods sold		$2,500	$2,150
Average inventory [(opening balance + closing balance)/2]	(a)	$ 668 [1]	$432 [2]
Cost of goods sold	(b)	365	365
Number of days sales in inventory [(b/a) x 365 days]		98 days	73 days

[1] ($503 + 833)/2 = $668
[2] ($361 + 503)/2 = $432

The calculation indicates that BDCC is investing more in inventory in 2023 than in 2022. There are 98 days of sales in inventory in 2023 versus 73 days in 2022. The cause of this increase warrants further investigation.

A declining number of days of sales in inventory is usually a sign of good inventory management. It indicates that the average amount of assets tied up in inventory is declining. With lower inventory levels, inventory-related expenses such as rent and insurance are lower because less storage space is often required. However, lower inventory levels can have negative consequences since items that customers want to purchase may not be in inventory, resulting in lost sales.

Having said this, increasing days of sales in inventory is usually a sign of poor inventory management because an excessive investment in inventory ties up cash that could be used for other purposes. Increasing levels may indicate that inventory is becoming obsolete (consider an electronics company) or deteriorating (consider a corporation that sells perishable groceries). Obsolete or deteriorating inventories may be unsalable. However, the possible positive aspect of more days of sales in inventory is that there can be more sales generated if more items are in stock.

Whether BDCC's increasing days of sales in inventory is positive or negative depends on management's objectives. Is management increasing inventory to provide for increased sales in the next year, or is inventory being poorly managed? Remember that ratio analyzes identify areas that require investigation. This improves investors' overall knowledge of the corporation.

The Revenue Portion of the Operating Cycle

The sale of inventory and resulting collection of receivables are part of a business's operating cycle, as shown in Figure 13–2.

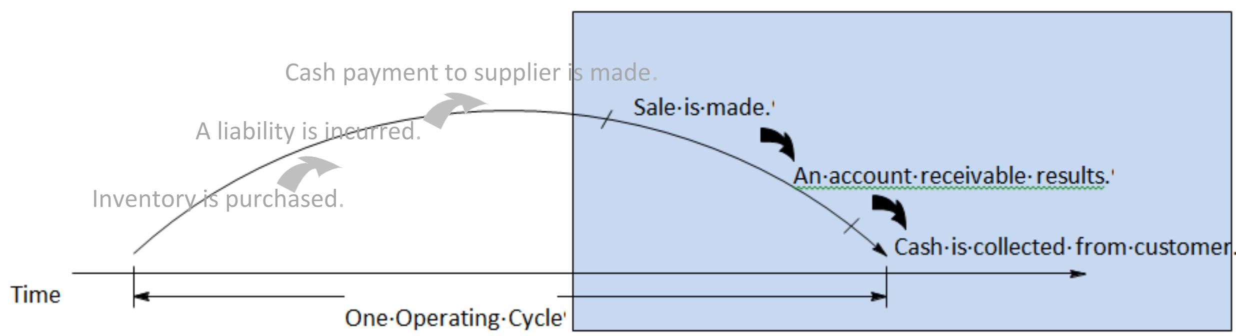

Figure 13–2 The Sales and Collection Portion of the Operating Cycle

A business's **revenue operating cycle** is a subset of the operating cycle and includes the purchase of inventory, the sale of inventory and creation of an account receivable, and the generation of cash when the receivable is collected. The length of time it takes BDCC to complete one revenue operating cycle is an important measure of liquidity and can be calculated by adding the number of days of sales in inventory plus the number of days it takes to collect receivables.

The BDCC financial data required for this calculation follows.

	2023	*2022*
Average number of days of sales in inventory	98 days	73 days
Average number of days to collect receivables	55 days	44 days
Number of days to complete the revenue cycle	153 days	117 days

In 2023, 153 days were required to complete the revenue cycle, compared to 117 days in 2022. So, if accounts payable terms require payment within 60 days, BDCC may find it more difficult to pay trade creditors, and the number of days to complete the revenue cycle for both 2022 (117 days) and 2023 (153 days) are significantly greater than 60 days.

Analysis of BDCC's Liquidity

Reflecting on the results of all the liquidity ratios, it appears that Big Dog Carworks Corp. is growing less liquid. Current assets, especially quick assets, are declining relative to current liabilities. The revenue operating cycle is increasing.

C. Profitability Ratios: Analyzing Operating Activities

Profitability ratios compare various expenses to revenues, and measure how well the assets of a corporation have been used to generate revenue.

Gross Profit Ratio

The **gross profit ratio** indicates the percentage of sales revenue that is left to pay operating expenses, interest on borrowings, and income taxes after deducting cost of goods sold. The ratio is calculated as:

$$\frac{\text{Gross profit}}{\text{Net sales}}$$

BDCC's gross profit ratios for the three years are:

In thousands of dollars		*2023*	*2022*	*2021*
Gross profit	(a)	$ 700	$ 650	$ 540
Net sales	(b)	$3,200	$2,800	$2,340
Gross profit ratio	(a/b)	0.22:1	0.23:1	0.23:1

In other words, for each dollar of sales BDCC has $0.22 of gross profit left to cover operating, interest, and income tax expenses compared to

$0.23 in each of 2022 and 2021. The ratio has not changed significantly from year to year. However, even a small decline in this percentage can affect net income significantly because the gross profit is such a large component of the income statement. Changes in the gross profit ratio should be investigated, as it may impact future financial performance.

Operating Profit Ratio

The **operating profit ratio** is a means to assess relative levels of operating expenses. This ratio indicates the percentage of sales revenue left after deducting cost of goods sold and operating expenses to cover interest and income taxes expenses. In other words, it is calculated as:

$$\frac{\text{Income from operations}}{\text{Net sales}}$$

BDCC's operating profit ratio for the 2021, 2022, and 2023 fiscal years is calculated as follows:

In thousands of dollars		*2023*	*2022*	*2021*
Income from operations	(a)	$ 300	$ 274	$ 204
Net sales	(b)	$3,200	$2,800	$2,340
Operating profit ratio	(a/b)	0.09:1	0.10:1	0.09:1

The results indicate that for each dollar of sales revenue in 2023, the corporation had $0.09 left to cover interest and income tax expenses after deducting cost of goods sold and operating expenses. A review of the corporation's operating expenses (selling, general, and administrative expenses; employee benefits, and depreciation) show that they have all increased. As a result, and despite increasing sales revenue and gross profit, operating income has remained relatively flat. Although it seems reasonable that an increase in operating expenses would follow an increase in sales, the reasons for the operating expense increases should be investigated. Analysis of trends by nature of expense (rather than by function of expense as in this case) could be performed based on additional information that should be disclosed in the notes to the financial statements.

Net Profit Ratio

The **net profit ratio** is the percentage of sales revenue retained by the corporation after payment of operating expenses, interest expenses, and income taxes. It is often used to compare the corporation to others in the same industry. This ratio is calculated by the following formula:

$$\frac{\text{Net income}}{\text{Net sales}}$$

BDCC's net profit ratios for the three years are calculated as follows:

In thousands of dollars		*2023*	*2022*	*2021*
Net income	(a)	$ 116	$ 117	$ 112
Net sales	(b)	$3,200	$2,800	$2,340
Net profit ratio	(a/b)	0.04:1	0.04:1	0.05:1

The results indicate that for each $1 of sales in 2023, BDCC earned $0.04 of net income. The net profit ratio has been relatively stable over the past three years, but needs to be compared with industry or competitors' averages for a better perspective.

Recall that revenues are generated from a business's assets. The financial strength and success of a corporation depends on the efficient use of these assets. Indicators of how effectively assets are used are discussed next.

Sales to Total Assets Ratio

Are BDCC's sales adequate in relation to its assets? The calculation of the **sales to total assets ratio** helps to answer this question by establishing the number of sales dollars earned for each dollar invested in assets. The ratio is calculated as:

$$\frac{\text{Net sales}}{\text{Average total assets}}$$

BDCC's ratios are calculated as follows:

In thousands of dollars		*2023*	*2022*
Net sales	(a)	$3,200	$ 2,800
Average total assets	(b)	$2,299[1]	$1,765.5[2]
Sales to total assets ratio	(a/b)	1.39:1	1.59:1

[1] ($2,112 + 2,486)/2 = $2,299
[2] ($1,417 + 2,112)/2 = $1,764.5

The ratio has decreased from 2022 to 2023. Each $1 of investment in assets in 2022 generated sales of $1.59 on average. In 2023, each $1 of investment in assets generated only $1.39 in sales. Over the same period, BDCC's investment in assets increased. The results indicate that the additional assets are not producing revenue as effectively as in the past. It may be too soon to tell whether the increase in assets in 2022 will eventually create greater sales, but more investigation should be considered.

As noted earlier, comparison with industry averages would be useful. A low ratio in relation to other corporations in the same industry may indicate an over-investment in or inefficient use of assets by BDCC. On the other hand, a higher ratio in comparison to other corporations would be a positive indicator despite BDCC's declining trend.

Return on Total Assets Ratio (ROA)

The **return on total assets ratio (ROA)** is designed to measure the efficiency with which all of a corporation's assets are used to produce income from operations. The ratio is calculated as:

$$\frac{\text{Income from operations}}{\text{Average total assets}}$$

Note that expenses need to finance the corporation operations are excluded from the calculation, specifically interest and income taxes. This is because all the assets of the corporation are considered in the ratio's denominator, whether financed by investors or creditors. Average total assets are used in the calculation because the amount of assets used likely varies during the year. Again, the use of averages tends to smooth out such fluctuations.

BDCC's returns on total assets for 2022 and 2023 are calculated as follows:

In thousands of dollars		*2023*	*2022*
Income from operations	(a)	$ 300	$ 274
Average total assets	(b)	$2,299[1]	$1,765.5[2]
Return on total assets ratio	(a/b)	0.13:1	0.16:1

[1] ($2,112 + 2,486)/2 = $2,299
[2] ($1,417 + 2,112)/2 = $1,764.5

The ratios indicate that BDCC earned $0.13 of income from operations for every $1 of average total assets in 2023, a decrease from $0.16 per $1 in 2022. This downward trend indicates that assets are being used less efficiently. However, it may be that the increased investment in assets during 2023 noted above has not yet begun to pay off. On the other hand, although sales are increasing, it is possible that future sales volume will not be sufficient to justify the increase in assets. More information about the corporation's plans and projections would be useful.

Return on Shareholders' Equity Ratio (ROSE)

The **return on shareholders' equity ratio** (**ROSE)** measures how much net income was earned compared to the amount shareholders have invested. Net income is the earnings of the corporation to which shareholders are entitled, so it is fitting to use this as the numerator. The ratio is calculated as:

$$\frac{\text{Net income}}{\text{Average shareholders' equity}}$$

The 2022 and 2023 returns on shareholders' equity ratios for BDCC are calculated as follows (note that the 2021 ratio is excluded; average shareholders' equity cannot be calculated since 2020 ending balances are not provided):

In thousands of dollars		*2023*	*2022*
Net income	(a)	$ 116	$ 117
Average shareholders' equity	(b)	$1,213[1]	$1,121.5[2]
Return on shareholders' equity ratio	(a/b)	0.10:1	0.10:1

[1] ($1,195 + 1,231)/2 = $1,213
[2] ($1,048 + 1,195)/2 = $1,121.5

In both years, shareholders earned on average $0.10 for every $1 invested in BDCC, or 10%. Industry averages could aid analysis. But if the industry as a whole earned only a 5% return on shareholders' equity in 2023, BDCC performed better than average in terms of this measure.

D. Leverage Ratios: Analyzing Financial Structure

The accounting equation expresses a relationship between assets owned by an entity and the claims against those assets. Although shareholders own a corporation, they alone do not finance the corporation; creditors also finance some of its activities. Together, creditor and shareholder capital form the **financial structure** of a corporation.

At December 31, 2023, the statement of financial position of BDCC shows the following financial structure:

ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY
$2,486	=	$1,255	+	$1,231

There are several ratios that can be used to analyze financial structure.

Debt to Shareholders' Equity Ratio

The proportion of creditor to shareholders' claims is called the **debt to shareholders' equity ratio**, and is calculated by dividing total liabilities by shareholders' equity. In BDCC's case, these amounts are:

In thousands of dollars		*2023*	*2022*	*2021*
Total liabilities	(a)	$1,255	$ 917	$ 369
Shareholders' equity	(b)	$1,231	$1,195	$1,048
Debt to s/h equity ratio	(a/b)	1.02:1	0.77:1	0.35:1

In other words, BDCC has $1.02 of liabilities for each dollar of shareholders' equity at the end of 2023, its current fiscal year. The proportion of debt financing has been increasing since 2021. In 2021 there was only $0.35 of debt for each $1 of shareholders' equity. In 2023, creditors are financing $1.02 for each $1 of shareholder financing. This may be a cause for concern.

On the one hand, management's increasing reliance on creditor financing is good. Issuing additional shares might require existing shareholders to give up some of their control of BDCC. Creditor financing may also be more financially attractive to existing shareholders if it enables BDCC to earn more with the borrowed funds than the interest paid on the debt.

On the other hand, management's increasing reliance on creditor financing increases risk because interest and principal have to be paid on this debt. Before deciding to extend credit, creditors often look at the total debt load of a corporation, and therefore the corporation's ability to meet interest and principal payments in the future. An increasing debt to shareholders' equity ratio could impede borrowing capacity in the future. As well, total earnings of BDCC could be reduced if interest rates rise.

Although there is no single appropriate debt to shareholders' equity ratio, there are techniques for estimating the optimum balance. These are beyond the scope of introductory financial accounting. For now, it is sufficient to note that for BDCC the debt to shareholders' equity ratio has increased considerably over the three-year period. A continuing trend into the future would be generally viewed unfavourably because of the risk to sustainability associated with increased debt financing.

Times Interest Earned Ratio

Creditors are also interested in evaluating a corporation's financial performance in order to project whether the firm will be able to pay interest on borrowed funds and repay debt when it comes due. Creditors are therefore interested in measures such as the **times interest earned ratio**. This ratio indicates the amount by which income from operations could decline before a default on interest may result. The ratio is calculated by the following formula:

$$\frac{\text{Income from operations}}{\text{Interest expense}}$$

Note that income from operations is used again. BDCC's 2022 and 2023 ratios are calculated as follows:

In thousands of dollars		*2023*	*2022*	*2021*
Income from operations	(a)	$300	$274	$204
Interest expense	(b)	$ 89	$ 61	-0-
Times interest earned ratio	(a/b)	3.4:1	4.5:1	n/a

The larger the ratio, the better creditors are protected. BDCC's interest coverage has decreased from 2022 to 2023 (3.37 times vs. 4.49 times), but income from operations would still have to decrease significantly for the corporation to be unable to pay its obligations to creditors. The analysis does indicate, though, that over the past two years interest expense has increased compared to income from operations. Both creditors and investors need to assess corporation plans and projections, particularly those affecting income from operations, to determine whether loans to the corporation are at risk or is the corporation is becoming too reliant on debt financing. As discussed above, it may be that significant investments in assets have not yet generated related increases in sales and income from operations.

E. Market Ratios: Analysis of Financial Returns to Investors

The stock market plays an important role in allocating financial resources among corporations that offer their shares to the public. Investors frequently consider whether to invest or divest in shares of a corporation. There are various ratios that combine market data with an individual corporation's financial statement information to help investors make these decisions. These are called **market ratios**.

Earnings per Share (EPS)

Measures of efficiency can focus on shareholder returns on a per-share basis. That is, the amount of net income earned in a year can be divided by the number of common shares outstanding to establish how much return has been earned for each outstanding share. As noted in a previous chapter, basic and diluted EPS ratios are required disclosures under IFRS for publicly-traded corporations. Basic earnings per share value is calculated as:

$$\frac{\text{Net income – preferred share dividends}}{\text{Weighted-average number of common shares outstanding}}$$

BDCC has no preferred shares and thus no preferred share dividends. Recall that 100,000 common shares are outstanding at the end of 2021, 2022, and 2023. Assume as well that there are no potentially dilutive instruments like unexercised employee stock options.

For BDCC, basic and diluted EPS calculations for the three years are:

In thousands of dollars		*2023*	*2022*	*2021*
Net income	(a)	$116	$117	$112
Number of wtd. avg. common shares outstanding	(b)	100	100	100
Earnings per share	(a/b)	$1.16	$1.17	$1.12

BDCC's EPS has remained relatively constant over the three-year period because both net income and number of outstanding shares have remained fairly stable. Increasing sales levels and the resulting positive effects on net income, combined with unchanged common shares issued, has generally accounted for the slight increase from 2021 to 2022.

Price-earnings (P/E) Ratio

The price at which a common share trades on a stock market is an important measure of a corporation's financial performance. The market price of one share reflects the aggregate of investors' opinions about a corporation's future value compared to alternative investments.

The earnings performance of common shares is often expressed as a **price-earnings (P/E) ratio**. It is calculated as:

$$\frac{\text{Market price per share}}{\text{Earnings per share}}$$

This ratio is used as an indicator of the market's expectation of a corporation's future performance. Assume Corporation A has a current market value of $15 per share and an EPS of $1 per share. It will have a P/E ratio of 15. If Corporation B has a market value of $4 per share and an EPS of $0.50 per share, it will have a P/E ratio of 8. This means that the stock market expects Corporation A to earn relatively more in the future than Corporation B. For every $1 of net income currently generated by Corporation A, investors are willing to invest $15. In comparison, for every $1 of net income generated by Corporation B, investors are willing to pay only $8. Investors therefore perceive shares of Corporation A as more valuable.

Assume that BDCC's average market price per common share was $4 in 2021, $5 in 2022, and $6 in 2023. Its P/E ratio would be calculated as:

In thousands of dollars		*2023*	*2022*	*2021*
Market price per common share	(a)	$6.00	$5.00	$4.00
Earnings per share ratio (see above)	(b)	$1.16	$1.17	$1.12
Price-earnings ratio	(a/b)	5.17	4.27	3.57

BDCC's P/E ratio has increased each year. Although it would be important to compare industry and competitor's P/E ratios, BDCC's increasingly positive ratio indicates of itself that investors are "bullish" on BDCC. That is, the stock market expects BDCC to be increasingly profitable in the coming years compared to similar investment opportunities. Despite a relatively constant EPS ratio from 2021 to 2023, investors are willing to pay more and more for the corporation's common shares. This usually indicates that future financial performance is anticipated to be better than in the past three years.

Dividend Yield

Some investors' primary objective is to maximize dividend revenue from share investments, rather than realize an increasing market price of the shares. This type of investor is interested in information about the earnings available for distribution to shareholders and the actual amount of cash paid out as dividends rather than the market price of the shares.

The **dividend yield ratio** is a means to determine this. This is calculated as:

$$\frac{\text{Dividends per share}}{\text{Market price per share}}$$

This ratio indicates how large a return in the form of cash from an investment in a corporation's shares has been realized. The relevant information for BDCC over the last three years is shown in the financial statements, as follows:

In thousands of dollars		*2023*	*2022*	*2021*
Dividends declared	(a)	$ 80	$ 70	$ 60
Outstanding common shares	(b)	100	100	100
Dividends (dollars per share)	(a/b)	$0.80	$0.70	$0.60

The dividend yield ratio is therefore:

		2023	*2022*	*2021*
Dividends per share (see above)	(a)	$0.80	$0.70	$0.60
Market price per share (given)	(b)	$6.00	$5.00	$4.00
Dividend yield ratio	(a/b)	0.13:1	0.14:1	0.15:1

The corporation's dividend yield ratio decreased from 2021 to 2023. In 2021, investors received $0.15 for every $1 invested in shares. By 2023, this had decreased to $0.13 for every $1 invested. Though the decline is slight, the trend may concern investors who seek steady cash returns. Also notice that total dividends declared increased from 2021 to 2023 even though net income did not substantially increase, and despite the corporation's poor liquidity position noted earlier. Investors might ask why such high levels of dividends are being paid given this situation.

F. Overall Analysis of BDCC’s Financial Statements

Results of ratio analysis are always more useful if accompanied by other information such as overall industry performance, prospects for the general economy, financial ratios of prior years, and qualitative factors such as analysts’ opinions and management’s plans. A good understanding of the business and specific risks is important to comprehensive financial analysis. Also, specialized industries may use financial ratios that focus on different factors deemed critical to success. Corporations within the same industry may also have differing types of assets, capital structures, costs, revenue sources, and business models.

However, there are some interpretations that can be made about BDCC from the foregoing ratio analyses even in the absence of other information. These results can spur additional, important enquiry.

Although BDCC is experiencing growth in sales, net income has not substantially increased over the three-year period 2021 to 2023. The gross profit ratio is relatively constant. The corporation’s increasing operating expenses appear to be an issue, though. The sales to total assets and return on assets ratios have decreased due to a recent investment in property, plant and equipment, and growth in current assets. Yet income from operations has not increased in proportion to this growth in the asset base. It may be premature to make conclusions about management’s wisdom of investing in property, plant, and equipment, but more investigation may be warranted, such as management‘s operational plans.

The most immediate problem facing BDCC is the shortage of working capital and its poor liquidity position. BDCC increased accounts receivable and inventories, but did not experience a proportionate growth in revenue. The corporation should therefore review its credit policies and monitor its investment in inventory to ensure that these current assets only expand in proportion to sales.

Further, the corporation’s ability to meet its debt obligations appears to be deteriorating. The ability of income from operations to cover interest expense has declined. The increase in accounts receivable, inventories, and PPE has produced an increase in current liabilities (mainly borrowings). BDCC should investigate alternatives to current borrowings to finance PPE by converting some of this to non-current debt or issuing additional share capital to refinance some of its current debt obligations.

Despite these challenges, the stock market indicates that it expects BDCC to be increasingly profitable in the future. Perhaps it views the negative indicators noted above as only temporary or easily rectified by management.

The next section provides further insights into BDCC's operations through trend analysis of the corporation's financial statements.

G. Horizontal and Vertical Trend Analysis

LO2 - Describe horizontal and vertical trend analysis, and explain how they are used to analyze financial statements.

Trend analysis is the evaluation of corporation's financial performance based on a restatement of financial statement dollar amounts as percentages. Horizontal analysis and vertical analysis are two types of trend analyses.

Horizontal analysis involves the calculation of percentage changes from one or more years over the base year dollar amount. The base year is typically the older year and is always stated as 100%.

Vertical analysis requires numbers in a financial statement to be restated as percentages of a base dollar amount. For income statement analysis, the base amount used is sales. For statement of financial position analysis, total assets (or equivalently, total liabilities and shareholders' equity) are used as the base amounts. When financial statements are converted to percentages, they are called **common-size financial statements**.

Horizontal and vertical analyses of the statements of financial position of Big Dog Carworks Corp. are as follows:

Horizontal Analysis: Statement of Financial Position

			Change	
	2023	*2022*	*Difference*	*%*
Current assets	$1,433(a)	$ 984(b)	+$449 (a-b)	+45.6[(a-b)/b]
Non-current assets	1,053	1,128	-75	-6.6
Total	$2,486	$2,112(c)	+$374	+17.7
Current liabilities	$1,255	$917	+$338	+36.9
S/H equity	1,231	1,195	+36	+3.0
Total	$2,486	$2,112	+$374	+17.7

Notice the two columns introduced here. Analysis of the changes indicates a large increase in current assets (45.6%) together with a large increase in current liabilities (36.9%). There was a small decline in PPE assets (6.6%) and a small increase in shareholders' equity (3%). The percentage change must always be interpreted together with the absolute dollar amount of change to avoid incorrect conclusions; percentages can sometimes be misleading.

Vertical Analysis (Common-size): Statement of Financial Position

	% 2023	*% 2022*	
Current assets	57.6 [1]	46.6	(b/c)
Non-current assets	42.4	53.4	
Total	**100.0**	**100.0**	
Current liabilities	50.5	43.4 [2]	
S/H equity	49.5	56.6	
Total	**100.0**	**100.0**	

[1] 1,433/2,486 = 57.6%
[2] 917/2,112 = 43.4%

The common-size statement of financial position reveals that the composition of the assets has shifted more to current assets in 2023 (46.6% to 57.6%). Also, the percentage of current liabilities has increased (43.4% to 50.5%), resulting in an overall shift from shareholders' equity financing to debt financing between 2022 and 2023.

Horizontal Analysis: Statements of Profit and Loss

			Change		
	2023	*2022*	*Amount*	*Per Cent*	
Sales	$3,200(a)	$2,800(b)	+$400 (a-b)	+14	([(a-b)/b]
COGS	2,500	2,150	+350	+16	
Gross profit	700	650	+$ 50	+8	
Expenses	584	533	+$ 51	+10	
Net income	$ 116	$ 117	-$ 1	-1	

Although sales and gross profit increased in dollar amounts, net income decreased slightly from 2022 to 2023 (1%). This net decrease resulted because cost of goods sold increased at a faster rate than sales (16% vs. 14%).

Vertical Analysis (Common-Size): Statements of Profit and Loss

	% *2023*	*%* *2022*
Sales	**100**	**100**
Cost of goods sold	78[1]	77
Gross profit	22	23
Expenses	18	19[2]
Net income	4	4

[1] 2,500/3,200 = 78%

[2] (1,831 + 193 +61 + 196)/2,800 = 19%

Notice the relative change in the components. For example, cost of goods sold increased in 2023 relative to sales (77% to 78%), while expenses in 2023 relative to sales decreased (19% to 18%). The overall changes were almost offsetting, as net income remained fairly stable.

The calculated percentages become more informative when compared to earlier years. Further analysis is usually undertaken in order to establish answers to the following questions:

Horizontal Analysis:
What caused this change?
Is the change favourable or unfavourable?

Vertical Analysis:
How do the percentages of this corporation compare with other corporations in the same industry? In other industries?

These and similar questions call attention to areas that require further study. One item becomes more apparent as a result of trend analysis. Initially, it was stated that operating expenses were increasing between 2021 and 2023. Based on trend analysis, however, these expenses are actually declining as a percentage of sales. As a result, their fluctuations may not be as significant as first inferred.

H. Summary of Financial Ratios

The ratios covered in this chapter are summarized in Figure 13–3.

Analysis of liquidity:	Calculation of ratio:		Indicates:
1. Working capital	Current assets – current liabilities		The excess of current assets available after covering current liabilities (expressed as a dollar amount).
2. Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$		The amount of current assets available to pay current liabilities.
3. Acid-test ratio	$\frac{\text{Quick current assets}}{\text{Current liabilities}}$		Whether the corporation is able to meet the immediate demands of creditors. (This is a more severe measure of liquidity.)
4. Accounts receivable collection period	$\frac{\text{Average acct. rec.}}{\text{Net credit sales}}$	x 365	The average time needed to collect receivables.
5. Number of days of sales in inventory	$\frac{\text{Average inventory}}{\text{Cost of goods sold}}$	x 365	How many days of sales can be made with existing inventory.
6. Revenue operating cycle	Average number of days to collect receivables + average number of days of sales inventory		Length of time between the purchase of inventory and the subsequent collection of cash.

Analysis of profitability:	Calculation of ratio:	Indicates:
1. Gross profit ratio	Gross profit / Net sales	The percentage of sales revenue that is left to pay operating expenses, interest, and income taxes after deducting cost of goods sold.
2. Operating profit ratio	Income from operations / Net sales	The percentage of sales revenue that is left to pay interest and income taxes expenses after deducting cost of goods sold and operating expenses.
3. Net profit ratio	Net income / Net sales	The percentage of sales left after payment of all expenses.
4. Sales to total assets ratio	Net sales / Average total assets	The adequacy of sales in relation to the investment in assets.
5. Return on total assets (ROA)	Income from operations / Average total assets	How efficiently a corporation uses its assets as resources to earn net income.
6. Return on shareholders' equity (ROSE)	Net income / Average S/H equity	The adequacy of earnings as a return on owners' investment.

Leverage ratios:	Calculation of ratio:	Indicates:
1. Debt to shareholders' equity ratio	Total liabilities / Shareholders' equity	The proportion of creditor financing to shareholder financing.
2. Times interest earned ratio	Income from operations / Interest expense	The ability of a corporation to pay interest on borrowings.

Market ratios:	Calculation of ratio:	Indicates:
1. Earnings per share	Net income – pref. share dividends / Avg. number common shares o/s	The amount of net income that has been earned on each common share after deducting dividends to preferred shareholders.
2. Price-earnings ratio	Market price per share / Earnings per share	Market expectations of future profitability.
3. Dividend yield ratio	Dividends per share / Market price per share	The short-term cash return that can be expected from an investment in a corporation's shares.

Figure 13-3: Summary of Financial Statement Ratios

Schematically, the various analytical tools can be illustrated as shown in Figure 13–4.

Liquidity		Profitability		Financial Structure	Market Measures	Trend Analysis
Short-term cash needs	*Current asset performance*	*Returns on sales*	*Returns on SFP items*			
Current ratio	A/R collection period	Gross profit ratio	Sales to total assets ratio	Debt to S/H equity ratio	Earnings per share	Horizontal
Acid-test ratio	Number of days of sales in inventory	Operating income ratio	Return on total assets	Times interest earned ratio	Price-earnings ratio	Vertical
	Revenue operating cycle	Net profit ratio	Return on shareholders' equity		Dividend yield ratio	

Figure 13–4 Categorization of Financial Statement Analytical Tools

Appendix: The Scott Formula

LO3 - Describe the Scott formula and explain how it is used to analyze financial statements.

The **Scott formula** was developed by WR Scott, a Canadian accounting academic. The formula links return on total assets (ROA) to return on shareholders' equity (ROSE), and also integrates a number of related financial ratios to provide a more informed analysis of ROSE. The formula breaks down return on shareholders' equity into two major components – *return on operating capital*, similar to return on total assets, and *return on leveraging* – that is, the return to a corporation through its ability to borrow money at a given interest rate, purchase assets with the loan proceeds, and earn a return on these assets that is greater than the interest rate paid on the loan. This excess return accrues to shareholders since creditors already have been paid for the use of borrowed funds via interest payments.

An Example of Leverage

To illustrate the concept of **leverage**, consider the following example:

	Corp. A	*Corp. B*
Total assets	$400,000	$400,000
Bonds (12%)	-0-	200,000
Shareholders' equity	400,000	200,000

Both A and B have the same amount of assets – $400,000. However, corporation A has no non-current liabilities. Corporation B has $200,000 of 12% bonds. If both corporations earn income from operations of $100,000, do they have a similar return on total assets and shareholders' equity? First, net income needs to be determined, as follows:

	Corp. A	*Corp. B*
Income from operations	$100,000	$100,000
Less: Interest ($200,000 x 12%)	-0-	(24,000)
Income before income taxes	100,000	76,000
Less: Income taxes (50%)	(50,000)	(38,000)
Net income	$ 50,000	$ 38,000

Figure 13–5 Partial Income Statement of Corporations A and B

The use of non-current financing results in a lower net income figure for corporation B because of interest expense ($24,000). This is mitigated somewhat by the lower income taxes expense that results for corporation B ($38,000 vs. $50,000). The difference occurs because the interest expense incurred by B is a deductible expense for income tax purposes. As a result, B's net interest expense is only $12,000, and its **after-tax cost of borrowing** is 6% [12% x (1 – tax rate)]. When interest expense is recorded separately and an income taxes expense is allocated between income from operations and interest expense, this becomes more apparent:

	Corp. A	*Corp. B*
Income from operations	$100,000	$100,000
Less: Income taxes (50%)	(50,000)	(50,000)
Income from operations, after-tax	50,000	50,000
Finance costs	-0-	(24,000)
Interest expense ($200,000 x 12%)		
Less: Income tax **savings** (50%)	-0-	12,000
Net interest expense	-0-	12,000
Net income	$ 50,000	$ 38,000

Figure 13–6 Partial Income Statement of Corporations A and B Showing Allocation of Income Taxes Expense

Now consider the implications of this higher debt load on the calculation of after-tax return on total assets and return on shareholders' equity:

		Corp. A	*Corp. B*
Income from operations, after-tax	(a)	$50,000	$50,000
Net income for the year	(b)	50,000	38,000
Total assets	(c)	400,000	400,000
Shareholders' equity	(d)	400,000	200,000
Return on total assets	(a/c)	12.5%	12.5%
Return on shareholders' equity	(b/d)	12.5%	19%

Figure 13–7 Effects of Leverage on Return on Shareholders' Equity

The return on total assets is 12.5% for both corporations; however the return on shareholders' equity is considerably greater for corporation B (19% vs. 12.5% = 6.5%). This is because corporation B borrowed funds at an after-tax cost of 6% to earn a 12.5% return on the assets it purchased. This 6.5 cent gain for every $1 borrowed (12.5% – 6%) accrues to shareholders of corporation B and therefore increases or *leverages* return on shareholders' equity.

However, there is risk involved in leveraging. While return on shareholders' equity is increased when the return on related assets exceeds the cost of borrowing additional funds, return on shareholders' equity is decreased if cost of borrowings exceeds return on related assets. As a result, and in general, corporations with stable earnings can carry more debt in their financial structures than corporations with fluctuating earnings because there is less risk that the cost of borrowing will exceed the return on assets that the borrowed funds generate.

The Specifics of the Scott Formula

To add analytic power to the Scott formula analysis, the traditional statement of financial position format is rearranged somewhat:

1. Liabilities like accounts payable and income taxes payable that arise from normal operating activities are deducted from related assets like accounts receivable and inventory. This is called "**working capital from operations**".
2. Cash and marketable investments normally reported as current assets are deducted from borrowings to give a more representative picture of amounts actually owing to creditors (since these could be used to pay off debt if desired). The new amount is called "**net financial debt**".
3. With these changes, total assets are now called "**operating capital**". The total of net financial debt and shareholders' equity is now called "**financial capital**". Operating capital always equals financial capital, just as total assets always equals total liabilities plus shareholders' equity on a standard statement of financial position.

Recall the Big Dog Carworks Corp. statement of financial position presented in Figure 13–1 above. For Scott formula analysis, this would be re-cast as follows:

Big Dog Carworks Corp.
Statement of Financial Position
At December 31

Operating liabilities are deducted from operating assets to arrive at working capital from operations.

Cash and short-term investments are deducted from borrowings to arrive at net financial debt.

Operating capital equals financial capital.

Operating Capital			
In thousands of dollars	*2023*	*2022*	*2021*
Working capital from operations			
Accounts receivable	544	420	257
Inventories	833	503	361
Less: Accounts payable	(382)	(295)	(219)
Income taxes payable	(48)	(52)	(50)
	947	576	349
Property, plant, and equipment, at carrying amount	1,053	1,128	712
Operating capital	$2,000	$1,704	$1,061
Net Financial Debt			
Borrowings	$ 825	$ 570	$ 100
Less: Cash	(20)	(30)	(50)
Marketable investments	(36)	(31)	(37)
	769	509	13
Shareholders' Equity			
Share capital	1,063	1,063	963
Retained earnings	168	132	85
	1,231	1,195	1,048
Financial capital	$2,000	$1,704	$1,061

Figure 13–8 BDCC Statement of Financial Position Restated in Terms of Operating and Financial Capital

Some changes are also made to the presentation of income taxes expense on the BDCC income statement, using the same concept as illustrated in Figure 13–6 above.

1. First, the average income tax rate needs to be calculated. This is 45% for all three years, derived from Figure 13–1 as follows:

		2023	*2022*	*2021*
Income before income taxes	(a)	211	213	204
Less: Income taxes	(b)	95	96	92
Net income		$ 116	$ 117	$ 112
Income tax rate	(b/a)	45%	45%	45%

2. Based on this rate, income taxes expense is allocated between income from operations and interest expense, as shown below:

Big Dog Carworks Corp.
Income Statement
For the Year Ended December 31

In thousands of dollars	*2023*	*2022*	*2021*
Sales (net)	$3,200	$2,800	$2,340
Cost of goods sold	2,500	2,150	1,800
Gross profit	700	650	540
Operating expenses			
Selling and marketing	212	183	154
Administration	188	193	182
	400	376	336
Income from operations	300	274	204
Less: Income taxes (45%)	(135)	(123)	(92)
Income from operations, after-tax	165	151	112
Finance costs			
Interest	89	61	-0-
Less: Income taxes **saved** (45%)	(40)	(27)	-0-
Net interest expense	49	34	-0-
Net income	$ 116	$ 117	$ 112

Income tax effects are allocated.

Net income remains unchanged.

Figure 13–9 BDCC Income Statement Restated to Allocate Income Taxes Expense (Savings)

The Scott formula can now be used to calculate how much of BDCC's return on shareholders' equity is derived from operations (return on assets) and how much is derived from leverage. The formula is calculated as:

RETURN ON CAPITAL + RETURN ON LEVERAGING = RETURN ON SHAREHOLDERS' EQUITY

Return on capital and return on leveraging will be examined more closely below.

Return on Operating Capital

Under the Scott Formula, **return on operating capital** is calculated as:

$$\frac{\text{Income from operations (after-tax)}}{\text{Operating capital}}$$

Based on the altered statement of financial position and income statement of BDCC as shown in Figures 13–8 and 13–9 above, the calculations of return on operating capital (ROC) for the three years are:

		2023	*2022*	*2021*
Income from operations (after-tax)	(a)	$ 165	$ 151	$ 112
Operating capital	(b)	$2,000	$1,704	$1,061
Return on operating capital	(a/b)	8.3%	8.9%	10.6%

Return on operating capital is significantly lower than the somewhat equivalent return on assets originally calculated earlier in this chapter (for example, 8.3% vs. 13% in 2023). This is primarily because income tax effects on income from operations are now considered, but also because the denominator is somewhat lower. Accounts payable and income taxes payable are now deducted from current assets to arrive at operating capital; cash and marketable investments are omitted.

Return on operating capital is analyzed further within the Scott formula. Two related ratios are calculated: the **after-tax operating profit ratio**, and the **sales to operating capital ratio**. These are somewhat similar to two ratios studied earlier in the chapter – the operating profit ratio and sales to total assets ratio, respectively. However, they are altered to incorporate changes to the statement of financial position and income statement noted above. One other change is also made to simplify calculations: *ending statement of financial position amounts rather than averages are used*.

The after-tax operating profit ratio for BDCC can be calculated as:

$$(1)\quad \frac{\text{Income from operations (after-tax)}}{\text{Net sales}}$$

The sales to operating capital ratio is calculated as:

$$(2)\quad \frac{\text{Net sales}}{\text{Operating capital}}$$

Notice that the product of these two ratios equals the return on operating capital ratio:

(1)	x	(2)	=	(3)
After-tax operating profit ratio	x	*Sales to operating capital ratio*	=	*Return on operating capital*

$$\frac{\text{Income from operations (after-tax)}}{\cancel{\text{Net sales}}} \times \frac{\cancel{\text{Net sales}}}{\text{Operating capital}} = \frac{\text{Income from operations (after-tax)}}{\text{Operating capital}}$$

This relationship is used to provide further insights into the return on operating capital ratio. Using BDCC's financial statement from Figures 13–8 and 13–9, the ratios are calculated as:

	(1)		(2)		(3)
2021	$\frac{\$\,112}{2{,}340}$	x	$\frac{\$2{,}340}{1{,}061}$	=	$\frac{\$\,112}{1{,}061}$
OR	**4.8%**	**x**	**2.2**	**=**	**10.6%**
2022	$\frac{\$\,151}{2{,}800}$	x	$\frac{\$2{,}800}{1{,}704}$	=	$\frac{\$\,151}{1{,}704}$
OR	**5.4%**	**x**	**1.6**	**=**	**8.9%**
2023	$\frac{\$\,165}{3{,}200}$	x	$\frac{\$3{,}200}{2{,}000}$	=	$\frac{\$\,165}{2{,}000}$
OR	**5.1%**	**x**	**1.6**	**=**	**8.3%**

The return on operating capital (column 3) has declined from 10.6% in 2021 to 8.3% in 2023. The after-tax operating profit ratio (column 1) has fluctuated somewhat over the same period. No trend is apparent. Therefore, the largest effect on ROC has been the decline in the sales to operating capital ratio (column 2) from 2.2 times in 2021 to 1.6 times in 2022 and 2023. This indicates that the increase in operating capital (chiefly assets like accounts receivable, inventory, and PPE) has not been matched with a proportionate increase in sales. This is similar to the conclusion reached earlier in the chapter. However, using the Scott formula, its effect is more apparent.

Return on Leveraging

As noted above, the other useful feature of the Scott formula is its analysis of return on leveraging (ROL) , and the resultant effects on return on shareholders' equity. Recall that leverage is the return generated by assets in excess of the after-tax cost of borrowing money to finance these assets. An example of leveraging was illustrated in Figure 13–7.

The Scott formula further refines analysis of leverage by considering the effect of financial structure as indicated by the debt to shareholders' equity ratio. In Figure 13–7, the debt to shareholders equity ratio is 1:1 for corporation B ($200,000/200,000). (We ignore analysis of leverage for corporation A, as it has no liabilities and thus no ability to employ leverage.) Now assume the same information for corporation B, and additional information for corporation C, as follows:

	Corp. B	*Corp. C*
Total assets (same as operating capital)	$400,000	$400,000
Bonds (12%) (same as net financial debt)	200,000	300,000
Shareholders' equity	200,000	100,000

The only difference in financial structure between B and C is that corporation C has $300,000 of bonds and only $100,000 of shareholders' equity. Its debt to shareholders' equity ratio is 3:1 ($300,000/100,000) compared to corporation B's debt to shareholders' equity ratio of 1:1 ($200,000/200,000).

Assume the same income from operations and income tax rate as our prior example in Figure 13–7. The partial statements of profit and loss of each corporation would show:

	Corp. B	*Corp. C*
Income from operations	$100,000	$100,000
Less: Income taxes (50%)	(50,000)	(50,000)
Income from operations, after-tax	50,000	50,000
Finance costs	(24,000)	-0-
Interest expense (B) ($200,000 x 12%)		
Interest expense (C) ($300,000 x 12%)		(36,000)
Less: Income tax **savings** (50%)	12,000	18,000
Net interest expense	12,000	18,000
Net income and comprehensive income	$ 38,000	$ 32,000

Return on capital and return on shareholders' equity would be calculated for each corporation as follows using the Scott formula:

		Corp. B	*Corp. C*
Income from operations, after-tax	(a)	$50,000	$50,000
Net income for the year	(b)	38,000	32,000
Total operating capital	(c)	400,000	400,000
Shareholders' equity	(d)	200,000	100,000
Return on operating capital	(a/c)	12.5%	12.5%
Return on shareholders' equity	(b/d)	19%	32%

Figure 13–10 Effects of Leverage and Financial Structure: Return on Shareholders' Equity

In each case, the corporations have realized leverage on borrowed money. Bonds were issued at an after-tax interest rate of 6% and earned returns on after-tax operating capital of 12.5% for both corporations, a difference of 6.5%. Why is corporation C's return on shareholders' equity 32%, and corporation B's only 19%? The answer lies in the relative financial structures of the corporations. In corporation B's case, the debt to shareholders' equity ratio is 1:1. Therefore each 6.5 cents earned on one dollar of financed assets (12.5 – 6%) is transferred to shareholders in proportion to the debt to shareholders' equity ratio (1:1). In other words, corporation B's return on shareholders' equity is composed of a 12.5% return on assets plus a 6.5% return on leveraging, for a total return on shareholder's equity of 19%.

However, in corporation C's case each 6.5 cents earned on one dollar of financed assets is increased because there are three dollars of debt for each dollar of shareholders' equity. Therefore, the return on borrowed money *to shareholders* is magnified by this amount, or 6.5% x 3 = 19.5%. Corporation C's return on shareholders' equity is composed of a 12.5% return on assets plus a 19.5% return on leveraging, for a total return on shareholder's equity of 32%.

Return on leveraging (ROL) is therefore determined as follows using the Scott formula:

$$[\text{ROC} - \text{Interest rate (after-tax)*}] \quad \times \quad \frac{\text{Net financial debt}}{\text{Shareholders' equity}}$$

*calculated as: $\dfrac{\text{Interest expense (after-tax)}}{\text{Net financial debt}}$

For corporation C, return on leveraging for 2023 is calculated as:

$$\left[\frac{\$500{,}000}{400{,}000} - \frac{18{,}000}{300{,}000}\right] \times \frac{\$300{,}000}{100{,}000}$$

= (12.5% - 6%) x 3

= 19.5%

Combining Return on Operating Capital and Return on Leveraging

Recall that under the Scott formula, return on shareholders' equity is the sum of return on operating capital and return on leverage; in other words, ROC + ROL = ROSE. Combining the constituent ratios for ROC and ROL, the Scott formula suggests that return on shareholders' equity will equal:

$$\overbrace{\left[\overset{(1)}{\frac{\text{Income from operations (after tax)}}{\text{Net sales}}} \times \overset{(2)}{\frac{\text{Net sales}}{\text{Operating capital}}}\right]}^{\textit{Return on operating capital}} + \overbrace{\left[\overset{(3)}{(\text{ROC} - \text{Interest rate})} \times \overset{(4)}{\frac{\text{Net financial debt}}{\text{Shareholders' equity}}}\right]}^{\textit{Return on leveraging}} = \overbrace{\overset{(5)}{\frac{\text{Net income}}{\text{Shareholders' equity}}}}^{\textit{Return on shareholders' equity}}$$

For BDCC, the Scott formula ratios for the 2021, 2022 and 2023 years are calculated as follows:

	Return on operating capital			+	*Return on leveraging*			=	*Return on shareholders' equity*
	(1)		(2)		(3)		(4)	=	(5)
2021	[$112 / 2,340	x	$2,340 / 1,061]	+	[[$112 / 1,061 – $0 / 13]	x	$13 / 1,048]	=	$112 / 1,048
=	[4.8%	x	2.2]	+	[10.6%	x	.01]	=	10.7%
=		**10.6%**		+		**.1%**		=	**10.7%**
2022	[$151 / 2,800	x	$2,800 / 1,704]	+	[[$151 / 1,704 – $34 / 509]	x	$509 / 1,195]	=	$117 / 1,195
=	[5.4%	x	1.6]	+	[2.2%	x	.43]	=	9.8%
=		**8.9%**		+		**.9%**		=	**9.8%**
2023	[$165 / 3,200	x	$3,200 / 2,000]	+	[[$165 / 2,000 – $49 / 769]	x	$769 / 1,231]	=	$116 / 1,231
=	[5.1%	x	1.6]	+	[1.9%	x	.62]	=	9.4%
=		**8.3%**		+		**1.1%**		=	**9.4%**

Analyzing BDCC's Performance using the Scott formula

Maintaining an acceptable return on shareholders' equity is an important objective for investors, and senior managers are hired to maximize these returns. The Scott formula highlights a number of interconnected ratios and demonstrates how these influence return on shareholders' equity. Because of this, it can provide a valuable analytic tool for investors and managers.

In BDCC's case, the formula results indicate that return on shareholders' equity has declined from 10.7% to 9.4% over the three years (column 5), in spite of increasing returns from leveraging of .1% in 2021 to 1.9% in 2023 (columns 3 and 4). Return on operating capital has declined more precipitously than ROSE, from 10.6% in 2021 to 8.3% in 2023 (columns 1 and 2). With respect to return on operating capital, and as noted earlier, the after-tax operating profit ratio displays no trend (column 1). However, the sales to operating capital ratio (column 2) has declined from 2.2 times in 2021 to 1.6 times in 2022 and 2023, indicating that the additions to operating assets as yet have not been matched with a proportionate increase in sales. With respect to return on leverage, the relatively small difference between return on capital and the after-tax cost of borrowing funds in 2022 and 2023 (column 3) suggests that return from leveraging will most likely be improved by increasing the difference between return on capital and the after-tax cost of borrowing funds. This further emphasizes the importance of increasing the sales to operating capital ratio, as it affects the return on operating capital ratio most significantly. The relatively low debt to shareholders' equity ratio (column 4) suggests that BDCC should consider borrowing more funds when required, rather than issuing additional shares and increasing the amount of shareholders' equity. This can magnify return on leveraging. However, the difference between return on operating capital and the cost of borrowed funds should be improved before more borrowing takes place, to minimize risk to shareholders and maximize effects on return on shareholders' equity.

Summary of Chapter 13 Learning Objectives

LO1 – Describe ratio analysis, and explain how the liquidity, profitability, leverage, and market ratios are used to analyze and compare financial statements.

Ratio analysis measures the relative magnitude of two selected numerical values taken from a corporation's financial statements and compares the result to prior years and other similar corporations. Financial ratios are an effective tool for measuring: (a) liquidity (current ratio, acid-test ratio, accounts receivable collection period, and number of days of sales in inventory); (b) profitability (gross profit ratio, operating profit ratio, net profit ratio, sales to total assets ratio, return on total assets, and return on shareholders' equity); (c) leverage (debt ratio, shareholders' equity ratio, debt to shareholders' equity ratio, and times interest earned ratio); and (d) market ratios (earnings per share, price-earnings ratio, and dividend yield ratio). Ratios help identify the areas that may require further investigation.

LO2 – Describe horizontal and vertical trend analysis, and explain how they are used to analyze financial statements.

Horizontal analysis involves the calculation of percentage changes from one or more years over a base year dollar amount. The base year is typically the older year and is always 100%. Vertical analysis requires that numbers in a financial statement be restated as percentages of a base dollar amount. For income statement analysis, the base amount used is sales. For statement of financial position analysis, total assets (which are always the same as total liabilities and shareholders' equity) are used as the base amounts. When financial statements are converted to percentages, they are called common-size financial statements.

LO3 – (Appendix) Describe the Scott formula and explain how it is used to analyze financial statements.

The Scott formula separates return on shareholders' equity into two components: return on operating capital (ROC) and return on leveraging (ROL). ROC can be further analyzed as the product of the after-tax return on operating income multiplied by the sales to operating capital ratio. ROL can be further analyzed as (ROC – after-tax interest rate) multiplied by the debt to shareholders' equity ratio. The after-tax interest rate is calculated as [interest expense x (1- income tax rate)]/net financial debt.

A S S I G N M E N T   M A T E R I A L S

Concept Self-check

View Answers

1. Ratios need to be evaluated against some base. What types of information can be used?
2. Explain what *liquidity* means. When a corporation is becoming less liquid, what are the implications for shareholders? for creditors?
3. How is it possible that a corporation earning net income each year is becoming less liquid?
4. What ratios can be calculated to evaluate liquidity? Explain what each one indicates.
5. a. Define working capital. Distinguish between the current ratio and the acid-test ratio.
   b. "The current ratio is, by itself, inadequate to measure liquidity." Discuss this statement.
6. Two firms have the same amount of working capital. Explain how it is possible that one is able to pay off short-term creditors, while the other firm cannot.
7. Management decisions relating to accounts receivable and inventory can affect liquidity. Explain.
8. What is one means to evaluate the management of accounts receivable? inventory?
9. Discuss the advantages and disadvantages of decreasing number of days of sales in inventory.
10. What is the revenue operating cycle? How is its calculation useful in evaluating liquidity?
11. Identify and explain six ratios (and any associated calculations) that evaluate a corporation's profitability. What does each ratio indicate?
12. Why are analysts and investors concerned with the financial structure of a corporation?
13. Is the reliance on creditor financing good or bad? Explain its impact on net income.
14. Discuss the advantages and disadvantages of short-term debt financing compared to long-term debt financing.
15. Identify and explain ratios that evaluate financial returns for investors.
16. Distinguish between horizontal and vertical analysis of financial statements.
17. (Appendix) Describe the components of the Scott formula.

Comprehension Problems

CP 13–1

View Answer

Required: Match the following ratios with the appropriate formula.

Ratio or Rate		*Formula*
______	Acid-test	a. $\frac{\text{Income from operations}}{\text{Interest expense}}$
______	Current	b. $\frac{\text{Total liabilities}}{\text{Shareholders' equity}}$
______	Return on shareholders' equity	c. $\frac{\text{Net income} - \text{preferred share dividends}}{\text{Number of common shares outstanding}}$
______	Times interest earned	d. $\frac{\text{Net sales}}{\text{Average total assets}}$
______	Earnings per share	e. $\frac{\text{Market price per share}}{\text{Earnings per share}}$
______	Accounts receivable collection period	f. $\frac{\text{Current assets}}{\text{Current liabilities}}$
______	Sales to total assets	g. $\frac{\text{Average inventory} \times 365 \text{ days}}{\text{Cost of goods sold}}$
______	Dividend yield	h. $\frac{\text{Net income}}{\text{Net sales}}$
______	Price-earnings ratio	i. $\frac{\text{Income from operations}}{\text{Average total assets}}$
______	Number of days of sales in Inventory	j. $\frac{\text{Dividends per share}}{\text{Market price per share}}$

_______	Debt to s/h equity ratio	k.	Net income / Average shareholders' equity
_______	Net profit ratio	l.	Quick current assets / Current liabilities
_______	Accounts receivable collection period	m.	Average accounts receivable x 365 days / Net credit sales
_______	Return on total assets	n.	Average accounts receivable x 365 days / Net credit sales

CP 13–2

View Answer

The following information is taken from the partial statement of financial position of Quail Productions Corp.

	2018	*2017*
Current assets		
Cash	$ 10	$ 15
Marketable investments	35	35
Accounts receivable	200	150
Inventory	600	400
Current liabilities		
Accounts payable	500	400
Borrowings	245	180

Required:

1. Describe the purpose of and calculate the current ratio for each year.
2. Describe the purpose of and calculate the acid-test ratio for both years.
3. What observations can you make from a comparison of the two types of ratios?
4. (Appendix) Restate the statement of financial position to facilitate Scott formula analysis.

CP 13–3

View Answer

The following information is taken from the records of Black Spruce Co. Ltd.:

	2019	*2018*	*2017*
Sales	$252	$141	$120
Gross profit	63	48	54
Net income	12	5	15

Required: Analyze the gross profit and net profit ratios using the above data. Comment on trends you observe.

CP 13–4

View Answer

The following information relates to three companies in the same industry:

Corporation	*Latest market price*	*Earnings per share*	*Dividends per share*
A	$35	$11	$-0-
B	40	5	4
C	90	10	6

Required: Explain and calculate the price-earnings and dividend yield ratios. On the basis of only the foregoing information, which company represents the most attractive investment opportunity to you? Explain.

CP 13–5

View Answer

The following data are taken from the records of Cronkite Corp.:

	2018	*2017*
Sales	$2,520	$1,440
Cost of goods sold	1,890	960
Gross profit	630	480
Other expenses	510	430
Net income	$ 120	$ 50

Required: Perform horizontal analysis on the above date and interpret your results.

CP 13–6

View Answer

In the left-hand column, a series of independent transactions is listed; in the right-hand column, a series of ratios is listed.

		Effect on ratio		
Transaction	*Ratio*	*Increase*	*Decrease*	*No change*
Declared a cash dividend	Current ratio			
Wrote-off an uncollectible account receivable	Accounts receivable collection period			
Purchased inventory on account	Acid-test ratio			
Issued 10-year bonds to acquire property, plant, and equipment	Return on total assets			
Issued additional shares for cash	Debt to shareholders' equity ratio			
Declared a share dividend on common shares	Earnings per share			
Purchased supplies on account	Current ratio			
Paid a current creditor in full	Acid-test ratio			
Paid an account payable	Number of days of sales in inventory			

Required: For each transaction indicate whether the ratio will increase, decrease, or remain unchanged. Assume all ratios are greater than 1:1 before each transaction where applicable.

CP 13–7

View Answer

Consider the following financial statement data:

Statement of Financial Position

Cash	$20
Accounts receivable	20
Merchandize inventory	40
Plant, at carrying amount	140
	$220
Accounts payable	$20
Non-current borrowings	60
Common shares (8 shares issued)	80
Retained earnings	60
	$220

Income Statement

Sales	$100
Cost of goods sold	50
Gross profit	50
Operating expenses	14
Income from operations	36
Less: Interest	6
Income before income taxes	30
Less: Income taxes	10
Net income	$20

Assume that the average of all statement of financial position items is equal to the year-end figure and that all sales are on credit.

Required:

1. Calculate the following ratios:
   a. Return on total assets (assume interest has been paid)
   b. Return on shareholders' equity
   c. Times interest earned ratio
   d. Earnings per share
   e. Number of days of sales in inventory

f. Accounts receivable collection period
g. Sales to total assets ratio
h. Current ratio
i. Acid-test ratio
j. Debt to shareholders' equity ratio.
2. Which of these ratios are measures of liquidity?
3. (Appendix) Restate the financial statements to facilitate Scott formula analysis.
4. (Appendix) Calculate the Scott formula.

CP 13–8

Consider the following information:

View Answer

Salinas Limited
Statement of Financial Position
At December 31, 2019

Assets		*Liabilities and Shareholders' Equity*	
Cash	$ 72	Accounts payable	$ 60
Accounts receivable	88	Bank loan, non-current	150
Merchandize inventory	100		
Prepaid expenses	40	Preferred shares (10%)	60
PPE, at carrying amount	320	Common shares	250
		Retained earnings	100
Total assets	$620	Total liab and sh. equity	$620

Salinas Limited
Income Statement
For the Year Ended December 31, 2019

Sales		$240
Cost of goods sold		144
Gross profit		96
Operating expenses		
Salaries	$44	
Depreciation	6	50
Income from operations		46
Less: Interest		8
Income before income taxes		38
Less: Income taxes		18
Net income		$ 20

Assume that 80% of sales are on credit, that the average of all statement of financial position items is equal to the year-end figure, that all preferred share dividends have been paid, and that the number of common shares outstanding is 10.

Required: Calculate the following ratios and percentages

1. Current ratio
2. Return on total assets
3. Sales to total assets
4. Acid-test ratio
5. Times interest earned
6. Earnings per common share
7. Accounts receivable collection period
8. Return on shareholders' equity
9. (Appendix) Scott formula.

CP 13–9

View Answer

Assume a company has the following financial information:

Cash and short-term investments	$ 6
Prepaid expenses	-0-
Capital assets	90
Total liabilities	40
Shareholders' equity	140
Sales	420
Credit sales	300
Current ratio	2.5:1
Acid-test ratio	1:1
Gross profit ratio	30%

Assume current assets consist of cash, short-term investments, accounts receivable, inventory, and prepaid expenses, and that ending balances are the same as average balances for the year.

Required: Calculate

1. Current liabilities
2. Inventory
3. Accounts receivable collection period
4. Number of days of sales in inventory
5. Revenue operating cycle
6. (Appendix) Net financial debt. Assume current liabilities consist of a bank loan.

CP 13–10

View Answer

A company began the month of May with $200,000 of current assets, a 2.5 to 1 current ratio, and a 1.25 to 1 acid-test ratio. During the month, it completed the following transactions:

Transaction	*Effect on current ratio* Increase	Decrease	No change
a. Bought $20,000 of merchandize on account (the company uses a perpetual inventory system)			
b. Sold for $10,000 cash, merchandize that cost $5,000			
c. Collected a $2,500 account receivable			
d. Paid a $10,000 account payable			
e. Wrote off a $1,500 bad debt against the allowance for doubtful accounts			
f. Declared a $1 per-share cash dividend on the 10,000 outstanding common shares			
g. Paid the dividend declared above			
h. Borrowed $10,000 from a bank by assuming a 60-day, 10-per cent loan			
i. Borrowed $25,000 from a bank by placing a 10-year mortgage on the plant			
j. Used the $25,000 proceeds of the mortgage to buy additional machinery.			

Required:

1. Indicate the effect on current ratio assuming each transaction is independent of the others.
2. At the end of May, and taking all the above transactions into account, what was
   a. The current ratio?
   b. The acid-test ratio?

Use the following format (the opening current ratio calculation and effects of the first transaction are provided:

a. Current ratio

In thousands of dollars		*May 1 Bal.*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*May 31 Bal.*
Current assets	x	200	+20										
Current liabilities	y	80	+20										
Current ratio	x/y	2.5											

b. Acid-test ratio

In thousands of dollars		*May 1 Bal.*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*May 31 Bal.*
Quick assets	x												
Current liabilities	y												
Acid-test ratio	x/y												

Problems

P 13–1

View Answer

Consider the following information:

Mammoth Corporation
Statement of Financial Position
At December 31, 2020

Assets		**Liabilities**	
Current		*Current*	
Cash	$ 100	Accounts payable	$ 300
Accounts receivable	200	Wages payable	50
Merchandize inventory	500	Dividends payable	50
Prepaid expenses	50		400
	850		
Non-current		*Non-current*	
Property, plant, and equipment, net	1,000	Borrowings	800
			1,200
		Shareholders' Equity	
		Common shares	500
		Retained earnings	150
			650
Total assets	$1,850	Total liab and sh. equity	$1,850

Required:

1. Based on this information, calculate the
    a. Current ratio
    b. Acid-test ratio
    c. Debt to shareholders' equity ratio.
2. What do these ratios tell you about Mammoth Corporation?
3. What other information would help with the financial analysis of Mammoth Corporation?

P 13–2

View Answer

The following information for 2018 was gathered from the financial statements of Epicentre Corporation.

Statement of Financial Position At December 31, 2018		Income Statement For the Year Ended December 31, 2018	
Assets			
Current		Net sales (all on credit)	$800
Cash	$ 60	Cost of goods sold	600
Accounts receivable	140	Gross profit	200
Merchandize inventory	250	Selling and admin. expenses	100
Prepaid expenses	10	**Income from operations**	100
	460	Interest expense	20
PPE, at carrying amount	330	**Income before income taxes**	80
	$790	Income taxes	30
Liabilities		**Net income**	$ 50
Current			
Accounts payable	$100		
Borrowings	20		
Notes payable	60		
	180		
Non-current			
Borrowings	140		
	320		
Shareholders' Equity			
Preferred shares, 10% (8	120		
shares)	250		
Common shares (50 shares)	100		
Retained earnings	470		
	$790		

Additional information from the December 31, 2017 statement of financial position:

Accounts receivable	$180
Merchandize inventory	200
Property, plant, and equipment, net	250
Retained earnings	80
Preferred shares	120
Common shares	250

Required:

1. Compute the following ratios for 2018:
   a. Current ratio
   b. Acid-test ratio
   c. Accounts receivable collection period
   d. Number of days of sales in inventory
   e. Debt to shareholders' equity ratio
   f. Return on shareholders' equity
   g. Earnings per share (assume all preferred share dividends are paid)
2. Compute dividends paid on common shares for 2018.
3. What do these ratios tell you about Epicentre Corporation?
4. (Appendix) Restate the financial statements to facilitate Scott formula analysis.
5. (Appendix) Calculate the Scott formula and analyze the results.

P 13–3

View Answer

Belafonte Corporation's books were destroyed in a fire on April 30, 2018. The accountant of the corporation can only remember a few odd pieces of information:

a. The current ratio was 3.75 to 1.
b. Sales for the year were $73,000.
c. Inventories were $20,000 and were equal to property, plant and equipment at carrying amount, and also equal to bonds payable.
d. The accounts receivable collection period was 40 days.
e. The bonds payable amount was 10 times cash.
f. Total current assets were twice as much as common shares.

Required: Using this information, prepare Belafonte Corporation's statement of financial position at April 30, 2018. Assume balances at April 30, 2018 are the same as average balances for the year then ended, and that besides retained earnings, there are no additional accounts.

P 13–4

View Answer

Assume you are an accountant analysing Escalade Corporation. Escalade has expanded its production facilities by 200% since 2017. Its income statements for the last three years are as follows:

Escalade Corporation
Statements of Profit and Loss
For the Years Ending December 31

	2020	*2019*	*2018*
Sales	$250	$150	$120
Cost of goods sold	190	100	60
Gross profit	60	50	60
Other expenses	35	34	35
Net income	$ 25	$ 16	$ 25

Required:

1. Prepare a vertical analysis of Escalade Corporation's income statement for the three years.
2. What conclusions can be drawn from this analysis?

P 13–5

View Answer

The incomplete statement of financial position of Hook Limited is given below.

Hook Limited
Statement of Financial Position
At December 31, 2018

Assets		
Current		
Cash	$ 30,000	
Accounts receivable	?	
Merchandize inventory	?	
		$?
Capital assets	?	
Less: Accumulated depreciation	100,000	?
Total assets		$?
Liabilities		
Current		
Accounts payable	$ 50,000	
Estimated liabilities	?	
		$120,000
Non-current		
8% Bonds payable		?
		?
Shareholders' Equity		
Common shares		?
Retained earnings		?
		?
Total liabilities and shareholders' equity		$?

Additional information for the 2018 year-end:
a. The amount of working capital is $150,000.
b. The issued value of the shares is $10 per share.
c. Market price per share is $15.
d. Price-earnings ratio is 3.
e. Income before payment of interest and income tax is $80,000.
f. The ratio of shareholder's equity to total assets is 0.60 to 1.
g. Income tax expense equals $30,000.
h. The acid-test ratio is 1.5 to 1.
i. The times interest earned ratio is 8 to1.

Required: Complete Hook Limited's statement of financial position.

CHAPTER FOURTEEN

The Statement of Cash Flows

Information about the amount of cash received and paid out during an accounting period is not shown on the statement of financial position, income statement, or statement of changes in equity. This information is disclosed on the **statement of cash flows (SCF)**. This chapter discusses the purpose of the statement of cash flows, the steps in preparing the SCF, as well as how to interpret various sections of the statement of cash flows.

Chapter 14 Learning Objectives

LO1 – Explain the purpose of the statement of cash flows.

LO2 – Prepare a statement of cash flows.

LO3 – Interpret a statement of cash flows.

A. Financial Statement Reporting

LO1 – Explain the purpose of the statement of cash flows.

Cash flow is an important factor in determining the success or failure of a corporation. It is quite possible for a profitable business to be short of cash. A company can have liquidity issues because of large amounts of cash tied up in inventory and accounts receivable, for instance. Conversely, an unprofitable business might have sufficient cash to pay its bills if it has access to enough bank financing or if it can issue additional shares.

The **statement of cash flows** provides a summary of where cash came from during the accounting period and how cash was used. The SCF explains why cash on hand at the end of the accounting period is different from the cash on hand at the beginning of the period by accounting for the effect of *operating, financing* and *investing* activities on a company's cash resources.

Cash flow information is useful to management when making decisions such as purchasing equipment, plant expansion, paying down long–term debt, or declaring dividends. The SCF is useful to external users when evaluating a corporation's financial performance.

Providing information that helps readers assess the timing, amount, and uncertainty of future cash flows is a primary objective of financial reporting. Using the SCF, analysts examine the relationship among the various sources and uses of cash during the period to help predict future cash flows.

The SCF, together with the income statement, provides a somewhat limited means of assessing future cash flows because these statements are based on historical rather than prospective data. Nevertheless, the ability to generate cash from past operations is often an important indication of whether the enterprise will have difficulty meeting obligations as they fall due, paying dividends, paying for recurring operating costs, or surviving adverse economic conditions.

"Cash" consists of anything a bank will accept for deposit. However, for SCF purposes, cash can also include **cash equivalents**—assets that can be quickly converted into a known amount of cash. These will be converted to a known amount of cash within three months of acquisition and are not subject to significant risk of changes in value.

Conversely, there are examples of "negative" cash, like bank overdrafts. An overdraft occurs when a corporation is allowed to pay out more cash from its bank account than it has on deposit, with the understanding that the overdraft situation is temporary and limited to a predetermined amount. Another example is a demand bank loan. This is a short-term loan that provides cash to a company when needed. However, the bank can require that the loan be repaid at any time.

Because of differences in the nature of each entity and industry, management judgement is required to determine what assets constitute cash and cash equivalents for a particular firm. This decision needs to be disclosed on the SCF or in a note to the financial statements. For instance, the following note disclosure could be made:

Note X

Cash and cash equivalents consist of cash on deposit and short-term investments held for the purposes of meeting cash commitments within three months from their date of acquisition, net of demand bank loans. Cash and cash equivalents reported on the statement of cash flows are comprised of the following:

($000s)

	2020	*2019*
Cash on deposit	$20	$30
Short-term investments	37	33
Less: Demand bank loan	(1)	(2)
	$56	$61

Cash flows result from a wide variety of a corporation's activities as cash is received and disbursed over a period of time. Because the income statement is based on accrual accounting that matches expenses with revenues, net income usually is not the same as cash receipts and disbursements occurring during the same time period. The statement of cash flows converts accrual-based net income into cash flow from operating activities.

B. Preparing the Statement of Cash Flows

LO2 – Prepare a statement of cash flows.

The statement of cash flows is classified into three sections: operating activities, financing activities, and investing activities. A simplified example is shown in Figure 14–1 below:

The SCF covers a period of time, like the income statement.

The SCF is divided into three areas.

These amounts agree to cash reported on the statement of financial position.

Sample Corporation
Statement of Cash Flows
For the Year Ended December 31, 2017

Operating activities	
Net income	$100
Plus: Changes in working capital	8
Cash flow from operating activities	108
Investing activities	
Purchase of equipment	(150)
Financing activities	
Common shares issued	50
Net increase in cash	8
Cash at beginning of year	10
Cash at end of year	$ 18

Figure 14–1 Sample Corporation Statement of Cash Flows

Cash flow from operating activities is generated from the principal activities that produce revenue for a corporation, such as selling products, and most of the expenses reported on the income statement, which are necessary to carry out these activities. Changes to non-cash working capital accounts like accounts receivable also affect cash generated by operating activities, as will be explained below.

Cash flows from investing activities involve increases and decreases in long–term asset accounts. These include outlays for the acquisition of property, plant, and equipment, as well as cash proceeds from their disposal.

Cash flows from financing activities occur when there are changes to debt or shareholders' equity accounts, like when long-term borrowings are repaid or shares are issued[1].

The analysis of cash inflows and outflows focuses any transactions that involve a cash and cash equivalents account and any other statement of financial position account. The following statement of financial position format can be used to visualize this. The bold black line separates the cash and cash equivalent accounts from all other accounts.

These are cash and cash equivalent accounts.

Changes to these accounts are classified as operating, investing, or financing activities.

Assets	*Liabilities and Shareholders' Equity*
Cash and s/t investments	Overdrafts and demand loans
Non-cash current assets	Other current liabilities
Non-current assets	Non-current liabilities
	Share capital
	Retained earnings
	+ Revenue
	– Expenses

Any transaction that affects one account above and one account below the black line results in either a cash inflow or a cash outflow. Such transactions cause changes to cash and cash equivalents.

Consider the statement of financial position, income statement and statement of changes in equity of Sample Corporation:

[1] Under IFRS, dividend payments can be considered operating or financing activities. In this text, they are considered a return on the original capital invested by shareholders and are thus classified as financing activities.

Sample Corporation
Statement of Financial Position
At December 31
($000s)

	2018	2017
Assets		
Current		
Cash	$ 27	$ 150
Accounts receivable	375	450
Merchandize inventory	900	450
Prepaid expenses	20	10
	1,322	1,060
Property, plant, and equipment		
Land	210	290
Buildings	1,200	400
Machinery	990	700
Less: Accumulated depreciation	(540)	(300)
	1,860	1,090
Total assets	$3,182	$2,150
Liabilities		
Current		
Accounts payable	$ 235	$ 145
Dividends payable	25	30
Income taxes payable	40	25
	300	200
Non-current borrowings	1,000	500
	1,300	700
Shareholders' Equity		
Share capital	1,210	800
Retained earnings	672	650
	1,882	1,450
Total liabilities and shareholders' equity	$3,182	$2,150

Sample Corporation
Income Statement
For the Year Ended December 31, 2018
($000s)

Sales		$1,200
Cost of goods sold		674
Gross profit		526
Operating expenses		
Selling, general, and administration	$115	
Depreciation	260	375
Income from operations		151
Other items		
Gain on disposal of land	24	
Loss on disposal of machinery	(10)	14
Income before interest expense and income taxes		165
Interest expense		50
Income before income taxes		115
Income taxes		35
Net income		$ 80

Sample Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018
($000s)

	Share capital	*Retained earnings*	*Total equity*
Balance at Jan. 1, 2018	$ 800	$650	$1,450
Common shares issued	410	-	410
Net income	-	80	80
Dividends declared	-	(58)	(58)
Balance at Dec. 31, 2018	$1,210	$672	$1,882

The SCF can be prepared from an analysis of transactions recorded in the Cash account. Accountants summarize and classify these cash flows on the SCF for the three major activities noted above – operating, investing, and financing. To aid our analysis, the following summarized transactions from the records of Sample Corporation will be used.

Transaction	*Description (\$000s)*
1	Land costing $80 was sold for $104.
2	A building was purchased for $800 cash.
3	Machinery was purchased for $350 cash.
4	Machinery costing $60 with accumulated depreciation of $20 was sold for $30 cash.
5	Depreciation expense of $260 was recorded during the year.
6	Sample Company received $500 cash from a long-term bank loan.
7	Shares were issued for $410 cash.
8	$58 of dividends were declared and paid during the year.

Analysis of Cash Flows

The steps used to prepare a statement of cash flows are as follows:

Step 1 Set up a **cash flow table**.
Step 2 Calculate the changes in each statement of financial position account.
Step 3 Analyze changes in non-cash statement of financial position accounts.
Step 4 Prepare the cash flow from operating activities section of the SCF.
Step 5 Prepare a statement of cash flows.

Step 1 Set up a cash flow table

Set up a table as shown below with a row for each account shown on the statement of financial position. Enter amounts for each account for 2017 and 2018. Show credit balances in parentheses. Total both columns and ensure they equal zero. The table should appear as follows after this step has been completed:

Account	*Balance ($000s)* 2018 Dr. (Cr.)	2017 Dr. (Cr.)
Cash	27	150
Accounts receivable	375	450
Merchandize inventory	900	450
Prepaid expenses	20	10
Land	210	290
Buildings	1,200	400
Machinery	990	700
Accumulated depreciation	(540)	(300)
Accounts payable	(235)	(145)
Dividends payable	(25)	(30)
Income taxes payable	(40)	(25)
Borrowings	(1,000)	(500)
Share capital	(1,210)	(800)
Retained earnings	(672)	(650)
Total	-0-	-0-

Step 2 Calculate the changes in each statement of financial position account

Add two columns to the cash flow table. Calculate the net debit or net credit changes for every account on the statement of financial position and insert these changes in the appropriate column. This step is shown below.

	Step 1		Step 2		
	Balance ($000s)		Change		
	2018	2017			
Account	Dr. (Cr.)	Dr. (Cr.)	Dr.	Cr.	
Cash	27	150		123	Cash has decreased by $123,000.
Accounts receivable	375	450		75	
Merchandize Inventory	900	450	450		
Prepaid expenses	20	10	10		
Land	210	290		80	
Buildings	1,200	400	800		
Machinery	990	700	290		
Accumulated depreciation	(540)	(300)		240	
Accounts payable	(235)	(145)		90	
Dividends payable	(25)	(30)	5		
Income taxes payable	(40)	(25)		15	
Borrowings	(1,000)	(500)		500	
Share capital	(1,210)	(800)		410	
Retained earnings	(672)	(650)		22	
Total	-0-	-0-	1,555	1,555	Total debit changes equal total credit changes.

Step 3 Analyze changes in non–cash statement of financial position accounts

Recall from earlier chapters that a cash inflow is recorded as a debit to cash. For instance, a cash sale of $100 is recorded as:

Dr.	Cash	100	
Cr.	Sales		100

Similarly, a cash outflow is recorded as a credit to cash. Purchase of $50 of inventory for cash is recorded as:

Dr.	Merchandize Inventory	100	
Cr.	Cash		100

This same principle is used to record cash inflows and outflows from operating, investing, and financing activities when the cash flow table method is used to prepare the SCF. A debit to cash represents a cash inflow; a credit to cash represents a cash outflow. Each type of activity represents a cash flow effect, in or out.

The next step is to set up three columns to the right of the "Change" columns shown in the table above. These columns should be titled "Cash

Effect—Inflow," "Cash Effect—Outflow," and "Activity." Record the changes in each account listed in Step 2 as a *cash inflow effect* if the account's change is a credit (because the opposing debit represents an increase in cash, and therefore a cash inflow). It is a *cash outflow effect* if the change is a debit (because the opposing credit represents a decrease in cash, a cash outflow). The cash flow table should appear as follows:

	Step 1		Step 2		Step 3		
	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Cash	27	150		123			To be explained by SCF
Accounts receivable	375	450		75	75		These represent all the operating, investing, and financing effects that will be shown on the SCF.
Merchandize inventory	900	450	450			450	
Prepaid expenses	20	10	10			10	
Land	210	290		80	80		
Buildings	1,200	400	800			800	
Machinery	990	700	290			290	
Acc. depreciation	(540)	(300)		240	240		
Accounts payable	(235)	(145)		90	90		
Dividends payable	(25)	(30)	5			5	
Income taxes payable	(40)	(25)		15	15		
Borrowings	(1,000)	(500)		500	500		
Share capital	(1,210)	(800)		410	410		
Retained earnings	(672)	(650)		22	22		
Total	-0-	-0-	1,555	1,555	1,432	1,555	

$123 net cash outflow ($1,432 – 1,555)

The $123 net outflow in all non-cash statement of financial position accounts ($1,432 – 1,555) equals the $123 decrease in cash ($150 – 27). An analysis of these non-cash accounts below the thick black line will explain the net outflow of cash. Each account shown in the table above will be examined to determine whether the observed changes result from operating, investing, or financing activities.

Procedure 1: Calculating cash flow from operating activities

Calculating cash flow from operating activities is the first step in preparing a statement of cash flows. Net income of $80,000 is used as the starting point. Let's assume for the moment that this net income represents a net inflow of cash from operating activities of the same amount.

The summary journal entry would be

Dr.	Cash	80,000	
Cr.	Retained Earnings		80,000

Therefore, the first cash flow table effect we record is to the Retained Earnings account. The effect on the SCF would be a $80,000 cash inflow, shown as follows:

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Retained earnings	(672)	(650)		80*	80		Operating

(*The actual change is a $22 credit. This $58 discrepancy will be explained in Procedure 3a)

The net income is recorded as an operating activity in the cash flow table. However, this amount includes three categories of items that must be adjusted to derive cash flow from operating activities: (a) net debit and credit changes in working capital that do not affect the income statement; (b) losses and gains not due to normal operations of the entity; and (c) expenses and revenues not involving cash. These are explained below.

a. Analysis of working capital accounts that do not affect the income statement

The first category of adjustments involves working capital accounts that are used in accrual accounting. For Sample Corporation, these consist of:

Current assets	*Current liabilities*
Accounts receivable	Accounts payable
Merchandize inventory	Income taxes payable
Prepaid expenses	

The criteria for inclusion are whether adjustments through these accounts at some point affect items on the income statement. As a result, changes to the related Dividends Payable account are not considered operating activities. (Payment of dividends directly affects the Retained Earnings account, not a net income account.) The Dividends Payable account is therefore not analyzed at this point.

The remaining non-cash current asset and current liability accounts are relevant to the calculation of cash flow from operating activities because they affect expense and revenue items in the income statement. Examples of related items are sales on account that are recorded as accounts receivable, and merchandize purchases that eventually are reflected as cost of goods sold. The effects of changes in these accounts on net income must be considered when calculating cash flow from operating activities.

First, consider the change of $75 credit in the Accounts Receivable balance from the end of 2017 to 2018. If the relative levels of accounts receivable have decreased by $75 from 2017 to 2018 (a credit), a $75 cash inflow (a debit) has also occurred, as shown in the related cash effect column below.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Accounts receivable	375	450		75	75		Operating

In effect, Sample Corporation has produced cash inflow during 2018 by speeding up cash collections of its accounts receivable from customers. This overall effect is not reflected in net income. This cash inflow must be added to the net income figure when calculating cash flow from operating activities in the statement of cash flows.

Next, consider the working capital account Merchandize Inventory. The balance in this account has increased by $450 from the end of 2017 to the end of 2018. If the relative levels of merchandize inventory have increased by $450 ($900 – 450, and a debit), cash payments of $450 have been used to accomplish this. This activity has not been included in net income. Hence the $450 credit (a cash outflow) shown in the cash effect column below needs to be deducted from the net income figure used as the starting point in determining cash flow from operating activities on the SCF. Similarly, the Prepaid Expenses balance has increased by $10 (a debit) from 2017 to 2018. To accomplish this, a $10 cash outflow (a credit) must have occurred, also as shown in the related cash effect column below. This amount also needs to be deducted from net income on the SCF to arrive at cash flow from operating activities.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Merchandize inventory	900	450	450			450	Operating
Prepaid expenses	20	10	10			10	Operating

The next applicable working capital account to be analyzed is Accounts Payable, a liability. Refer to the table below. The balance in this account has increased by $90 from the end of 2017 to the end of 2018. In effect, Sample Corporation has delayed cash payments to its short-term creditors during 2018, causing this liability account to increase. An increase in a liability is indicated by a credit. The consequent effect on cash is the opposite – a debit, denoting a cash inflow effect. Sample Corporation has provided more cash for itself by delaying payments to trade creditors. Similarly, the Income Taxes Payable liability account has increased by $15 from 2017 to 2018 (a credit). The consequent cash effect is a $15 inflow (a debit), as shown in the table. By increasing the amount that Sample Corporation owes to the government, the company has created a $15 cash inflow effect compared to the prior year. These effects are shown as cash inflows from operating activities on the SCF. They are added to net income to arrive at cash flow from operating activities.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Accounts payable	(235)	(145)		90	90		Operating
Income taxes payable	(40)	(25)		15	15		Operating

b. Losses and gains not due to normal operating activities

Losses and gains on disposal of capital assets are not part of normal operations and therefore do not affect cash flow from operating activities. Since a loss is deducted when calculating net income, it is added back when calculating cash flow from operating activities on the SCF. Conversely, a gain on sale is included in net income reported on the income statement. It is deducted from the net income starting point when calculating cash flow from operating activities on the SCF.

The first example of this effect arises when analyzing the changes to the Land account. As noted previously (Transaction 1), land originally costing $80 was sold for $104. The journal entry to record the sale of the land would have been:

Dr.	Cash	104,000	
Cr.	Land		80,000
Cr.	Gain on Disposal of Land		24,000

The sale of the land thus has two effects on the SCF, as shown in the cash effects columns in the table below. First, the gain of $24 is shown as a credit. It was initially included in net income, but does not relate to day-to-day operations. Therefore, the gain is *deducted* from net income on the SCF to negate the original effect and arrive at cash flow from operating activities. This is done by recording it as a cash outflow. Second, in the above journal entry, the $104 sale proceeds are shown as a cash inflow (debit). *This represents a cash inflow from an investing activity, since it involves a non-current asset account*. The cash effects are shown below.

	Balance ($000s)		*Change*		*Cash Effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Land	210	290		80	104		Investing
						24	Operating

c. Expenses and revenue not involving cash

These consist of non-cash amounts that were included in the calculation of net income – depreciation expense in this case. Depreciation for 2018 amounted to $260 as shown on the Sample Corporation income statement. The entry to record the amount must have been

Dr.	Depreciation Expense	260,000	
Cr.	Acc. Dep'n – PPE		260,000

Note that this entry does not involve cash flow. As a result, it is *added back* to net income on the SCF to reverse its effect and arrive at cash flow from operating activities. Hence it is shown as a $260 debit in the cash effect column of the table, as shown below:

	Balance		*Change*		*Cash effect*		
Account	*2018*	*2017*			*Inflow*	*Outflow*	*Activity*
	Dr. (Cr.)	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	
Acc. Dep'n	(540)	(300)		260*	260		Operating

* The actual change is $240. This discrepancy will be explained in Procedure 2c.

In addition to adjustments described above needed to translate net income reported on the income statement into cash flow from operating activities, the remaining cash flow table accounts need to be analyzed to complete the SCF. This process is described below.

Procedure 2: Calculating Cash Flow from Investing Activities

To calculate cash flow from investing activities, non-current asset accounts are analyzed, as follows:

a. Analysis of Buildings account

As noted earlier, a building was purchased for $800,000 cash. The journal entry would have been:

Dr.	Buildings	800,000	
Cr.	Cash		800,000

The effect on cash is obvious – a cash outflow of $800,000 (a credit) is recorded in the applicable cash effect column in the table as shown below. Since this transaction affects a non-current asset account, it is recorded in the investing section of the SCF. (Depreciation on the building is assumed to be zero to simplify the illustration.)

	Balance ($000s)		*Change*		*Cash Effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Buildings	1,200	400	800			800	Investing

b. Analysis of Machinery account - purchases

The next accounts to be analyzed are the Machinery and Accumulated Depreciation accounts. Recall that machinery costing $350,000 was purchased for cash. The journal entry to record this would be:

Dr.	Machinery	350,000	
Cr.	Cash		350,000

The cash effect should be a $350,000 outflow (a credit). Since this transaction affects a non-current asset account, it is recorded in the Investing section of the SCF.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Machinery	990	700	350*			350	Investing

* The actual change is $290. This discrepancy will be explained in Procedure 2c.

c. Analysis of Machinery account - disposals

The transactions recorded to this point do not fully account for the change in the Machinery account balances from 2017 to 2018 ($990 – 700 = $290 debit) nor the Accumulated Depreciation balances ($540 – 300 = $240 credit). An additional transaction needs to be considered. As noted earlier, machinery costing $60,000 and having accumulated depreciation of $20,000 was sold for $30,000 cash.

The journal entry to record the sale would be:

Dr.	Cash	30,000 (a)	
Dr.	Acc. Dep'n. – Mach.	20,000 (b)	
Dr.	Loss on Sale of Machinery	10,000 (c)	
Cr.	Machinery		60,000 (d)

There are two types of cash effects that need to be recorded in the SCF. The $10 loss on sale (c) originally has been deducted to arrive at net income on the income statement. Since the transaction does not relate to an operating activity, it is recorded as a debit (cash inflow) in the applicable cash effect column and *added back* to net income on the SCF to arrive at cash flow from operating activities.

Second, the $30 cash proceeds (a) from the sale need to be recorded as a cash inflow (debit) in the cash effects column, and shown as an investing activity on the SCF. The cash flow table would show these effects as follows:

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Machinery	990	700	350			350	Investing[1]
				(d) 60	(a) 30		Investing
Acc. Dep.	(540)	(300)	(b) 20		(c) 10		Operating
				260	260		Operating[1]

[1] analyzed earlier

After these adjustments, all the changes in the Machinery and Accumulated Depreciation accounts have been recorded.

Procedure 3: Calculating cash flow from financing activities

The last accounts to be analyzed are the non-current liability and shareholders' equity accounts. These comprise financing activities reported on the SCF.

a. Analysis of dividends

Changes in the Dividends Payable account from 2017 to 2018 are analyzed in conjunction with any dividends declared during 2018. Transaction 8 above noted that these amounted to $58,000. This is also disclosed on the statement of changes in equity. As well, dividends payable have decreased by $5 from 2017 to 2018 ($25 – 30 = $5 debit). This means that an additional $5 credit (cash outflow) must have occurred that need to be recorded in the cash flow table and the SCF. Together, the effect on the SCF is recorded as a $63,000 cash outflow from financing activities ($58,000 + $5,000), as shown in the cash effects column below.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Dividends payable	(25)	(30)	5			5	Financing
Retained earnings	(672)	(650)	58*			58	Financing
						63	

*The actual net change is a $22 credit. The balancing amount is the $80 net income credit, explained in Procedure 1 above.

b. Analysis of borrowings

Transaction 6 shown above stated that Sample Corporation received $500,000 cash from a long-term bank loan. This is reflected in the change in the Borrowings account from 2017 to 2018. The journal entry to record this transaction would have been:

Dr.	Cash	500,000	
Cr.	Borrowings		500,000

As shown in the journal entry above, the cash effect is a $500,000 inflow (debit).

This is shown in the applicable cash effects column below. It is recorded as a financing activity because it relates to a non-current liability account.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Borrowings	(1,000)	(500)		500	500		Financing

A note about offsetting cash flows

Certain transactions may involve offsetting cash inflows and outflows. For instance, if a $200,000 building is acquired entirely by borrowing money from a bank, the journal entry would be:

Dr.	Buildings	200,000	
Cr.	Borrowings		200,000

Based on this entry, there is no cash effect. However, for SCF purposes, two transactions are considered to have occurred. First, the receipt of the bank loan proceeds:

Dr.	Cash	200,000	
Cr.	Borrowings		200,000

This would be shown as a cash inflow in the financing section of the SCF. Second, the purchase of the building:

Dr.	Buildings	200,000	
Cr.	Cash		200,000

This would be shown as a cash outflow in the investing section of the SCF. These effects are automatically considered using the cash flow table method, since each statement of financial position account is considered separately.

c. Analysis of share capital

As noted in transaction 7 above, share capital of $410,000 was issued during 2018. This accounts for the entire change in this account. The entry to record this transaction would have been:

Dr.	Cash	410,000	
Cr.	Share Capital		410,000

The cash effect is a $410,000 inflow (debit), as shown by the journal entry and in the cash effects column below. This is recorded as a financing activity inflow on the SCF because it relates to a shareholders' equity account.

	Balance ($000s)		*Change*		*Cash effect*		
	2018	*2017*			*Inflow*	*Outflow*	
Account	*Dr. (Cr.)*	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Activity*
Share capital	(1,210)	(800)		410	410		Financing

All accounts have now been analyzed. Based on this, the revised cash flow table is as follows:

	Step 1		Step 2		Step 3		
Account	Balance ($000s)		Change		Cash Effect		Activity
	2018 Dr. (Cr.)	2017 Dr. (Cr.)	Dr.	Cr.	Inflow Dr.	Outflow Cr.	
Cash	27	150		123	To be explained		Cash and Cash Equiv.
Accounts receivable	375	450		75	75		Operating (Procedure 1a)
Merchandize inventory	900	450	450			450	Operating (Procedure 1a)
Prepaid expenses	20	10	10			10	Operating (Procedure 1a)
Land	210	290		80	~~80~~	24	Operating (Procedure 1b)
					104		Investing (Procedure 1b)
Buildings	1,200	400	800			800	Investing (Procedure 2a)
Machinery	990	700	~~290~~		~~290~~		
			350			350	Investing (Procedure 2b)
				(d) 60	(a) 30		Investing (Procedure 2c)
Acc. dep'n. – mach.	(540)	(300)	(b) 20		(c) 10		Investing(Procedure 2c)
				260	260		Operating (Procedure 1c)
				~~240~~	~~240~~		
Accounts payable	(235)	(145)		90	90		Operating (Procedure 1a)
Dividends payable	(25)	(30)	5			5	Financing (Procedure 3a)
Income taxes payable	(40)	(25)		15	15		Operating (Procedure 1a)
Borrowings	(1,000)	(500)		500	500		Financing (Procedure 3b)
Share capital	(1,210)	(800)		410	410		Financing (Procedure 3c)
Retained earnings	(672)	(650)		22	~~22~~		
					80		Operating (Procedure 1)
						58	Financing (Procedure 3a)
Total	-0-	-0-	1,635	1,635	1,574	1,697	

From this, the statement of cash flows can be prepared, classified into operating, investing, and financing activities.

Step 4 Prepare the cash flow from operating activities section of the SCF

The following cash flow from operating activities section of the SCF can now be prepared from the information in the cash effects columns in the cash flow table (amounts in 000s). Each activity labelled "Operating" in the completed cash flow table is used:

Net income		$ 80
Items not affecting cash flow		
Depreciation expense	260	
Loss on disposal of machinery	10	
Gain on disposal of land	(24)	246
Cash flow from operations		326
Add (deduct) changes in non–cash working capital accounts		
Decrease in accounts receivable	$ 75	
Increase in inventory	(450)	
Increase in prepaid expenses	(10)	
Increase in accounts payable	90	
Increase in income taxes payable	15	(280)
Cash flow from operating activities		$ 46

To start the SCF preparation process, we originally assumed that net income of $80,000 was the same amount of cash inflow from operating activities. After adjusting net income for the three categories of items that do not affect cash flow, we see that cash flow from operating activities is actually only $46,000. The major effects accounting for this difference are the add-back of depreciation expense ($260,000) and the large cash expenditures to build up inventory during 2018 ($450,000).

There are still some slight changes needed to the cash flow from operating activities section of the SCF to conform to generally accepted accounting standards.

a. Income taxes paid need to be disclosed separately. To accomplish this, income before income taxes is used as the starting point instead of net income. The income taxes expense of $35 as shown on the income statement is considered a separate cash outflow. This is combined with the change in the income taxes payable account between 2017 and 2018. The change in the income taxes payable account is a $15 credit ($40 – 25). The cash effect of this change is a $15 debit, or a cash inflow. The net effect on the SCF is that income taxes have created a $20 cash outflow during the year ($35 outflow – $15 inflow).

b. For presentation brevity, often the changes in non-cash working capital accounts are combined and shown as one amount. Gains and losses on disposal are also combined into one amount. If desired, details of these changes can be disclosed in a note to the financial statements.

The revised cash flow from operating activities section of the SCF would show:

Income before income taxes	$ 115
Income taxes paid	(20)
Items not affecting cash flow	
Net changes in non–cash working capital accounts[1]	(295)
Depreciation expense	260
Net gains on disposal[2]	(14)
Cash flow from operating activities	$ 46

[1] ($75 – 450 – 10 + 90) = $295

[2] ($40 – 24) = $14

Note that cash flow from operating activities ($46) has not changed.

Step 5 Prepare a statement of cash flows

When analysis is complete, the cash effects columns of the cash flow table contain all the information needed to prepare the statement of cash flows:

Sample Corporation
Statement of Cash Flows
For the Year Ended December 31, 2018
($000s)

Operating activities		
Income before income taxes		$ 115
Income taxes paid		(20)
Items not affecting cash flow		
Net changes in non-cash working capital		(295)
Depreciation expense		260
Net gains on disposal		(14)
Cash flow from operating activities		46
Investing activities		
Proceeds from sale of land	$ 104	
Proceeds from sale of machinery	30	
Purchase of building	(800)	
Purchase of machinery	(350)	
Cash flow used by investing activities		(1,016)
Financing activities		
Loan proceeds	500	
Issuance of shares	410	
Payment of dividends	(63)	
Cash flow from financing activities		847
Net decrease in cash		(123)
Cash at beginning of year		150
Cash at end of year		$ 27

This agrees to the cash flow table.

These amounts agree to Cash reported on the statement of financial position.

C. Interpreting the Statement of Cash Flows

LO3 – Interpret a statement of cash flows.

Readers of financial statements need to know how cash has been used by the enterprise. The SCF provides external decision makers such as creditors and investors with this information. The statement of cash flows provides information about an enterprise's financial management policies and practices. It also may aid in predicting future cash flows, which is an important piece of information for investors and creditors.

The *quality* of earnings as reported on the income statement can also be assessed with the information provided by the SCF. The measurement of net income depends on a number of accruals and allocations that may not provide clear information about the cash-generating power of a company. Users will be more confident in a company with a high correlation between cash provided by operations and net income measured under the accrual basis. Recall, for instance, that although Sample Corporation has net income of $80,000 during 2018, its net cash inflow from operations is only $46,000 – chiefly due to the large increase in inventory levels. Although net cash flow from operations is still positive, this discrepancy between net income and cash flow from operations may indicate looming cash flow problems, particularly if the trend continues over time.

Sample Corporation's SCF also reveals that significant net additions to plant and equipment occurred during the year ($1,016,000), financed somewhat by cash flow from operating activities but primarily by financing activities that included the assumption of loans and issue of shares that amounted to $847,000, net of dividend payments.

It appears that a significant plant expansion may be underway, which may affect future financial performance positively. However, the magnitude of this expansion coupled with the payment of the dividends to shareholders has more than offset cash inflows from operating and financing activities, resulting in a net overall decrease in cash of $123,000. Though the current cash expenditure on plant and equipment may be a prudent business decision, it has resulted in (hopefully temporary) adverse effects on overall cash flow. The large increase in inventory levels is still worrisome, and should be investigated further.

The SCF is not a substitute for an income statement prepared on the accrual basis. Both statements should be used to evaluate a company's financial performance. Together, the SCF and income statement provide a better basis for determining the enterprise's ability to generate funds from operations and thereby meet current obligations when they fall due (liquidity), pay dividends, meet recurring operating costs, survive adverse economic conditions, or expand operations with internally-generated cash.

The SCF highlights the amount of cash available to a corporation, which is important. Excess cash on hand is unproductive. Conversely, inadequate cash decreases liquidity. Cash is the most liquid asset, and its efficient use is one of the most important tasks of management. Cash flow information, interpreted in conjunction with other financial statement analyses, is useful in assessing the effectiveness of the enterprise's cash management policies.

Readers who wish to evaluate the financial position and results of operations of an enterprise also require information on cash flows produced by investing and financing activities. The SCF is the only statement that explicitly provides this information. By examining the relationship among the various sources and uses of cash during the year, readers can also focus on the effectiveness of management's investing and financing decisions and how these may affect future financial performance.

Summary of Chapter 14 Learning Objectives

LO1 – Explain the purpose of the statement of cash flows.

The statement of cash flows is one of the four financial statements. It highlights the net increase or decrease in the cash and cash equivalents balance during the accounting period, and details the sources and uses of cash that caused that change.

LO2 – Prepare a statement of cash flows.

The operating activities section of the statement of cash flows begins with net income calculated on the accrual basis and, by adjusting for changes in current assets, current liabilities, adding back depreciation expense, and adjusting for losses or gains on disposal of capital assets, arrives at cash flow from operating activities. The investing activities section analyzes cash inflows and outflows resulting from the sale and purchase of capital assets. The finance activities section discloses the cash inflows and outflows resulting from the assumption or payment of loans, issue or repurchase of shares, and payment of dividends.

LO3 – Interpret a statement of cash flows.

A statement of cash flows contributes to the decision-making process by explaining the sources and uses of cash. The operating activities section can signal potential areas of concern by focusing on differences between accrual net income and cash flow from operating activities. The investing activities section can highlight if cash is being used to acquire assets for generating revenue, while the financing activities section can identify where the cash to purchase those assets might be coming from. Those who use financial statements can focus on the effectiveness of management's investing and financing decisions and how these may affect future financial performance.

ASSIGNMENT MATERIALS

Concept Self-check

View Answers

1. Using an example, explain in your own words the function of a statement of cash flows. Why is it prepared? What does it communicate to the reader of financial statements? What is its advantage over a statement of financial position? over an income statement?
2. Why are financing and investing activities of a corporation important to financial statement readers?
3. How does an increase in accounts receivable during the year affect the cash flow from operating activities?
4. Is a statement of cash flows really only a summary of cash receipts and disbursements recorded in the corporation's Cash account?
5. What effect does the declaration of a cash dividend have on cash flow? the payment of a dividend declared and paid during the current year? the payment of a dividend declared in the preceding year?
6. Why may a change in the short-term investments account not be recorded on the statement of cash flows?
7. Why is it possible that cash may have decreased during the year, even though there has been a substantial net income during the same period?
8. Describe common transactions that produce cash outflows. Explain how these items are analysed to identify cash flows that have occurred during the year.
9. How is the cash flow table method used to prepare a SCF?
10. What is the basic format of a SCF? Prepare a model format.

Comprehension Problems

CP 14–1

View Answer

The following transactions were carried out by Crozier Manufacturing Limited.

Required: Indicate into which category each transaction or adjustment is placed in the statement of cash flows: operating (O), financing (F), or investing (I) activities.

______ A payment of $5,000 was made on a non-current bank loan.

______ Depreciation expense for equipment was $1,000.

______ $10,000 of share capital was issued for cash.

______ Cash dividends of $2,500 were declared and paid to shareholders.

______ A non-current bank loan was assumed in exchange for equipment costing $7,000.

______ Land was purchased for $25,000 cash.

______ $750 of accrued salaries was paid.

______ A $5,000 short-term demand loan was obtained.

______ $10,000 of accounts receivable was collected.

______ A building was purchased for $80,000: $30,000 was paid in cash and the rest was borrowed.

______ Land was sold for $50,000 cash.

______ Equipment was sold for $6,000. The original cost was $10,000. The related accumulation depreciation was $3,000.

______ $1,200 was paid for a 12-month insurance policy to take effect next year.

______ A patent was amortized for $500.

______ Shares were redeemed for $50,000 cash, their original purchase price.

CP 14–2

View Answer

The following table includes transactions carried out by Ram Horn Corporation, as well as columns for each of the three categories found in the statement of cash flows: operating, financing, and investing activities.

Required: For each event shown, indicate whether there is an inflow or outflow of cash in each of the categories, and indicate the amount. If the transaction would not appear on the statement of cash flows, explain why.

	Operating activities In (out)	*Financing activities In (out)*	*Investing activities In (out)*
Example			
1. Retired $100 of non-current debt with cash.		(100)	
2. Purchased a building for $90; $60 was borrowed and the rest was paid in cash.			
3. Declared and paid cash dividends of $12 during the year.			
4. Purchased equipment by issuing $20 of common shares.			
5. Paid $50 in cash to pay off a non-current bank loan.			
6. Sold land for $30 cash.			
7. Earned net income of $75.			
8. Purchased equipment costing $15; of this, $5 was paid in cash and the rest with a 90–day note payable.			
9. Amortized a patent by $2.			
10. Assumed $100 of non-current debt and repurchased common shares with the proceeds.			
11. Purchased short-term investments for $5 cash.			

12. Sold a machine that cost \$20 for \$7 cash; the accumulated depreciation on it was \$10.	_____	_____	_____
13. Depreciation expense for building and equipment amounted to \$8	_____	_____	_____
14. Paid in cash the note payable in transaction 8 above	_____	_____	_____
15. Issued \$20 of preferred shares for cash	_____	_____	_____
16. Purchased a patent for \$25 cash	_____	_____	_____
17. Prepaid \$20 for the next two months of advertizing	_____	_____	_____
18. Purchased land for \$60 cash.	_____	_____	_____

CP 14–3

View Answer

Required: For each of the following items indicate whether it increases, decreases, or has no effect (N/E) on cash flow:

Cash flow			
Inc.	Dec.	N/E	
_____	_____	_____	1. Earning net income for the year
_____	_____	_____	2. Redemption of preferred shares at face value.
_____	_____	_____	3. Purchase of inventory
_____	_____	_____	4. Issuing common shares for equipment
_____	_____	_____	5. Assuming non-current debt
_____	_____	_____	6. Declaring a cash dividend
_____	_____	_____	7. Collection of an account receivable
_____	_____	_____	8. Payment of an account payable
_____	_____	_____	9. Purchase of land for cash

______	______	______	10. Issuing common shares for cash
______	______	______	11. Reclassifying non-current liabilities as current liabilities equal to the amount to be paid in cash next year
______	______	______	12. Payment of a cash dividend declared last year
______	______	______	13. Decrease in market value of short-term investments
______	______	______	14. Calculation of amount owing for income taxes.

CP 14–4

View Answer

Assume the following statement of financial position information:

	2020	*2019*
Assets		
Cash	$ -0-	$100
Short-term investments, (due in 60 days)	100	-0-
	$100	$100
Shareholders' Equity		
Share capital	$100	$100

Required: Calculate the change in cash and cash equivalents during 2020.

CP 14–5

Assume the following information:

View Answer

	2020	*2019*
Assets		
Cash	$100	$50
Liabilities		
Current bank loan, due on demand	$100	$50

Required: Calculate the change in cash and cash equivalents during the year, and the ending balance.

CP 14–6

View Answer

Assume the following income statement and statement of financial position information for the year ended December 31, 2019:

Sales	$200
Cost of goods sold	120
Gross profit	80
Operating expenses	
Rent	30
Net income	$50

	2019	*2018*
	Dr. (Cr.)	*Dr. (Cr.)*
Cash	$100	$86
Accounts receivable	60	40
Inventory	36	30
Prepaid rent	10	-0-
Retained earnings	(206)	(156)

Required: Calculate cash flow from operating activities.

CP 14–7

View Answer

Assume the following income statement for the year ended December 31, 2019 and statement of financial position at year-end:

Revenue	$ -0-
Gain on sale of equipment	500
Net income	$500

	2019	*2018*
Equipment	$ -0-	$1,000
Accumulated depreciation—equipment	-0-	(600)

No equipment was purchased during the year. Equipment was sold for cash during the year.

Required:

1. Calculate the amount of cash for which the equipment was sold.
2. Prepare the journal entry to record the sale of the equipment.
3. Calculate the cash flow from operating activities and investing activities.

CP 14–8

View Answer

Assume the following income statement and statement of financial position information:

Service revenue (all cash)	$175
Operating expenses	
Salaries (all cash)	85
Net income	$90

	2019 *Dr. (Cr.)*	*2018* *Dr. (Cr.)*
Cash	$1,250	$1,600
Short-term investments	100	200
Borrowings	(600)	(1,000)
Common shares	(200)	(300)
Retained earnings	(550)	(500)

Other information: All dividends were paid in cash. The short-term investments are riskless and will be converted to a known amount of cash in 60 days. No gain or loss occurred when common shares were repurchased.

Required:

1. Calculate cash flow from operating activities.
2. Calculate the amount of dividends paid during the year.
3. Calculate cash flow used by financing activities.

CP 14–9

View Answer

The comparative statement of financial positions of Glacier Corporation showed the following at December 31.

	2019	*2018*
Debits		
Cash	$ 10	$ 8
Accounts receivable	18	10
Merchandize inventory	24	20
Land	10	24
Plant and equipment	94	60
	$156	$122
Credits		
Accumulated depreciation	$ 14	$ 10
Accounts payable	16	12
Non-current borrowings	40	32
Common shares	60	50
Retained earnings	26	18
	$156	$122

The income statement for 2019 was as follows:

Glacier Corporation
Income Statement
For the Year Ended December 31, 2019

Sales		$300
Cost of sales		200
Gross profit		100
Operating expenses		
Rent	$77	
Depreciation	6	83
Income from operations		17
Other gains (losses)		
Gain on sale of equipment	1	
Loss on sale of land	(4)	(3)
Net income		$ 14

Additional information:

a. Cash dividends paid during the year amounted to $6.
b. Land was sold during the year for $10. It was originally purchased for $14.

c. Equipment was sold during the year that originally cost $7. Carrying amount was $5.
d. Equipment was purchased for $41.

Required:

1. Prepare a cash flow table.
2. Prepare a statement of cash flows for the year ended December 31, 2019.
3. Comment on the operating, financing, and investing activities of Glacier Corporation for the year ended December 31, 2019.

Problems

P 14–1

Assume the following income statement information:

View Answer

Sales (all cash)	$35
Operating expenses	
Depreciation	10
Income before other item	25
Other item	
Gain on sale of equipment	8
Net income	$33

Required:

1. Assume the equipment originally cost $20, had a carrying amount of $4 at the date of disposal and was sold for $12. Prepare the journal entry to record the disposal. What is the cash effect of this entry?
2. Calculate cash flow from operating activities.

P 14–2

View Answer

Assume the following income statement and statement of financial position information:

Service revenue (all cash)	$300
Operating expenses	
Supplies	200
Income before income taxes	100
Income taxes	20
Net income	$ 80

	2019 *Dr. (Cr.)*	*2018* *Dr. (Cr.)*
Cash	$135	$38
Accounts payable	(15)	(6)
Income taxes payable	(20)	(12)
Retained earnings	(100)	(20)

Required: Prepare the cash flow from operating activities section of the SCF.

P 14–3

View Answer

Assume the following income statement and statement of financial position information:

Revenue	$ -0-
Depreciation expense	(100)
Net loss	$(100)

	2019 Dr. (Cr.)	*2018* Dr. (Cr.)
Cash	$350	$650
Machinery	500	200
Accumulated depreciation — machinery	(250)	(150)
Retained earnings	(600)	(700)

No machinery was disposed during the year. All machinery purchases were paid in cash.

Required:

1. Prepare a journal entry to record the depreciation expense for the year. Determine the cash effect.

2. Prepare a journal entry to account for the change in the Machinery statement of financial position account. What is the cash effect of this entry?
3. Prepare a statement of cash flows for the year ended December 31, 2019.

P 14–4

View Answer

The following transactions occurred in the Hubris Corporation during the year ended December 31, 2019.

a. Net income	$800
b. Depreciation expense	120
c. Increase in wages payable	20
d. Increase in accounts receivable	40
e. Decrease in merchandize inventory	50
f. Amortization of patents	5
g. Payment of non-current borrowings	250
h. Issuance of common shares for cash	500
i. Payment of cash dividends	30

Other information: Cash at December 31, 2019 was $1,200.

Required:

1. Prepare a cash flow table. The first two columns are not necessary. Enter amounts above in the “Change” columns. (*Hint*: the change to cash is the balancing figure in the “Change” columns – $1,175.)
2. Prepare a statement of cash flows.

P 14–5

View Answer

During the year ended December 31, 2019, Wheaton Co. Ltd. reported $20,000 of net income, consisting of $95,000 of revenues, $70,000 of operating expenses, and $5,000 of income taxes expense. Following is a list of transactions that occurred during the year:

a. Depreciation expense, $3,000 (included with operating expenses)
b. Increase in wages payable, $500
c. Increase in accounts receivable, $900
d. Decrease in merchandize inventory, $1,200
e. Amortization of patent, $100
f. Non-current borrowings paid in cash, $5,000
g. Issuance of common shares for cash, $12,500

h. Equipment, cost $10,000, acquired by issuing common shares
i. At the end of the fiscal year, a $5,000 cash dividend was declared, payable one month later
j. Old machinery sold for $6,000 cash; it originally cost $15,000 (one-half depreciated). Loss reported on income statement as ordinary item and included in the $70,000 of operating expenses.
k. Decrease in accounts payable, $1,000.
l. Cash at January 1, 2019 was $1,000; change in cash during the year, $37,900.
m. There was no change in income taxes owing.

Required:

1. Prepare a cash flow table. The first two columns are not necessary. Enter amounts above in the "Change" columns. (*Hint*: the change to cash is the balancing figure in the "Change" columns – $37,900.)
2. Prepare a statement of cash flows.
3. Explain what this statement tells you about Wheaton Co. Ltd.

P 14–6

View Answer

The following trial balance has been prepared from the ledger of Obelisk Corporation at December 31, 2019, following its first year of operations.

	Debits	*Credits*
Cash	$ 45	
Accounts receivable	100	
Merchandize inventory, ending	60	
Prepaid rent	10	
Equipment	160	
Accumulated depreciation—equipment		$ 44
Land	-0-	
Accounts payable		50
Dividends payable		5
Income taxes payable		8
Borrowings—due 2021		80
Common shares		140
Retained earnings		-0-
Dividends declared	15	
Sales		225
Depreciation	44	
Cost of goods sold	92	
Selling and administrative expenses	39	
Income taxes expense	7	
Gain on sale of land		20
	$572	$572

Additional information:

a. Obelisk assumed $100 of long-term debt during the year.
b. Obelisk issued common shares for equipment, $40. Other equipment was purchased for $120 cash. No equipment was sold during the year.
c. Land costing $30 was purchased, then sold during the year for $50.
d. Some borrowings were repaid during the year for $20 cash.
e. The company declared dividends of $15 during the year.

Required:

1. Calculate retained earnings at December 31, 2019.
2. Prepare a statement of cash flows.
3. Explain what the statement of cash flows tells you about Obelisk Corporation at December 31, 2019.

P 14–7

View Answer

The statement of financial position information of Cormier Limited at December 31 appears below.

	2019	*2018*
Debits		
Cash	$ 40	$ 30
Accounts receivable	38	28
Merchandize inventory	102	106
Prepaid expenses	8	6
Land	-0-	20
Buildings	240	180
Machinery	134	80
Patents, at carrying amount	8	10
	$570	$460
Credits		
Accounts payable	$ 40	$ 44
Income taxes payable	8	6
Accumulated depreciation	76	80
Non-current borrowings	70	60
Common shares	310	240
Retained earnings	66	30
	$570	$460

The following additional information is available:

a. Net income for the year was \$56,000; income taxes expense was \$20,000.
b. Depreciation recorded on building and machinery was \$14,000.
c. Amortization of patents amounted to \$2,000.
d. Machinery costing \$30,000 was purchased; one-third was paid in cash and a 5-year loan assumed for the balance.
e. Machinery costing \$60,000 was purchased, and was paid for by issuing 6,000 common shares.
f. Machinery was sold for \$16,000 that originally cost \$36,000 (one-half depreciated); loss or gain reported in the income statement.
g. Addition to building was made for \$60,000; paid cash.
h. Land costing \$20,000 was sold for \$24,000 cash during the year. The related gain was reported in the income statement.
i. Cash dividends of \$20,000 were paid.
j. No shares were reacquired.

Required:

1. Prepare a cash flow table.
2. Prepare a statement of cash flows at December 31, 2019.
3. What observations about Cormier can you make from this statement?

Solutions Manual to Accompany

Introduction to Financial Accounting

Second Edition (Revised)

Based on International Financial Reporting Standards

David Annand

Published by Valley Educational Services Ltd.

4910C – 58 St., Athabasca AB T9S 1L5

ISBN 978-0-9953266-1-3

Printed and bound in Canada by Athabasca University

Library and Archives Canada Cataloguing in Publication

Annand, David, 1954–

Latest version available at http://business.athabascau.ca/faculty/david-annand-edd/

Please forward suggested changes to davida@athabascau.ca.

Version 2.2

December 31, 2016

CHAPTER ONE
Introduction to Financial Accounting

Concept Self-check

Return to Question

1. Managerial accounting serves the decision-making needs of internal users. Financial accounting focuses on external reporting and meeting the needs of users like creditors and shareholders.

2. Business organizations sell products and services for profit. A non-business organization exists to meet various societal needs and does not have profit as a goal. Examples of non-business organizations are churches, mosques, and hospitals.

3. There are three common forms of business organizations—a proprietorship, a partnership, and a corporation. A proprietorship is a business owned by one person. A partnership is a business owned by two or more individuals. A corporation is a business owned by one or more shareholders.

4. A corporation that sells its shares publicly, typically on a stock exchange, is called a publicly accountable enterprise (PAE). A corporation that holds its shares privately is known as a private enterprise (PE). Its shares are generally held by only one or a few individuals who are often related.

5. Limited liability means that the shareholders of a corporation are not responsible for the corporation's debts. The most that shareholders can lose is what they invested in the corporation.

6. Generally accepted accounting principles (GAAP) refer to the guidelines for financial accounting used in any given jurisdiction. They include the standards and common, agreed practices that accountants follow in recording and summarizing financial information, and in the preparation of financial statements.

Concept Self-check continued

7. The six qualitative characteristics of GAAP are relevance, faithful representation, comparability, verifiability, timeliness, and understandability.
   - relevant information has the ability to make a difference in the decision-making process;
   - faithful representation means that information is complete, neutral, and free from error;
   - comparability tells users of the information that businesses utilize similar accounting practices;
   - verifiability means that others are able to confirm that the information accurately represents the economic activities of the business;
   - timely information is available to decision makers while it is still useful; and
   - understandable information is clear and concise.
8. Financial statements evaluate the performance of an entity and measure its progress. Financial information is collected, then summarised and reported in the financial statements (statement of financial position, income statement, statement of cash flows, and statement of changes in equity).
9. The purpose of the income statement is to communicate the inflow of assets, in the form of revenues, and the outflow or consumption of assets, in the form of expenses, *over a period of time*. Total inflows greater than total outflows creates net income or profit, which is reported on the income statement and in retained earnings in the shareholders' equity section of the statement of financial position. The purpose of the statement of financial position is to communicate what the entity owns (its *assets),* what the entity owes (its *liabilities),* and the difference between assets and liabilities (its *equity)* at *a point in time*.
10. Revenue is an increase in an entity's assets or a decrease in liabilities in return for services performed or goods sold, expressed in monetary units like dollars. An expense is an asset that is used up or obligations incurred in selling goods or performing services.
11. Net income is the difference between revenues and expenses. It is one measure of the success of the entity.
12. The statement of changes in equity shows why share capital and retained earnings have changed over a specified period of time – for instance, when shares are issued or net income is earned.
13. Shareholders' equity consists of share capital and retained earnings. Share capital represents how much shareholders have invested. Retained earnings is the sum of all net incomes earned (net of losses incurred) by a corporation over its life, less any distributions of these net incomes to shareholders.
14. Dividends are distributions of retained earnings to shareholders.

Concept Self-check continued

15. The statement of financial position consists of assets, liabilities, and shareholders' equity. Liabilities plus shareholders' equity always equal assets.

16. An asset is anything of value that is owned by the entity. Assets are economic resources controlled by an entity. They have some future value to the entity, usually for used generating revenue.

17. A liability is an obligation to pay an asset or to provide services or goods in the future. Until the obligations are paid, creditors have claims against the assets of the entity.

    Shareholders' equity represents the amount of assets owing to the owners of the entity. The total assets of an entity belong either to the shareholders or to the creditors.

18. The statement of cash flows (SCF) explains how the cash reported on the statement of financial position changed over a period of time by detailing its sources and uses of cash. The income statement does not disclose all important activities of the entity involving cash that is shown on the SCF, like investment in long-lived assets or repayment of debt.

19. Notes to the financial statements provide greater detail about various amounts shown in the financial statements, or provide non-quantitative information that is useful to users, like loan repayment terms.

20. The double entry accounting system is used to record financial transactions. Each transaction affects at least two items in the accounting equation, in order to maintain its equality. For example,
    a. Revenue is earned in cash: The asset Cash increases and Shareholders' Equity increases by the same amount. (Net income increases. This increases Retained Earnings, which is part of Shareholders' Equity.)
    b. An obligation is paid: The liability Accounts Payable decreases and the asset Cash decreases by the same amount.
    c. An amount owing from a customer is collected: The asset Cash increases and the asset Accounts Receivable decreases equally.

    In this way, the accounting equation always remains in balance after each transaction is recorded.

21. Financial statements are prepared at regular intervals to keep a number of interested groups informed about the financial performance of a corporation. The timing is determined in response to the needs of management in running the entity or of outside parties, such as bankers and shareholders. These external users make lending or investing decision in part based on the financial statements.

Concept Self-check continued

22. The accounting equation takes the following form:

ASSETS	=	LIABILITIES	+	SHAREHOLDERS’ EQUITY
(Economic resources owned by an entity)		(Creditors’ claims to assets)		(Owners’ claims to assets, or residual claims)

The entity has assets, which are the resources it owns. The total assets owned by an entity must always equal the total claims of creditors and owners, who have the residual claims.

23. The exchange of assets or obligations by a business entity, expressed in monetary terms like dollars, is called a financial transaction. The exchange of cash for land or a building is an example of such a transaction.

CP 1–1

Return to Question

A	=	L	+	+E	
(+)				(+)	Issued share capital for cash
(+)(-)					Purchased a truck for cash
(+)		(+)			Received a bank loan to pay for equipment
(+)(-)					Purchased the equipment for cash
(+)(-)					Made a deposit for electricity service to be provided in the future
(-)				(-)	Paid rent for the month just ended
		No Effect			Signed a new union contract that provides for increased wages in the future
		No Effect			Hired a messenger service to deliver letters during a mail strike
(-)				(-)	Received a parcel; paid the delivery service
(+)				(+)	Billed customers for services performed
(-)		(-)			Made a cash payment to satisfy an outstanding obligation
(+)(-)					Received a payment of cash in satisfaction of an amount owed by a customer
(+)				(+)	Collected cash from a customer for services rendered the same day
(-)				(-)	Paid cash for truck expenses (gas, oil, etc.)
(-)		(-)		(-)	Made a monthly payment on the bank loan; this payment included a payment on part of the loan and also an amount of interest expense. Shareholders’ equity is affected because interest expense is incurred
		(-)		(+)	Issued shares in the company to pay off a loan
(-)				(-)	Paid a dividend with cash.

CP 1–2

Return to Question

1 Issued share capital for cash (+) Cash (+) Share Capital

5 Paid an account payable (-) Cash (-) Accounts Payable

2 Borrowed money from a bank (+) Cash (+) Bank Loan

3 Collected an account receivable (+) Cash (-) Accounts Receivable

1 Collected a commission on a sale made today (+) Cash (+) Revenue [or (+) Accounts Receivable (+) Revenue, then (+) Cash (-) Accounts Receivable if the sale is first recorded as an account receivable]

4 Paid for this month's advertizing in a newspaper (-) Cash (-) Expense [or (+) Accounts Payable (-) Expense, then (-) Cash (-) Accounts Payable if the bill is first set up as an Accounts Payable]

2 Repaid money borrowed from a bank (-) Cash (-) Bank Loan

X Signed a contract to purchase a computer NO EFFECT

6 Received a bill for supplies used during the month (+) Accounts Payable (-) Expense

3 Received a cash payment in satisfaction of an amount owed by a customer (+) Cash (-) Accounts Receivable

1 Sent a bill to a customer for repairs made today (+) Accounts Receivable (+) Revenue

3 Sold equipment for cash (+) Cash (-) Equipment

2 Purchased a truck on credit, to be paid in six months (+) Truck (+) Accounts Payable (or Loan)

X Requested payment from a customer of an account receivable that is overdue NO EFFECT

X Increased vacations for employees from four weeks to six weeks NO EFFECT

6 Recorded the amount due to the landlord as rent (+) Accounts Payable (-) Expense

6 Received the monthly telephone answering service bill (+) Accounts Payable (-) Expense

CP 1–3

ASSETS			=	LIABILITIES	+	SHAREHOLDERS' EQUITY		
Cash	+	Equipment	=	Accounts Payable	+	Share Capital	+	Retained Earnings

Return to Question

A. Retained earnings = \$5,000 (3,000 + 8,000 - 4,000 - 2,000)
B. Accounts payable = \$3,000 (1,000 + 6,000 - 3,000 - 1,000)
C. Cash = \$1,000 (4,000 - 1,500 - 3,000 - 500)
D. Retained earnings = \$6,000 (6,000 + 7,000 - 3,000 - 4,000)
E. Equipment = \$3,500 (2,500-4,500-500-1,000)

CP 1–4

Return to Question

ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY
Shareholders' equity at Jan. 1 = \$10,000 (\$50,000 – 40,000)
Shareholders' equity at Dec. 31 = \$15,000 (\$35,000 – 20,000)

The increase in shareholders' equity during the year was \$5,000 (\$15,000-10,000). This must be the net income amount.

CP 1–5

Return to Question

1.	L	8.	A
2.	A	9.	E
3.	L	10.	E
4.	A	11.	E
5.	A	12.	E
6.	E	13.	A
7.	L	14.	E

CP 1–6

Return to Question

1.	ASSETS	=	Cash + Accounts receivable + Unused supplies + Land + Building + Equipment
		=	\$33,000 + \$82,000 + \$2,000 + \$25,000 + \$70,000 + \$30,000
		=	\$242,000
2.	LIABILITIES	=	Bank loan + Accounts payable
		=	\$15,000 + \$27,000
		=	\$42,000
3.	ASSETS	=	LIABILITIES + SHAREHOLDERS’ EQUITY
	S/H EQUITY	=	\$242,000 - \$42,000
		=	\$200,000
		=	
	RET. EARN.		\$40,000 – 1,000
		=	\$39,000

Since shareholders’ equity is \$200,000 and retained earnings is \$39,000, share capital must be \$161,000.

CP 1–7

Return to Question

Income Statement
For the Month Ended January 31, 2017

Revenue		
Service fees		$20,000
Expenses		
Insurance	$1,500	
Miscellaneous	2,500	
Office Supplies	1,000	
Wages	9,000	
Total expenses		14,000
Net income		$ 6,000

Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$-0-	$ -0-	$ -0-
Shares issued	4,000		4,000
Net income		6,000	6,000
Dividends	-	(2,000)	(2,000)
Ending balance	$4,000	$4,000	$8,000

Statement of Financial Position
At January 31, 2017

Assets		
Cash		$ 1,000
Accounts receivable		4,000
Merchandise inventory		8,000
Total assets		$13,000
Liabilities		
Accounts payable		$ 5,000
Shareholders' Equity		
Share capital	$ 4,000	
Retained earnings	4,000	8,000
Total liabilities and shareholders' equity		$13,000

CP 1–8

Return to Question

Adams Ltd.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Services		$3,335
Expenses		
Rent	$ 300	
Repairs	500	
Salaries	1,000	
Miscellaneous	335	
Total expenses		2,135
Net income		$1,200

Adams Ltd.
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	3,000	-0-	3,000
Net income	-0-	1,200	1,200
Dividends	-0-	(500)	(500)
Ending balance	$3,000	$ 700	$3,700

Adams Ltd.
Statement of Financial Position
At January 31, 2017

Assets		
Cash	$1,000	
Land	1,000	
Building	2,000	
Total assets		$4,000
Liabilities		
Accounts payable		$ 300
Shareholders' Equity		
Share capital	$3,000	
Retained earnings	700	
Total shareholders' equity		3,700
Total liabilities and shareholders' equity		$4,000

CP 1-9

Return to Question

a. Caldwell employs the principle of *materiality.* Even though the stapler is theoretically an asset, it would be expensed Its small cost is not large or important enough to affect the judgement of a reasonably knowledgeable user about the financial results of the company.

b. Fred Rozak follows the *business entity* principle*,* which states that each entity is an individual unit of accountability separate from its owners and from other entities.

c. In accordance with the *historical cost* principle*,* the machine is recorded at cost even though its value may increase.

d. Dollar amounts used to establish cost are assumed to be constant over time in accordance with the stable *monetary unit* principle.

e. Hull Corporation accountants follow the *going concern* principle*.* Because the corporation is assumed to continue indefinitely, assets are not revalued at estimated disposal amounts.

f. Investors of Spellman Corporation have benefitted from the application of the *consistency* principle.

g. Senior managers of Looten Corporation are using the *full disclosure* principle in the company's financial statements.

P 1–1

Return to Question

Hill Chairs Inc.
Transactions Worksheet
At April 30, 2017

	ASSETS				= LIABILITY	+ S/H EQUITY		
	Cash	+ Accounts Receivable	+ Prepaid Expense	+ Unused Supplies	= Accounts Payable	+ Share Capital	+ Retained Earnings	
Opening	1,400	3,600	1,000	350	2,000	4,350		
a.	+2,000	-2,000						
b.		+3,000					+3,000	Revenue
c.	-2,400						-300	Advertizing expense
							-2,000	Salaries expense
							-100	Telephone expense
d.	-1,000				-1,000			
e.					+500		-500	Truck operating expense
f.	+2,500	-2,500						
g.		+1,500					+1,500	Revenue
h.			-500				-500	Rent expense
i.				-150			-150	Supplies expense
J.	+1,000					+1,000		
k.	-200						-200	Dividend
	$3,300	+ $3,600	+ $ 500	+ $200	= $1,500	+ $5,350	+ $ 750	

$\underbrace{\$3{,}300 + \$3{,}600 + \$500 + \$200}_{\$7{,}600}$ = $\underbrace{\$1{,}500 + \$5{,}350 + \$750}_{\$7{,}600}$

$7,600 = $7,600

ASSETS = LIABILITIES + S/H EQUITY

P 1–2

1.

Return to Question

Larson Services Inc.
Transactions Worksheet
At August 31, 2017

		ASSETS					=	LIABILITIES			+	S/H EQUITY		
		Cash	+ Acct. Rec.	+ Ppd. Exp.	+ Unused Supplies	+ Truck	=	Bank Loan	+ Acct. Pay	+ Unearn. Revenue	+	Share Capital	+ Retained Earnings	
Aug.	1	+3,000										+3,000		
	1	+10,000						+10,000						
	1	-8,000				+8,000								
	4	-600		+$600										
	5	+2,000								+2,000				
	7		+ 5,000										+5,000	Fees revenue
	9	-250											-250	Supplies
	12				+500				+500					
	15	+1,000	-1,000											
	16	-200											-200	Advertizing
	20	-250							-250					
	25	-2,800											-350	Rent expense
													-2,150	Supplies
													-50	Telephone
													-250	Truck operating
	28	No Effect												
	29		+4,500							-1,500			+6,000	Fees revenue
	31			-50									-50	Insurance
	31				-400								-400	Supplies
		$3,900	+ $8,500	+ $550	+ $100	+ $8,000	=	$10,000	+ $250	$500		$3,000	+ $7,300	

ASSETS=21,050

LIABILITIES +EQUITY=$21,050

P 1–2 continued

2.

Larson Services Inc.
Income Statement
For the Month Ended August 31, 2017

Revenue		
Fees		$11,000
Expenses		
Advertizing	$ 200	
Insurance	50	
Rent	350	
Salaries	2,150	
Supplies	650	
Telephone	50	
Truck operating	250	
Total expenses		3,700
Net income		$7,300

Larson Services Inc.
Statement of Financial Position
At August 31, 2017

Assets		
Cash	$3,900	
Accounts receivable	8,500	
Prepaid expenses	550	
Unused supplies	100	
Truck	8,000	
Total assets		$21,050
Liabilities		
Bank loan	$10,000	
Accounts payable	250	
Unearned revenue	500	10,750
Shareholders' Equity		
Share capital	3,000	
Retained earnings	7,300	10,300
Total liabilities and shareholders' equity		$21,050

Larson Services Inc.
Statement of Changes in Equity
For the Month Ended August 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	3,000	-0-	3,000
Net income	-0-	7,300	7,300
Ending balance	$3,000	$7,300	$10,300

P 1–3

Return to Question

Dumont Inc.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Services		$7,500
Expenses		
Advertizing	$ 500	
Commissions	720	
Insurance	50	
Interest	80	
Rent	400	
Supplies	100	
Telephone	150	
Wages	2,300	
Total expenses		4,300
Net income		$3,200

Dumont Inc.
Statement of Financial Position
At January 31, 2017

Assets		
Cash	$ 1,300	
Accounts receivable	2,400	
Prepaid expenses	550	
Unused supplies	750	
Truck	9,000	
Total assets		$14,000
Liabilities		
Bank loan	$ 8,000	
Accounts payable	1,000	9,000
Shareholders' Equity		
Share capital	2,000	
Retained earnings	3,000	5,000
Total liabilities and shareholders' equity		$14,000

Dumont Inc.
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	2,000	-0-	2,000
Net income	-0-	3,200	3,200
Dividends	-0-	(200)	(200)
Ending balance	$2,000	$3,000	$5,000

P 1–4 Return to Question

Kenyon Services Corporation
Income Statement
For the Month Ended March 31, 2017

Revenue		
Fees		$4,500
Expenses		
Advertizing	$ 300	
Equipment rental	500	
Insurance	400	
Interest	100	
Truck operating	700	
Wages	1,500	
Total expenses		3,500
Net income		$1,000

Kenyon Services Corporation
Statement of Financial Position
At March 31, 2017

Assets		
Cash	$3,100	
Accounts receivable	3,900	
Equipment	5,000	
Total assets		$12,000
Liabilities		
Accounts payable		$ 9,000
Shareholders' Equity		
Share capital	2,000	
Retained earnings	1,000	3,000
Total liabilities and shareholders' equity		$12,000

Kenyon Services Corporation
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$2,000	$ -0-	$2,000
Net income	-0-	1,000	1,000
Ending balance	$2,000	$1,000	$3,000

P 1–5 Return to Question

1. It's hard to tell. The corporation's fiscal year-end is likely December 31. It started business on January 1. These are interim financial statements. Any year-end date is possible between September 1 and December 31 without knowing more information.

2. and 3.

Laberge Sheathing Inc.
Income Statement
For the Eighth Month Period Ended August 31, 2017

Revenue		
Services		$6,000
Expenses		
Advertizing	$ 300	
Interest	500	
Maintenance	475	
Supplies	125	
Wages	2,000	
Total expenses		3,400
Net income		$2,600

Laberge Sheathing Inc.
Statement of Financial Position
At August 31, 2017

Assets		
Cash	$ 400	
Accounts receivable	3,800	
Unused supplies	100	
Equipment	8,700	
Total assets		$13,000
Liabilities		
Accounts payable		$ 7,800
Shareholders' Equity		
Share capital	3,200	
Retained earnings	2,000	5,200
Total liabilities and shareholders' equity		$13,000

Laberge Sheathing Inc.
Statement of Changes in Equity
For the Eighth Month Period Ended August 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$3,200	$ -0-	$3,200
Net income	-0-	2,600	2,600
Dividends	-0-	(600)	(600)
Ending balance	$3,200	$2,000	$5,200

P 1–6 Return to Question

1.

McIntyre Builders Corporation
Transactions Worksheet
At March 31,2017

		ASSETS					=	LIABILITIES		+ EQUITY		
		Cash	+ Accts. Rec.	+ Ppd. Exp.	+ Unused Supplies	+ Equipment	=	Accounts Payable	+ Loan Payable	+ Share Capital	+ Ret. Earn.	
Jun.	1	+8,000								+8,000		
	1					+5,000		+5,000				
	2	+600									+ 600	Reno rev
	3	-20									-20	Supplies
	4				+1,000			+1,000				
	5		+2,500								+2,500	Reno rev
	8	+500	-500									
	10	-2,500						-2,500				
	15		+1,000			-1,000						
	18	-1,000							-1,000			
	20							+100			-100	Util. exp.
	22	-600		+600								
	23	No Effect										
	25	+1,000	-1,000									
	27	-3,700									-150	Adv. exp.
											-50	Tel. exp.
											-1,000	Truck op.
											-2,500	Wages
	30		+2,000								+2,000	Reno rev
	30			-300							-300	Rent
	30				-850						-850	Supplies
	30	-30									-30	Dividend
		$2,250	+ $4,000	+ $300	+ $ 150	+ $4,000	=	$1,600	$1,000	+ $8,000	+ $100	

$\underbrace{\hspace{6cm}}_{\text{ASSETS} = \$10,700}$ $\underbrace{\hspace{5cm}}_{\text{LIABILITIES + EQUITY} = \$10,700}$

P 1–6 continued

2.

McIntyre Builders Corporation
Income Statement
For the Month Ended June 30, 2017

Revenue		
Renovations		$5,100
Expenses		
Advertizing	$ 150	
Rent	300	
Supplies	870	
Telephone	50	
Truck operating	1,000	
Utilities	100	
Wages	2,500	
Total expenses		4,970
Net income		$ 130

McIntyre Builders Corporation
Statement of Financial Position
At June 30, 2017

Assets		
Cash		$ 2,250
Accounts receivable		4,000
Prepaid expenses		300
Unused supplies		150
Equipment		4,000
Total assets		$10,700
Liabilities		
Accounts payable	$1,600	
Loan payable	1,000	2,600
Shareholders' Equity		
Share capital	$8,000	
Retained earnings	100	8,100
Total liabilities and shareholders' equity		$10,700

McIntyre Builders Corporation
Statement of Changes in Equity
For the Month Ended June 30, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	8,000	-0-	8,000
Net income	-0-	130	130
Dividends	-0-	(30)	(30)
Ending balance	$8,000	$ 100	$8,100

P 1–7 Return to Question

1. The land and the building cost $30,000 in total. If one-third of the total cost is applied to land, then land is $10,000 and building is $20,000. Total assets then equal $128,430. Since assets = liabilities, total shareholders' equity must equal $100,577 ($128,430 - 27,853). Since retained earnings equals $1,000, share capital equals $99,577 ($100,577 - 1,000).

P 1-7 continued

2.

Clarke Limited
Transactions Worksheet
At October 31, 2017

		ASSETS								LIABILITIES		S/H EQUITY
		Cash	+ Acct. Rec.	+ Un. Supp.	+ Land	+ Bldg.	+ Furn.	+ Equip.	+ Truck	= Acct. Pay.	+ Loans Payable	+ Share Capital
Sep	30	14,215	+11,785	+1,220	+10,000	+20,000	+8,000	+60,000	+3,210 =	3,853	+25,000	+99,577
Oct	2	-110								-110		
	3	+670	-670									
	4			+400						+400		
	8	+16,000										+16,000
	10	+1,000	-1,000									
	11	-2,000						+22,000		+20,000		
	15	-400								-400		
	20a.	-10,000								-10,000		
	20b.									-10,000	+10,000	
	31	+300	-300									
		$19,675	+ $ 9,815	+ $1,620	+ $10,000	+ $20,000	+ $8,000	+ $82,000	+ $3,210 =	$ 3,743	+ $35,000	+ $115,577

ASSETS
= $154,320

LIABILITIES+S/H EQUITY
= $154,320

3. Since there are no transactions recorded in the Retained Earnings column for the month, Net Income is zero.

CHAPTER TWO
The Accounting Process

Concept Self-check

Return to Question

1. An *account* is an accounting record designed to classify and accumulate the dollar effect of financial transactions. In a simplified account called a T–account, the term “debit” is used to describe the left side of the account, while the term “credit” refers to the right side.

2. A T-account shows increases and decreases in an account. It graphically illustrates how a general ledger account functions.

3. The left side of a T-account records debit entries and the right side records credit entries.

4. A chart of accounts is a list of all general ledger accounts used in a business, showing each account’s name and number. A common practice is to have the accounts arranged in a manner that is compatible with the order of their use in financial statements.

5. Increases in shareholders’ equity are recorded as a credit – for example, issuing share capital, or recording revenue.

6. Decreases in shareholders’ equity are recorded as a debit – for example, dividends or expenses are debits.

7.

Assets, Expenses , Dividends	*Liabilities, Share Capital, Revenues*
Increases are debited.	Increases are credited.
Decreases are credited.	Decreases are debited.

8. A trial balance is a list of each account contained in the general ledger of an entity, together with its individual debit or credit balance. It is prepared in order to establish the equality of debits with credits before the preparation of the financial statements

9. A trial balance shows the totals of each revenue and expense account that will appear on the income statement and the asset, liability, and shareholders’ equity balances that will appear on the statement of financial position, usually in the order these accounts appear in the statement of financial position and income statement.

10. A general journal is a chronological record of an entity’s financial transactions. It is often called a book of original entry because each transaction is recorded in the general journal first before it is posted to the entity’s accounts in the general ledger.

Concept Self-check continued

11. A general ledger is a book that contains the separate asset, liability, shareholders' equity, revenue, and expense accounts of an entity. It is often referred to as a *book of final entry* and it is prepared so that the balance of each account can be found easily at any time.

12. *Posting* consists of transferring debits and credits from the general journal to the appropriate general ledger accounts.

13. The steps in the accounting cycle are
    a. Transactions are analysed and recorded.
    b. Transactions are summarized by account.
    c. The equality of debits with credits is established to ensure accuracy.
    d. The summarized transactions are used to prepare the income statement, statement of financial position, and statement of changes in equity

CP 2–1

Return to Question

Transaction	Any Asset		Any Liability		Share Capital		Any Revenue		Any Expense	
	Debit (increase)	*Credit* (decrease)	*Debit* (decrease)	*Credit* (increase)	*Debit* (decrease)	*Credit* (increase)	*Debit* (decrease)	*Credit* (increase)	*Debit* (decrease)	*Credit* (increase)
(1)	X					X				
(2)	X	X								
(3)	X	X								
(4)	X			X						
(5)				X					X	
(6)	X							X		
(7)	X							X		
(8)		X	X							
(9)	X	X								
(10)		X	X							
(11)				X					X	
(12)		X	X							
(13)	X	X								

CP 2–2 Return to Question

ASSETS =	LIABILITIES	+ SHAREHOLDERS' EQUITY

Cash + Truck = Accounts Payable + Bank Loan + Share Capital + Net Income

A.	$0	(100+200-50-75-175)
B.	$122	(72+130-10-50-20)
C.	$65	(71-5-25-100-6)
D.	$139	(20+200-10-61-10)

CP 2–3

Return to Question

	Assets		Liabilities		S/H Equity	
	Debit (increase)	*Credit* (decrease)	*Debit* (decrease)	*Credit* (increase)	*Debit* (decrease)	*Credit* (increase)
2. Borrowed $5,000 from the bank	5,000			5,000		
3. Paid $2,000 of the bank loan		2,000	2,000			
4. Paid $600 in advance for a one–year insurance policy	600	600				
5. Received $500 in advance for next month's rental of office space.	500			500		

CP 2–4

Return to Question

		Debit	*Credit*
2.	Purchased equipment on credit	Equipment	Accounts Payable
3.	Paid for a one–year insurance policy	Prepaid Insurance	Cash
4.	Billed a customer for repairs completed today	Accounts Receivable	Repair Revenue
5.	Paid for this month's rent	Rent Expense	Cash
6.	Collected the amount billed in transaction 4 above	Cash	Accounts Receivable
7.	Collected cash for repairs completed today	Cash	Repair Revenue
8.	Paid for the equipment purchased in transaction 2 above	Accounts Payable	Cash
9.	Signed a union contract	n/a	
10.	Collected cash for repairs to be made for customers next month	Cash	Unearned Revenue
11.	Transferred this month's portion of prepaid insurance to expenses	Insurance Expense	Prepaid Rent

CP 2-5

Return to Question

Cash

(1)	5,000	(2)	900
(5)	7,500	(8)	2,500
(6)	500	(10)	2,000

Bank Loan

(8)	2,500	(5)	7,500

Share Capital

		(1)	5,000

Repair Revenue

		(3)	1,500

Accounts Receivable

(3)	1,500	(6)	500

Accounts Payable

(10)	2,000	(4)	2,000
		(7)	200

Electricity Expense

(7)	200		

Prepaid Rent

(2)	900	(11)	300

Rent Expense

(11)	300		

Unused Supplies

(4)	2,000	(9)	800

Supplies Expense

(9)	800		

CP 2–6

Return to Question

		Debit	Credit
1.	Cash	3,000	
	Share Capital		3,000
	To record the issuance of share capital.		
2.	Equipment	2,000	
	Accounts Payable		2,000
	To record the purchase of equipment on account.		
3.*	Rent Expense	400	
	Cash		400
	To record the payment of rent for the month.		
4.	Supplies	4,000	
	Accounts Payable		4,000
	To record the purchase of supplies.		
5.	Accounts Receivable	2,500	
	Repair Revenue		2,500
	To record repair revenue.		
6.	Accounts Payable	2,000	
	Cash		2,000
	To record the payment on account.		
7.	Cash	500	
	Accounts Receivable		500
	To record collection of an amount owed.		
8.	Cash	1,000	
	Equipment		1,000
	To record the sale of equipment.		

*Alternately, two entries could be made

3. Prepaid Rent	400	
Cash		400
To record payment in advance of rent for the month.		
9. Rent Expense	400	
Prepaid Rent		400
To record rent expense for the month.		

CP 2–7

Return to Question

1. Cash
    Share Capital
  To record issuance of share capital.

2. Unused Supplies
    Cash
    Accounts Payable
  To record purchase of supplies not used immediately.

3. Cash
    Repair Revenue
  To record revenue earned.

4. Accounts Receivable
    Repair Revenue
  To record revenue earned.

5. Prepaid Expense
    Cash
  To record expense paid in advance.

6. Supplies Expense
    Accounts Payable
  To record bill received for supplies used immediately.

7. Electricity Expense
    Accounts Payable
  To record bill received for electricity used.

8. Supplies Expense
    Prepaid Expense
  To record use of supplies on hand.

9. Rent Expense
    Prepaid Rent
  To record rent for period.

10. Accounts Payable
    Cash
  To record payment of account payable.

11. Cash
    Bank Loan
  To record the receipt of a bank loan.

CP 2-8

Return to Question

Cross Corporation
Trial Balance
At December 31, 2017

Acct. No.	*Account Title*	*Account Balances* Debit	Credit
101	Cash	$120,400	
110	Accounts receivable	26,000	
173	Unused supplies	6,000	
180	Land	8,000	
181	Building	120,000	
201	Bank loan		$80,000
210	Accounts payable		30,000
320	Share capital		170,000
420	Commissions earned		5,000
631	Insurance expense	100	
654	Rent expense	1,000	
656	Salaries expense	3,000	
668	Supplies expense	300	
669	Telephone expense	200	-
		$285,000	$285,000
		Total Debits =	Total Credits

CP 2–9

Return to Question

1. March 2017	Schulte Corporation GENERAL JOURNAL			Page 1
	Description	F	Debit	Credit
1	Cash	101	5	
	Share Capital	320		5
	To record issuance of share capital.			
2	Equipment	183	6	
	Cash	101		3
	Accounts Payable	210		3
	To record purchase of equipment for cash and on account.			
3	Prepaid Rent	162	2	
	Cash	101		2
	To record payment of rent in advance.			
15	Cash	101	4	
	Accounts Receivable	110	2	
	Service Revenue	470		6
	To record receipt of payments and billing of customers for work done.			
17	Cash	101	1	
	Equipment	183		1
	To record sale of equipment for cash.			
18	Supplies Expense	668	3	
	Accounts Payable	210		3
	To record purchase of supplies on account.			
24	Accounts Receivable	110	1	
	Service Revenue	470		1
	To record billing of client for work done.			
31	Rent Expense	654	1	
	Prepaid Rent	162		1
	To record write–off of rent expired for the month.			
31	Truck Operating Expense	670	2	
	Accounts Payable	210		2
	To record receipt of bill with respect to truck expenses incurred.			
31	Accounts Payable	210	1	
	Cash	101		1
	To record payment of account payable.			

CP 2-9 continued

2. Schulte Corporation

Cash No. 101

Mar. 1	5	Mar.2	3
15	4	3	2
17	1	31	1
	10		6
Bal.	4		

Accounts Payable No. 210

Mar.31	1	Mar. 2	3
		18	3
		31	2
	1		8
		Bal.	7

Share Capital No. 320

		Mar.1	5

Service Revenue No. 470

		Mar.15	6
		24	1
		Bal.	7

Accounts Receivable No. 110

Mar.15	2		
24	1		
Bal.	3		

Rent Expense No. 654

Mar.31	1		

Prepaid Rent No. 162

Mar. 3	2	Mar.31	1
Bal.	1		

Supplies Expense No. 668

Mar.18	3		

Equipment No. 183

Mar. 2	6	Mar.17	1
Bal.	5		

Truck Operating Expense No. 670

Mar.31	2		

CP 2–9 continued

3.

Schulte Corporation
Trial Balance
At March 31, 2017

	Account Balances	
	Debit	*Credit*
Cash	$ 4	
Accounts receivable	3	
Prepaid rent	1	
Equipment	5	
Accounts payable		$ 7
Share capital		5
Service revenue		7
Rent expense	1	
Supplies expense	3	
Truck operating expense	2	
	$19	$19

Total Debits = Total Credits

4.

Schulte Corporation
Income Statement
For the Month Ended March 31, 2017

Revenue		
Services		$7
Expenses		
Rent	$1	
Supplies	3	
Truck operating	2	
Total expenses		6
Net income		$1

Schulte Corporation
Statement of Changes in Equity
For the Month Ended March 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	5	-0-	5
Net income	--0-	1	1
Ending balance	$ 5	$ 1	$ 6

CP 2–9 continued

Schulte Corporation
Statement of Financial Position
At March 31, 2017

Assets		
Cash		$ 4
Accounts receivable		3
Prepaid rent		1
Equipment		5
Total assets		$13
Liabilities		
Accounts payable		$7
Shareholders' Equity		
Share capital	$5	
Retained earnings	1	6
Total liabilities and shareholders' equity		$13

CP 2–10

Return to Question

McQueen Corp.
Trial Balance
At December 31, 2017

Acct. No.	*Account Title*	*Account Balances* Debit	*Account Balances* Credit
101	Cash	$ 15,500	
110	Accounts receivable	10,000	
161	Prepaid insurance	9,600	
162	Prepaid rent	8,000	
173	Unused supplies	2,800	
180	Land	12,000	
181	Building	50,000	
182	Furniture	6,000	
201	Bank loan		$ 28,000
210	Accounts payable		13,250
320	Share capital		75,000
350	Dividends	2,350	-
		$116,250	$116,250

CP 2–11

Return to Question

1.

Date	Account	Debit	Credit
Jun. 1	Cash	25,000	
	Share Capital		25,000
	To record the issuance of share capital.		
1	Rent Expense	500	
	Cash		500
	To record rent paid for the month.		
1	Prepaid Insurance	2,000	
	Cash		2,000
	To record payment of insurance, policy effective one year.		
15	Salaries Expense	1,000	
	Cash		1,000
	To record payment of salaries.		
20	Cash	5,000	
	Repair Revenue		5,000
	To record repair revenue earned.		
23	Unused Supplies	4,000	
	Cash		4,000
	To record the purchase of office supplies.		
27	Telephone Expense	100	
	Accounts Payable		100
	To record telephone expense.		
30	Salaries Expense	1,000	
	Cash		1,000
	To record the payment of salaries.		
30	Land	5,000	
	Building	15,000	
	Bank Loan		4,000
	Cash		16,000
	To record the purchase of land and building.		
30	Insurance Expense	200	
	Prepaid Insurance		200
	To record June insurance expense		
30	Accounts Receivable	3,000	
	Repair Revenue		3,000
	To record repair revenue earned.		
30	Supplies Expense	200	
	Unused Supplies		200
	To record office supplies used.		

CP 2–11 continued

2.

Collins Corporation
Trial Balance
June 30, 2017

Account Title	*Account Balances* Debit	Credit
Cash	$ 5,500	
Accounts receivable	3,000	
Prepaid insurance	1,800	
Unused supplies	3,800	
Land	5,000	
Building	15,000	
Bank loan		$ 4,000
Accounts payable		100
Share capital		25,000
Repair revenue		8,000
Insurance expense	200	
Rent expense	500	
Salaries expense	2,000	
Supplies expense	200	
Telephone expense	100	
	$37,100	$37,100

3.

Collins Corporation
Income Statement
For the Month Ended June 30, 2017

Revenue		
Repairs		$8,000
Expenses		
Insurance	$ 200	
Rent	500	
Salaries	2,000	
Supplies	200	
Telephone	100	
Total Expenses		3,000
Net Income		$5,000

CP 2-11 continued

Collins Corporation
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ - 0-	$ - -0-
Shares issued	25,000	0	25,000
Net income	-0-	5,000	5,000
Ending balance	$25,000	$5,000	$30,000

Collins Corporation
Statement of Financial Position
At June 30,2017

Assets		
Cash		$5,500
Account receivable		3,000
Prepaid insurance		1,800
Unused supplies		3,800
Land		5,000
Building		15,000
Total assets		$34,100
Liabilities		
Accounts payable	$ 100	
Bank loan	4,000	4,100
Shareholders' Equity		
Share capital	25,000	
Retained earnings	5,000	30,000
Total liabilities and shareholders' equity		$34,100

CP 2–12

Return to Question

1.

Sabre Travels Inc.
Trial Balance
January 31, 2017

	Account Balances	
	Debit	*Credit*
Cash	$ 60	
Accounts receivable	140	
Unused supplies	10	
Equipment	300	
Building	700	
Land	300	
Accounts payable		$ 20
Bank loan		100
Share capital		250
Fees earned		1,875
Advertizing expense	200	
Repairs expense	100	
Supplies expense	20	
Telephone expense	10	
Utilities expense	5	
Wages expense	400	
	$2,245	$2,245

2.

Sabre Travels Inc.
Income Statement
For the Year Ended January 31, 2017

Revenue		
Fees earned		1,875
Expenses		
Advertizing	$200	
Repairs	100	
Supplies	20	
Telephone	10	
Utilities	5	
Wages	400	
Total expenses		735
Net income		$1,140

Sabre Travels Inc.
Statement of Financial Position
At January 31, 2017

Assets		
Cash		$ 60
Accounts receivable		140
Unused supplies		10
Equipment		300
Building		700
Land		300
Total assets		$1,510
Liabilities		
Accounts payable	$ 20	
Bank loan	100	
		120
Shareholders' Equity		
Share capital	250	
Retained earnings	1,140	1,390
Total liabilities and shareholders' equity		$1,510

CP 2–12 continued

Sabre Travels Inc.
Statement of Changes in Equity
For the Year Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ 250	$ -0-	$ 250
Net income	-0-	1,140	1,140
Ending balance	$ 250	$1,140	$1,390

CP 2-13 Return to Question

1. Elgert Corporation

Cash

Jan. 1	10,000	Jan. 5	200
11	1,300	4	4,000
		30	1,800
		31	50
	11,300		6,050
Bal.	5,250		

Accounts Payable

		Jan. 28	450

Share Capital

		Jan. 1	10,000

Service Revenue

		Jan. 11	1,300
		31	1,600
		Bal.	2,900

Accounts Receivable

Jan. 31	1,600		

Dividends

Jan. 31	50		

Rent Expense

Jan. 5	200		

Unused Supplies

Jan. 9	4,000	Jan.31	200
Bal.	3,800		

Truck Operating Expense

Jan. 28	450		

Salaries Expense

Jan. 30	1,800		

Supplies Expense

Jan. 31	200		

CP 2–13 continued

2.

Elgert Corporation
Trial Balance
January 31,2017

Account Title	*Accounts Balances* Debit	Credit
Cash	$ 5,250	
Accounts receivable	1,600	
Unused supplies	3,800	
Accounts payable		$ 450
Share capital		10,000
Dividends	50	
Service revenue		2,900
Rent expense	200	
Truck operating expense	450	
Salaries expense	1,800	
Supplies expense	200	
	$13,350	$13,350

3.

Elgert Corporation
Income Statement
For the Month Ended January 31, 2017

Revenue		
Services		$2,900
Expenses		
Rent	$200	
Truck operating	450	
Salaries	1,800	
Supplies	200	
Total expenses		2,650
Net income		$ 250

CP 2–13 continued

3. (continued)

Elgert Corporation
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ 0	$ 0	$ 0
Shares issued	10,000	0	10,000
Net income		250	250
Dividends	0	(50)	(50)
Ending balance	$10,000	$ 200	$10,200

Elgert Corporation
Statement of Financial Position
At January 31,2017

Assets		
Cash		$ 5,250
Accounts receivable		1,600
Unused supplies		3,800
Total assets		$10,650
Liabilities		
Accounts payable		$450
Shareholders' Equity		
Share capital	$10,000	
Retained earnings	200	10,200
Total liabilities and shareholders' equity		$10,650

P 2–1

1.

Return to Question

Fox Creek Service Limited
Trial Balance
At October 31, 2017

	Account Balances	
	Debit	*Credit*
Cash	$ 1,000	
Accounts receivable	6,000	
Equipment	7,000	
Truck	9,000	
Bank loan		$ 5,000
Accounts payable		9,000
Wages payable		1,500
Share capital		2,000
Repair revenue		19,000
Advertizing expense	2,200	
Commissions expense	4,500	
Insurance expense	500	
Supplies expense	800	
Telephone expense	250	
Truck operating expense	1,250	
Wages expense	4,000	
	$36,500	$36,500

P 2–1 continued

2.

Fox Creek Service Limited
Statement of Changes in Equity
For the Year Ended October 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	2,000	-0-	2,000
Net income	-0-	5,500	5,500
Ending balance	$2,000	$5,500	$7,500

3.

Fox Creek Service Limited
Income Statement
For the Year Ended October 31, 2017

Revenue		
Repairs		$19,000
Expenses		
Advertizing	$2,200	
Commissions	4,500	
Insurance	500	
Supplies	800	
Telephone	250	
Truck operating	1,250	
Wages	4,000	
Total expenses		13,500
Net income		$ 5,500

Fox Creek Service Limited
Statement of Financial Position
At October 31, 2017

Assets		
Cash		$ 1,000
Accounts receivable		6,000
Equipment		7,000
Truck		9,000
Total assets		$23,000
Liabilities		
Bank loan	$5,000	
Accounts payable	9,000	
Wages payable	1,500	15,500
Shareholders' Equity		
Share capital	2,000	
Retained earnings	5,500	7,500
Total liabilities and shareholders' equity		$23,000

P 2–2

1. Return to Question

Davidson Tool Rentals Corporation
GENERAL JOURNAL

Page 1

Date	Description	F	Debit	Credit
May 1	Cash	101	5,000	
	Share Capital	320		5,000
	To record issuance of share capital.			
5	Accounts Receivable	110	3,000	
	Service Revenue	470		3,000
	To record billings to customers.			
6	Cash	101	2,000	
	Service Revenue	470		2,000
	To record cash payment by customers for work completed.			
10	Cash	101	1,500	
	Accounts Receivable	110		1,500
	To record collections on account.			
11	Equipment	183	2,000	
	Cash	101		1,000
	Accounts Payable	210		1,000
	To record purchase of equipment partially paid by cash, remainder on account.			
15	Cash	101	1,200	
	Accounts Receivable	110		1,200
	To record payment received on account.			
16	Prepaid Advertizing	160	500	
	Cash	101		500
	To record payment of advertizing in advance.			
18	Accounts Receivable	110	2,500	
	Service Revenue	470		2,500
	To record billings to customers.			
20	Unused Supplies	173	300	
	Cash	101		300
	To record purchase of supplies for inventory.			
21	Cash	101	800	
	Equipment	183		800
	To record sale of equipment at cost.			

P 2–2 continued

Davidson Tool Rentals Corporation
GENERAL JOURNAL

Page 2

Date	Description	F	Debit	Credit
May 22	Accounts Payable	210	600	
	Cash	101		600
	To record payment of amounts owing.			
23	Telephone Expense	669	150	
	Accounts Payable	210		150
	To record receipt of telephone bill.			
24	Commissions Expense	615	1,100	
	Accounts Payable	210		1,100
	To record receipt of commissions bill.			
28	Rent Expense	654	400	
	Cash	101		400
	To record payment of rent for May.			
29	Salaries Expense	656	3,500	
	Cash	101		3,500
	To record payment of wages incurred.			
30	Supplies Expense	668	100	
	Unused Supplies	173		100
	To record supplies used during the month.			
31	Advertizing Expense	610	250	
	Prepaid Advertizing	160		250
	To record expiry of prepaid advertizing.			

P 2-2 continued

Davidson Tools Rentals Corporation

Cash — No. 101

5,000	1,000
2,000	500
1,500	300
1,200	600
800	400
-	3,500
10,500	6,300
Bal. 4,200	

Accounts Payable — No. 210

600	1,000
	150
	1,100
600	2,250
	Bal. 1,650

Share Capital — No. 320

	5,000

Service Revenue — No. 460

	3,000
	2,000
	2,500
	Bal. 7,500

Accounts Receivable — No. 110

3,000	1,500
2,500	1,200
5,500	2,700
Bal. 2,800	

Advertizing Expense — No. 610

250	

Prepaid Advertizing — No. 160

500	250
Bal. 250	

Commissions Expense — No. 615

1,100	

Unused Supplies — No. 173

300	100
Bal 200	

Rent Expense — No. 654

400	

Salaries Expense — No. 656

3,500	

Equipment — No. 183

2,000	800
Bal. 1,200	

Supplies Expense — No. 668

100	

Telephone Expense — No. 669

150	

P 2–2 continued

2.

Davidson Tools Rentals Corporation
Trial Balance
May 31, 2017

Acct. No.	Account Title	Account Balances Debit	Account Balances Credit
101	Cash	$ 4,200	
110	Accounts receivable	2,800	
160	Prepaid advertizing	250	
173	Unused supplies	200	
183	Equipment	1,200	
210	Accounts payable		$ 1,650
320	Share capital		5,000
460	Service revenue		7,500
610	Advertizing expense	250	
615	Commissions expense	1,100	
654	Rent expense	400	
656	Salaries expense	3,500	
668	Supplies expense	100	
669	Telephone expense	150	
		$14,150	$14,150

P 2–3

Return to Question

1.

Findlay Consultants Corp.
Trial Balance
At January 31, 2017

Acct. No.	*Account Title*	*Account Balances* Debit	Credit
101	Cash	$ 2,000	
110	Accounts receivable	8,000	
160	Prepaid advertizing	300	
182	Furniture	1,000	
183	Equipment	4,000	
184	Truck	9,000	
210	Accounts payable		$9,000
226	Salaries payable		1,500
236	Utilities payable		3,625
320	Share capital		7,000
420	Fees earned		9,500
610	Advertizing expense	150	
631	Insurance expense	200	
641	Maintenance expense	250	
654	Rent expense	400	
656	Salaries expense	2,600	
668	Supplies expense	350	
669	Telephone expense	125	
670	Truck operating expense	750	
677	Wages expense	1,500	
		$30,625	$30,625

2.

Findlay Consultants Corp.
Income Statement
For the Month Ended January 31, 2017

Revenue		
Fees		$9,500
Expenses		
Advertizing	$ 150	
Insurance	200	
Maintenance	250	
Rent	400	
Salaries	2,600	
Supplies	350	
Telephone	125	
Truck operating	750	
Wages	1,500	
Total expenses		6,325
Net income		$3,175

P 2-3 continued

Findlay Consultants Corp.
Statement of Changes in Equity
For the Month Ended January 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	7,000	-0-	7,000
Net income	-0-	3,175	3,175
Ending balance	$7,000	$3,175	$10,175

3.

Findlay Consultants Corp.
Statement of Financial Position
At January 31, 2017

Assets		
Cash		$2,000
Accounts receivable		8,000
Prepaid advertizing		300
Equipment		4,000
Furniture		1,000
Truck		9,000
Total assets		$24,300
Liabilities		
Accounts payable	$9,000	
Salaries payable	1,500	
Utilities payable	3,625	14,125
Shareholders' Equity		
Share capital	7,000	
Retained earnings	3,175	10,175
Total liabilities and shareholders' equity		$24,300

P 2-4

Return to Question

1. and 3.

Fenton Table Rentals Corporation

Cash — No. 101

Apr.1	1,400	c.	2,400
a.	2,000	d.	1,000
f.	2,500	j.	100
	5,900		3,500
Bal.	2,400		

Accounts Receivable — No. 110

Apr.1	3,600	a.	2,000
b.	3,000	f.	2,500
g.	1,500		
	8,100		4,500
Bal.	3,600		

Prepaid Rent — No. 162

Apr.1	1,000	h.	500
Bal.	500		

Unused Supplies — No. 173

Apr.1	350	i.	150
Bal.	200		

Accounts Payable — No. 210

d.	1,000	Apr.1	2,000
		e.	500
	1,000		2,500
		Bal.	1,500

Share Capital — No. 320

		Apr.1	4,350

Dividends — No. 350

j.	100		

Service Revenue — No. 470

		b.	3,000
		g.	1,500
		Bal.	4,500

Advertizing Expense — No. 610

c.	300		

Rent Expense — No. 654

h.	500		

Salaries Expense — No. 656

c.	2,000		

Supplies Expense — No. 668

i.	150		

Telephone Expense — No. 669

c.	100		

Truck Operating Expense — No. 670

e.	500		

P 2-4 continued

2.

Fenton Table Rentals Corporation
GENERAL JOURNAL page 1

April 2017	Description	F	Debit	Credit
a.	Cash	101	2,000	
	Accounts receivable	110		2,000
	To record a collection on account.			
b.	Accounts Receivable	110	3,000	
	Service Revenue	170		3,000
	To record billings to customers.			
c.	Advertizing Expense	610	300	
	Salaries Expense	656	2,000	
	Telephone Expense	669	100	
	Cash	101		2,400
	To record payment of expenses incurred.			
d.	Accounts payable	210	1,000	
	Cash	101		1,000
	To record payment made on account.			
e.	Truck Operating Expense	670	500	
	Accounts Payable	210		500
	To record bill received for truck repair expense.			
f.	Cash	101	2,500	
	Accounts Receivable	110		2,500
	To record payment received on account.			
g.	Accounts Receivable	110	1,500	
	Service revenue	470		1,500
	To record billings to customers.			
h.	Rent Expense	654	500	
	Prepaid Rent	162		500
	To record expiry of a portion of prepaid rent.			
i.	Supplies Expense	668	150	
	Unused Supplies	173		150
	To record supplies used, based on count of unused supplies at end of month.			
j.	Dividends	350	100	
	Cash	101		100
	To record dividends paid in cash.			

P 2–4 continued

4.

Fenton Table Rentals Corporation
Trial Balance
At April 30, 2017

Acct. No.	*Account Title*	*Account Balances* *Debit*	*Credit*
101	Cash	$ 2,400	
110	Accounts receivable	3,600	
162	Prepaid rent	500	
173	Unused supplies	200	
210	Accounts payable		$ 1,500
320	Share capital		4,350
350	Dividends	100	
470	Service revenue		4,500
610	Advertizing expense	300	
654	Rent expense	500	
656	Salaries expense	2,000	
668	Supplies expense	150	
669	Telephone expense	100	
670	Truck operating expense	500	
		$10,350	$10,350

P 2–4 continued

5.

Fenton Table Rentals Corporation
Income Statement
For the Month Ended April 30, 2017

Revenue		
Services		$4,500
Expenses		
Advertizing	$ 300	
Rent	500	
Salaries	2,000	
Supplies	150	
Telephone	100	
Truck operating	500	
Total expenses		3,550
Net income		$ 950

Fenton Table Rentals Corporation
Statement of Financial Position
At April 30, 2017

Assets		
Cash		$2,400
Accounts receivable		3,600
Prepaid rent		500
Unused supplies		200
Total assets		$6,700
Liabilities		
Accounts payable		$1,500
Shareholders' Equity		
Share capital	$4,350	
Retained earnings	850	5,200
Total liabilities and shareholders' equity		$6,700

Fenton Table Rentals Corporation
Statement of Changes in Equity
For the Month Ended April 30, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ 4,350	$ -0-	$ 4,350
Net income		950	950
Dividends	0	(100)	(100)
Ending balance	$4,350	$ 850	$5,200

P 2-5

1. and 3. Return to Question

Thorn Accounting Services Inc.

Cash — No. 101

Aug.1	3,000	Aug.1	8,000
1	10,000	4	600
5	2,000	9	250
15	1,000	16	200
		20	250
		25	2,800
	16,000		12,100
Bal.	3,900		

Accounts Receivable — No. 110

Aug.7	5,000	Aug.15	1,000
29	6,000		
	11,000		1,000
Bal.	10,000		

Prepaid Insurance — No. 161

Aug.4	600	Aug.31	50
Bal.	550		

Unused Supplies — No. 173

Aug.12	500	Aug.31	400
Bal.	100		

Truck — No. 184

Aug.1	8,000		

Bank Loan — No. 201

		Aug.1	10,000

Accounts Payable — No. 210

Aug.20	250	Aug.12	500
		Bal.	250

Share Capital — No. 320

		Aug.1	3,000

Fees Earned — No. 420

		Aug.5	2,000
		7	5,000
		29	6,000
		Bal.	13,000

Advertizing Expense — No. 610

Aug.16	200		

Insurance Expense — No. 631

Aug.31	50		

Rent Expense — No. 654

Aug.25	350		

Salaries Expense — No. 656

Aug.25	2,150		

Supplies Expense — No. 668

Aug.9	250		
31	400		
Bal.	650		

Telephone Expense — No. 669

Aug.25	50		

Truck Operating Expense — No. 670

Aug.25	250		

P 2–5 continued

2.

Thorn Accounting Services Inc.
General Journal

Page 1

Date 2017	Description	F	Debit	Credit
Aug. 1	Cash	101	3,000	
	Share Capital	320		3,000
	To record issuance of share capital.			
1	Cash	101	10,000	
	Bank Loan	201		10,000
	To record amount borrowed from bank.			
1	Truck	184	8,000	
	Cash	101		8,000
	To record purchase of a used truck.			
4	Prepaid Insurance	161	600	
	Cash	101		600
	To record payment of a one-year insurance policy.			
5	Cash	101	2,000	
	Fees Earned	420		2,000
	To record collection of cash fees from a customer.			
7	Accounts Receivable	110	5,000	
	Fees Earned	420		5,000
	To record billings to customers.			
9	Supplies Expense	668	250	
	Cash	101		250
	To record payment of supplies used.			
12	Unused Supplies	173	500	
	Accounts Payable	210		500
	To record purchase of supplies on account.			
15	Cash	101	1,000	
	Accounts Receivable	110		1,000
	To record collection of customer accounts.			
16	Advertizing Expense	610	200	
	Cash	101		200
	To record payment of advertizing expense.			

P 2–5 continued

Thorn Accounting Services Inc.
General Journal

Page 2

Aug. 2017	Description	F	Debit	Credit
Aug. 20	Accounts Payable	210	250	
	Cash	101		250
	To record payment made on account.			
25	Rent Expense	654	350	
	Salaries Expense	656	2,150	
	Telephone Expense	669	50	
	Truck Operating Expense	670	250	
	Cash	101		2,800
	To record cash payment of expenses.			
29	Accounts Receivable	110	6,000	
	Fees Earned	420		6,000
	To record billings to customers.			
31	Insurance Expense	631	50	
	Prepaid Insurance	161		50
	To record insurance expired for August ($600/12 months)			
31	Supplies Expense	668	400	
	Unused Supplies	173		400
	To record supplies used for August.			

P 2–5 continued

4.

Thorn Accounting Services Inc.
Trial Balance
At August 31, 2017

Acct. No.	*Account Title*	*Account Balances* Debit	Credit
101	Cash	$ 3,900	
110	Accounts receivable	10,000	
161	Prepaid insurance	550	
173	Unused supplies	100	
184	Truck	8,000	
201	Bank loan		$10,000
210	Accounts payable		250
320	Share capital		3,000
420	Fees earned		13,000
610	Advertizing expense	200	
631	Insurance expense	50	
654	Rent expense	350	
656	Salaries expense	2,150	
668	Supplies expense	650	
669	Telephone expense	50	
670	Truck operating expense	250	
		$26,250	$26,250

P 2-5 continued

5.

Thorn Accounting Services Inc.
Income Statement
For the Month Ended August 31,2017

Revenue		
Fees earned		$13,000
Expenses		
Advertizing	$ 200	
Insurance	50	
Rent	350	
Salaries	2,150	
Supplies	650	
Telephone	50	
Truck operating	250	
Total expenses		3,700
Net income		$ 9,300

Thorn Accounting Services Inc.
Statement of Financial Position
At August 31, 2017

Assets		
Cash		$ 3,900
Accounts receivable		10,000
Prepaid insurance		550
Unused supplies		100
Truck		8,000
Total assets		$22,550
Liabilities		
Bank loan	$10,000	
Accounts payable	250	10,250
Shareholders' Equity		
Share capital	3,000	
Retained earnings	9,300	12,300
Total liabilities and shareholders' equity		$22,550

Thorn Accounting Service Inc.
Statement of Changes in Equity
For the Month Ended August 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ 0
Shares issued	3,000	-0-	3,000
Net income	-0-	9,300	9,300
Ending balance	$3,000	$9,300	$12,300

P 2-6

Return to Question

1. and 3.

Chan Renovations Corporation

Cash No. 101

Jun. 1	8,000	Jun. 3	20
2	600	10	2,500
8	500	18	1,000
25	1,000	22	600
		25	3,700
	10,100		7,820
Bal.	2,280		

Accounts Payable No. 210

Jun. 10	2,500	Jun. 1	5,000
18	1,000	4	1,000
		20	100
	3,500		6,100
		Bal.	2,600

Share Capital No. 320

		Jun.1	8,000

Repair Revenue No. 450

		Jun. 2	600
		5	2,500
		30	2,000
		Bal.	5,100

Telephone Expense No. 669

Jun. 25	50		

Accounts Receivable No. 110

Jun. 5	2,500	Jun. 8	500
15	1,000	25	1,000
30	2,000		
	5,500		1,500
Bal.	4,000		

Advertizing Expense No. 610

Jun. 25	150		

Truck Operating Expense No. 670

Jun. 25	1,000		

Prepaid Rent No. 162

Jun. 22	600	Jun. 30	300
Bal.	300		

Rent Expense No. 654

Jun. 30	300		

Utilities Expense No. 676

Jun. 20	100		

Unused Supplies No. 173

Jun. 4	1,000	Jun. 30	850
Bal.	150		

Supplies Expense No. 668

Jun. 3	20		
30	850		
Bal.	870		

Wages Expenses No. 677

Jun. 25	2,500		

Equipment No. 183

Jun. 1	5,000	Jun. 15	1,000
Bal.	4,000		

P 2-6 continued

2.

Chan Renovations Corporation
General Journal
Page 1

2017	Description	F	Debit	Credit
Jun. 1	Cash	101	8,000	
	Share Capital	320		8,000
	To record issuance of share capital.			
1	Equipment	183	5,000	
	Accounts Payable	210		5,000
	To record purchase of equipment on account.			
2	Cash	101	600	
	Repair Revenue	450		600
	To record collection of cash from customer.			
3	Supplies Expense	668	20	
	Cash	101		20
	To record payment of supplies used.			
4	Unused Supplies	173	1,000	
	Accounts Payable	210		1,000
	To record purchase of unused supplies on account.			
5	Accounts Receivable	110	2,500	
	Repair Revenue	450		2,500
	To record billings to customers.			
8	Cash	101	500	
	Accounts Receivable	110		500
	To record collection on account.			
10	Accounts Payable	210	2,500	
	Cash	101		2,500
	To record payment on account.			
15	Accounts Receivable	110	1,000	
	Equipment	183		1,000
	To record sale of equipment on account.			
18	Accounts Payable	210	1,000	
	Cash	101		1,000
	To record payment made on account.			

P 2-6 continued

Chan Renovations Corporation
General Journal

Page 2

2017	Description	F	Debit	Credit
Jun. 20	Utilities Expense	676	100	
	Share Capital	210		100
	To record bill received for utilities.			
22	Prepaid Rent	162	600	
	Cash	101		600
	To record June and July rent payments made in advance.			
25	Cash	101	1,000	
	Accounts Receivable	110		1,000
	To record payment received on account.			
27	Advertizing Expense	610	150	
	Telephone Expense	669	50	
	Truck Operating Expense	670	1,000	
	Wages Expense	677	2,500	
	Cash	101		3,700
	To record payment of expenses in cash.			
30	Accounts Receivable	110	2,000	
	Repair Revenue	450		2,000
	To record customer billings.			
30	Rent Expense	654	300	
	Prepaid Rent	162		300
	To record expiry of June rent.			
30	Supplies Expense	668	850	
	Unused Supplies	173		850
	To record supplies used in June.			

P 2-6 continued

4.

Chan Renovations Corporation
Trial Balance
At June 30, 2017

Acct. No.	*Account Title*	*Account Balances* Debit	Credit
101	Cash	$ 2,280	
110	Accounts receivable	4,000	
162	Prepaid rent	300	
172	Unused supplies	150	
183	Equipment	4,000	
210	Accounts payable		$ 2,600
320	Share capital		8,000
450	Repair revenue		5,100
610	Advertizing expense	150	
654	Rent expense	300	
668	Supplies expense	870	
669	Telephone expense	50	
670	Truck operating expense	1,000	
676	Utilities expense	100	
677	Wages expense	2,500	
		$15,700	$ 15,700

P 2-6 continued

5.

Chan Renovations Corporation
Income Statement
For the Month Ended June 30, 2017

Revenue		
Repairs		$5,100
Expenses		
Advertizing	$ 150	
Rent	300	
Supplies	870	
Telephone	50	
Truck operating	1,000	
Utilities	100	
Wages	2,500	
Total expenses		4,970
Net income		$ 130

Chan Renovations Corporation
Statement of Financial Position
At June 30, 2017

Assets		
Cash		$ 2,280
Accounts receivable		4,000
Prepaid rent		300
Unused supplies		150
Equipment		4,000
Total assets		$10,730
Liabilities		
Accounts payable		$ 2,600
Shareholders' Equity		
Share capital	8,000	
Retained earnings	130	8,130
Total liabilities and shareholders' equity		$10,730

Chan Renovations Corporation
Statement of Changes in Equity
For the Month Ended June 30, 2017

	Share capital	*Retained earnings*	*Total equity*
Opening balance	$ -0-	$ -0-	$ -0-
Shares issued	8,000	-0-	8,000
Net income	-0-	130	130
Ending balance	$8,000	$ 130	$8,130

CHAPTER THREE
Financial Accounting
and the Use of Adjusting Entries

Concept Self-check

Return to Question

1. The sequence of financial transactions that occurs continuously during an accounting time period is called the *operating cycle*. Operations begin with some cash on hand. The cash is used to purchase supplies and pay expenses while revenue is being generated. Often when revenue is earned, an account receivable is created, which is later collected in cash. This begins the cycle over again. There are many operating cycles occurring simultaneously. While some transactions are being completed, others are only beginning.

2. The operating cycle does not have to be complete before income can be measured. Accrual accounting is the means to accomplish this. Revenue can be recorded as earned when the product is sold or the service performed regardless of when cash is collected. To measure income, expenses must be matched to revenues or the relevant time period. This usually can be done whether or not the operating cycle is complete.

3. Accrual accounting matches expenses to revenues for a particular time period. The accrual method is the basis on which accounts are adjusted to reach this objective. Under this method, expenses are matched to the revenues during the period that the revenues are generated. The revenue recognition assumption helps determine when revenues are earned, thus allowing expenses to be matched to these revenues. Revenues are not generally matched to expenses by convention. The rationale is that generating revenue is the principal objective of a business. Therefore, these are recognized and then expenses are matched to revenues.

4. Adjusting entries are changes made at the end of an operating cycle to more accurately reflect economic activity during the period. For instance, depreciation is calculated on plant and equipment and charged to the income statement as depreciation expense.

Concept Self-check continued

5. The five types of adjusting entries are:

(1)

Dec. 31	Expense	XX	
	Prepaid Expense		XX
	To adjust prepaid expense for the amount of benefit used.		

(2)

Dec. 31	Account Recievable	XX	
	Revenue		XX
	To record reveue earned on credit.		

(3)

Dec. 31	Depreciation Expense	XX	
	Accumulated Depreciation		XX
	To allocate the cost of plant and equipment over their useful lives.		

(4)

Dec. 31	Unearned Revenue	XX	
	Revenue		XX
	To adjust unearned amounts now earned.		

(5)

Dec. 31	Expense	XX	
	Payable		XX
	To adjust for accrued expenses.		

6. At the end of the accounting period, an accountant must determine the amount of future benefits (assets like Prepaid Insurance) that belong on the statement of financial position and how much should be recorded in the income statement (as Insurance Expense, in this example). The appropriate amounts must be transferred by means of adjusting entries.

7. Long-lived asset accounts like Equipment and are handled differently than other asset accounts. The expired portion of the cost of such an asset is estimated based on its useful life and recorded as depreciation expense. This requires no cash outlay, despite being an expense. Capital asset accounts themselves are not reduced by the depreciation expense; rather, a contra asset account is set up in order to show the asset at its carrying value on the statement of financial position.

Concept Self-check continued

8. A contra account is used to reduce the value of a related statement of financial position item. For instance, the account Accumulated Depreciation—Equipment is credited by the amount of depreciation expense recorded each year. The balance in this account is netted against the related account (Equipment, in this example) so that the asset is shown at carrying amount on the statement of financial position.

9. At the end of the accounting period, the amount of services that still remain to be performed is determined. The related revenue and liability account balances are adjusted through the use of an adjusting entry (in this case, Unearned Repair Revenue, a liability account and Repair Revenue, a revenue account).

10. Accrued revenues and accrued expenses are items that are not recognized in the normal course of recording financial transactions.. They are not captured by source documents like sales and purchase invoices. They are recorded through the use of accrual adjusting entries at the end of the accounting period. Examples of revenues and expenses that accrue are rent revenue and expenses, interest revenue and expense, salaries and wages expenses, and income taxes expense.

    Related asset or liability accounts record the offsetting debits and credits. These statement of financial position accounts are eventually reduced when cash is received or paid, as applicable.

11. An adjusted trial balance is prepared after posting the adjusting entries in order to establish the equality of debits and credits, and before preparing the financial statements.

12. The adjusted trial balance conveniently summarises the general ledger accounts in order of their appearance in the financial statements. This facilitates preparation of the financial statements.

13. The eight steps in the accounting cycle are:
    1. Transactions are analyzed and recorded in the general journal.
    2. The journal entries in the general journal are posted to accounts in the general ledger.
    3. An unadjusted trial balance is prepared to ensure total debits equal total credits.
    4. The unadjusted account balances are analyzed, and adjusting entries are journalized in the general journal and posted to the general ledger.
    5. An adjusted trial balance is prepared to prove the equality of debits and credits.
    6. The adjusted trial balance is used to prepare financial statements.
    7. Closing entries are journalized and posted.
    8. A post-closing trial balance is prepared.

Concept Self-check continued

14. The first two steps in the accounting cycle occur continuously throughout the accounting period:
    1. Transactions are analyzed and recorded in the general journal.
    2. The journal entries in the general journal are posted to accounts in the general ledger.

15. The last two steps in the accounting cycle occur only at the end of the accounting period:
    7. Closing entries are journalized and posted.
    8. A post-closing trial balance is prepared.

    These steps differ from the others because they are only used to zero out temporary accounts and adjust retained earnings to the amount shown on the fiscal year-end statement of financial position.

16. The need for regular financial information requires that revenue and expense accounts of a business be accumulated for usually no more than one year by convention, and that financial statements be prepared for that period. Using a consistent time period allows revenue and expenses for one period to be compared to a preceding period. A one-year cycle reduces effects of seasonal variations in business activity, for instance, but also allows for business performance to be evaluated by owners and creditors regularly and predictably.

17. Temporary accounts include all revenues and expense categories that are reduced to zero at the end of the fiscal year when they are closed to the Retained Earnings account. Permanent accounts have a continuing balance from one fiscal year to the next. All statement of financial position accounts are permanent accounts.

18. An Income Summary account is an general ledger record used only at year-end to accumulate all revenue and expense balances, and to reduce their general ledger accounts to zero at the end of the fiscal year. This account summarises the net income (or net loss) for the year. It is closed to the Retained Earnings account at year-end.

Concept Self-check continued

19. The general forms of the four closing entries are:

(1)

Dec. 31	Revenue	XX	
	Income Summary		XX
	To close revenue account balances to the Income Summary account.		

(2)

Dec. 31	Income Summary	YY	
	Expense		YY
	To close expense account balances to the Income Summary account.		

(3)

Dec. 31	Income Summary	ZZ	
	Retained Earnings		ZZ
	To close the Income Summary account balance to Retained Earnings (ZZ = XX – YY; ZZ must equal net income).		

(4)

Dec. 31	Retained Earnings	AA	
	Dividends		AA
	To close the Dividend account to Retained Earnings.		

The purpose of the Income Summary is to accumulate the debits and credits to revenue and expense accounts respectively at the end of the fiscal year to ensure that these are equal to net income shown on the income statement. This balance is then closed to retained earnings.

20. The Dividends account is not closed to the Income Summary account because it is not an income statement item. It is closed directly to the Retained Earnings account at the end of the fiscal year as it is considered a distribution of retained earnings to shareholders.

21. A post-closing trial balance is a listing of permanent (statement of financial position) accounts and their balances after all temporary accounts have been closed. It proves the equality of general ledger debit and credit balances before the next accounting period commences.

CP 3-1

Return to Question

a.	Insurance Expense	7.	Prepaid Insurance
b.	Rent Earned	10.	Unearned Rent
c.	Prepaid Rent	6.	Rent Expense
d.	Interest Payable	9.	Interest Expense
e.	Interest Receivable	8.	Interest Earned
f.	Fees Earned	4.	Unearned Fees
g.	Unused Supplies	2.	Supplies Expense
h.	Unearned Commissions Revenue	1.	Commissions Earned
i.	Salaries Payable	3.	Salaries Expense
j.	Depreciation Expense	5.	Accumulated Depreciation

CP 3-2

Return to Question

2018				
Dec. 31	Depreciation Expense—Truck	624	1,200	
	Accumulated Depreciation—Truck	194		1,200
	To record additional truck depreciation for the year ($2,500 – 1,300)			

$$\frac{\$10{,}000}{4 \text{ years}} = \$2{,}500/\text{year}$$

CP 3-3

Return to Question

2018				
Dec. 31	Interest Expense	632	100	
	Interest Payable	222		100
	To adjust accrued interest ($1,200 – 1,100).			

CP 3-4 Return to Question

Armstrong Corp.
General Journal

	Date 2018	Description	F	Debit	Credit
a.	Jun. 30	Office Supplies Expense		135	
		Unused Office Supplies			135
		To adjust of office supplies on hand to the remaining amount.			
b.	30	Depreciation Expense-Truck		400	
		Accumulated Depreciation-Truck			400
		To record truck depreciation for the period.			
c.	30	Insurance Expense		240	
		Prepaid Insurance			240
		To adjust the portion of insurance expired for the period.			
d.	30	Interest Expense		100	
		Interest Payable			100
		To adjust interest payable for the period.			
e.	30	Unearned Rent Revenue		500	
		Rent Earned			500
		To adjust the portion of unearned rent at the end of the period.			

CP 3–5

Return to Question

1. and 3.

Graham Corporation
General Ledger

ASSETS	=	LIABILITIES	+	SHAREHOLDERS' EQUITY

Rent Receivable

(a) 110	

Interest Payable

	(c) 90

Rent Earned

	(a) 110

Prepaid Insurance

1,800	
	(b) 1,200
Bal. 600	

2.

Graham Corporation
GENERAL JOURNAL

Page 1

Date	Description	F	Debit	Credit
	Adjusting Entries			
a.	Rent Receivable		110	
	Rent Earned			110
b.	Insurance Expense		1,200	
	Prepaid Insurance			1,200
c.	Interest Expense		90	
	Interest Payable			90

4.

Rent Earned	$ 110
Insurance Expense	1,200
Interest Expense	90

CP 3-6 Return to Question

1. General Journal

	Date 2018	Description	F	Debit	Credit
a.	Dec. 31	Rent Expense		200	
		Prepaid Rent			200
		To adjust prepaid rent account to the proper balance.			
b.	31	Office Supplies Expense		400	
		Unused Office Supplies			400
		To adjust the ending balance of supplies on hand.			
c.	31	Income Taxes Expense		5,000	
		Income Taxes Payable			5,000
		To record income taxes for the period.			
d.	31	Unearned Commissions Revenue		1,000	
		Commissions Earned			1,000
		To record the proper balance in the Unearned Commissions account.			
e.	31	Salaries Expense		300	
		Salaries Payable			300
		To accrue salaries for the period.			

2. Assets would be overstated by $600 (a: 200+b: 400)
Liabilities would be understated by $4,300 (c: 5,000 – d: 1,000 + e: 300)
Revenue would be understated by $1,000 (d)
Expenses would be understated by $5,900 (a: 200 + b: 400 + c: 5,000 + e: 300)
Shareholders' equity would be overstated by $4,900 (asset overstatement: $600 + liabilities understatement: $4,300), while net income would be overstated by $4,900 (revenue understatement: $1,000 – expense understatement: $5,900).

CP 3-7 Return to Question

Bernard Inc.
General Journal

	Date 2018	Description	F	Debit	Credit
a.	Dec.31	Advertizing Expense	610	500	
		Prepaid Advertizing	160		500
		To record the expired portion of advertizing expense for the period.			
b.	31	Supplies Expense	668	400	
		Unused Supplies	173		400
		To adjust supplies on hand to the remaining amount.			
c.	31	Depreciation Expense—Equipment	623	250	
		Accumulated Depreciation—Equipment	193		250
		To record depreciation for the period.			
d.	31	Maintenance Expense	641	200	
		Telephone Expense	669	100	
		Utilities Expense	676	400	
		Commissions Expense	615	800	
		Accounts Payable	210		1,500
		To record expenses incurred but not yet paid for the period.			
e.	31	Salaries Expense	656	700	
		Salaries Payable	226		700
		To record salaries accrued for the period.			
f.	31	Unearned Subscription Revenue	250	5,000	
		Subscription Revenue	480		5,000
		To record subscription revenue earned for the period.			

CP 3-8 Return to Question

1.

Cash 101

750	50
950	150
90	50
	24
	20
	70

Accounts Receivable 110

228	90

Rent Receivable 125

(f) 40	

Prepaid Insurance 161

24	2 (a)

Unused Office Supplies 170

50	25 (c)

Unused Repair Supplies 171

145	80 (d)

Furniture 182

150	

Acc. Dep'n – Furniture 191

	2 (b)

Accounts Payable 210

70	145

Unearned Repair Revenue 247

	500
(e) 400	

Interest Payable 222

	12 (g)

Income Taxes Pay. 260

	400 (h)

Interest Expense 632

(g) 12	

Income Taxes Expense 830

(h) 400	

Share Capital 320

	400

Ret. Earn. 340

	350

Repair Rev. 450

	950
	228
	400 (e)

Rent Earned 440

	40 (f)

Dep'n Exp. - Furniture 621

(b) 2	

Insurance Exp. 631

(a) 2	

Office Supplies Exp. 650

(c) 25	

Rent Expense 654

50	

Repair Supplies Expense 655

(d) 80	

Telephone Expense 669

20	

CP 3-8 continued

2. Hynes Corporation

General Journal Page 1

	Date	Description	F	Debit	Credit
		<u>Adjusting Entries</u>			
a.	Dec. 31	Insurance Expense	631	2	
		Prepaid Insurance	161		2
		To record expiry of prepaid insurance.			
b.	31	Depreciation Expense—Furniture	621	2	
		Accumulated Depreciation—Furniture	191		2
		To record depreciation.			
c.	31	Office Supplies Expense	650	25	
		Unused Office Supplies	170		25
		To record use of office supplies.			
d.	31	Repair Supplies Expense	655	80	
		Unused Repair Supplies	171		80
		To record use of supplies.			
e.	31	Unearned Repair Revenue	247	400	
		Repair Revenue	450		400
		To adjust unearned repair revenue to actual.			
f.	31	Rent Receivable	125	40	
		Rent Earned	440		40
		To adjust for rent receivable.			
g.	31	Interest Expense	632	12	
		Interest Payable	222		12
h.	31	Income Taxes Expense	669	400	
		Income Taxes Payable	260		400
		To adjust for income taxes.			

CP 3-9

Return to Question

1.

Acct. No.	*Account*	*Trial Balance*		*Adjustments*		*Adjusted Trial Balance*	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	$ 4,000				$ 4,000	
110	Accounts receivable	5,000				5,000	
161	Prepaid insurance	3,600			(a) 300	3,300	
162	Prepaid rent	1,000			(b) 500	500	
184	Truck	6,000				6,000	
194	Acc. dep. – truck				(c) 1,500		$1,500
210	Accounts payable		$7,000				7,000
222	Interest payable				(d) 400		400
226	Salaries payable				(e) 1,000		1,000
248	Unearned rent revenue		1,200	(f) 600			600
320	Share capital		2,700				2,700
440	Rent earned		25,000		(f) 600		25,600
610	Advertizing expense	700				700	
615	Commissions expense	2,000				2,000	
624	Dep. expense – truck			(c) 1,500		1,500	
631	Insurance expense			(a) 300		300	
632	Interest expense	100		(d) 400		500	
654	Rent expense	5,500		(b) 500		6,000	
656	Salaries expense	8,000		(e) 1,000		9,000	
	Totals	$35,900	$35,900	$4,300	$4,300	$38,800	$38,800

CP 3-9 continued

2. Lauer Corporation
General Journal

	2018	Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec.31	Insurance Expense	631	300	
		Prepaid Insurance	131		300
		To record expiry of prepaid insurance.			
b.	31	Rent Expense	654	500	
		Prepaid Rent	162		500
		To record expiry of prepaid rent.			
c.	31	Depreciation Expense	624	1,500	
		Accumulated Depreciation—Truck	194		1,500
		To record truck depreciation.			
d.	31	Interest Expense	632	400	
		Interest Payable	222		400
		To accrue interest.			
e.	31	Salaries Expense	656	1,000	
		Salaries Payable	226		1,000
		To accrue unpaid salaries.			
f.	31	Unearned Rent	248	600	
		Rent Earned	440		600
		To record rent earned.			

CP 3-10

Return to Question

1.

Wolfe Corporation
General Journal

Page 1

Date 2018		Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec. 31	Insurance Expense	631	600	
		Prepaid Insurance	161		600
		To adjust for expiry of 6 months insurance ($1,200 x ½).			
b.	31	Supplies Expense	668	200	
		Unused Supplies	173		200
		To adjust supplies on hand to physical count.			
c.	31	Rent Expense	654	50	
		Accounts Payable	210		50
		To adjust for unpaid rent.			

CP 3-10 continued

2. and 4.

Wolfe Corporation

Cash 101

Bal. 2,700	

Accounts Receivable 110

Bal. 2,000	

Prepaid Insurance 161

Op. Bal.1,200	(a) 600
Bal. 600	

Unused Supplies 173

Op. Bal. 700	(b) 200
Bal. 500	

Accounts Payable 210

	(c) 50

Share Capital 320

	Bal. 3,800

Retained Earnings 340

	(f) 1,950
	Bal. 1,950

Income Summary 360

(e) 5,800	(d) 7,750
(f) 1,950	
Bal. 0	

Repair Revenue 450

(d) 7,750	Op. Bal.7,750
	Bal. 0

Advertizing Expense 610

Op. Bal. 200	(e) 200
Bal. 0	

Insurance Expense 631

(a) 600	(e) 600
Bal. 0	

Rent Expense 654

Op. Bal. 250	
(c) 50	
Bal. 300	(e) 300
Bal. 0	

Salaries Expense 656

Op. Bal.4,500	(e) 4,500
Bal. 0	

Supplies Expense 668

(b) 200	(e) 200
Bal. 0	

CP 3–10 continued

3.

Wolfe Corporation
General Journal
Page 2

	Date 2018	Description	F	Debit	Credit
		<u>Closing Entries</u>			
d.	Dec. 31	Repair Revenue	450	7,750	
		Income Summary	360		7,750
e.	31	Income Summary	360	5,800	
		Advertizing Expense	610		200
		Insurance Expense	631		600
		Rent Expense	654		300
		Salaries Expense	656		4,500
		Supplies Expense	668		200
f.	31	Income Summary	360	1,950	
		Retained Earnings	340		1,950

P 3–1 Return to Question

Meekins Limited
General Journal

	Date	Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec.31	Prepaid Rent		300	
		Rent Expense			300
		To record prepaid rent at year-end.			
b.	31	Wages Expense		200	
		Wages Payable			200
		To record accrued wages at year-end.			
c.	31	Income Taxes Expense		1,000	
		Income Taxes Payable			1,000
		To record income taxes.			
d.	31	Commissions Earned		1,000	
		Unearned Commissions Revenue			1,000
		To record unearned commissions at year-end.			
e.	31	Other Unearned Revenue		5,000	
		Revenue			5,000
		To adjust unearned revenue to actual at year-end.			
f.	31	Prepaid Advertizing		1,500	
		Advertizing Expense			1,500
		To record prepaid advertizing at year-end.			
g.	31	Depreciation Expense—Equipment		500	
		Accumulated Depreciation—Equipment			500
		To record depreciation expense.			
h.	31	Unused Supplies		225	
		Supplies Expense			225
		To adjust for unused supplies.			
i.	31	Truck Expense		500	
		Accounts Payable			500
		To record accounts payable at year-end.			

P 3–2 Return to Question

Lukas Films Corporation
General Journal

	Date 2018	Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec. 31	Unused Supplies		300	
		Supplies Expense			300
b.	31	Telephone Expense		75	
		Accounts Payable			75
c.	31	Wages Expense		125	
		Wages Payable			125
d.	31	Depreciation Expense—Equipment		100	
		Accumulated Depreciation—Equipment			100
e.	31	Rent Expense		500	
		Prepaid Rent			500
f.	31	Unearned Advertizing Revenue		500	
		Other Revenue			500
g.	31	Prepaid Insurance		450	
		Insurance Expense			450

P 3–3 Return to Question

Mighty Fine Services Inc.
General Journal

Date		Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec. 31	Insurance Expense		200	
		Prepaid Insurance			200
b.	31	Supplies Expense		200	
		Unused Supplies			200
c.	31	Interest Expense		25	
		Interest Payable			25
d.	31	Subscription Revenue		7,500	
		Unearned Subscription Revenue			7,500
		($9,000 x 5/6 mos. = $7,500)			
e.	31	Salaries Expense		300	
		Salaries Payable			300
f.	31	Prepaid Rent		300	
		Rent Expense			300
g.	31	Truck Operating Expense		400	
		Accounts Payable			400

P 3–4

Return to Question

Bill Pitt Corp.
General Journal

	Date 2018	Description	F	Debit	Credit
		<u>Adjusting Entries</u>			
a.	Dec. 31	Depreciation Expense—Truck		150	
		Accumulated Depreciation—Truck			150
		(\$6,000 x 6/48 mos. = \$750 – 600 = \$150)			
b.		No Entry Required			
c.	31	Unused Supplies		300	
		Supplies Expense			300
d.	31	Rent Expense		400	
		Prepaid Rent			400
e	31	Wages Expense		250	
		Wages Payable			250
f.	31	Interest Expense		200	
		Interest Payable			200
		(\$8,000 x 10% = \$800 – 600 = \$200)			
g.	31	Utilities Expense		150	
		Utilities Payable			150
h.	31	Insurance Expense		500	
		Prepaid Insurance			500
		(\$1,200 x 1/12 mos. = \$100 prepaid; \$600 – 100 = \$500)			
i.	31	Unearned Rent Revenue		600	
		Rent Earned			600
j.	31	Commissions Earned		2,000	
		Other Unearned Revenue			2,000

P 3–5

1. Return to Question

Pape Pens Corporation
General Journal

Page 1

	Dec. 2018	Description	F	Debit	Credit
		Adjusting Entries			
a.	Dec.31	Insurance Expense	631	600	
		Prepaid Insurance	161		600
b.	31	Supplies Expense	668	200	
		Unused Supplies	173		200
c.	31	Depreciation Expense-Truck	624	1,000	
		Accumulated Depreciation- Truck	194		1,000
		($8,000 x 6/48 mos. = $1,000)			
d.	31	Salaries Expense	656	200	
		Salaries Payable	226		200
e.	31	Unearned Rent Revenue	248	1,200	
		Rent Earned	440		1,200
f.	31	Telephone Expense	669	100	
		Accounts Payable	210		100
g.	31	Income Taxes Expense	830	300	
		Income Taxes Payable	260		300

P 3–5 continued

2.

Pape Pens Corporation
Adjusted Trial Balance
December 31, 2018

Acct. No.	*Account*	*Balance Debit*	*Balance Credit*
101	Cash	$ 3,300	
110	Accounts receivable	4,000	
161	Prepaid insurance	600	
173	Unused supplies	300	
184	Truck	8,000	
194	Acc. dep. – truck		$ 1,000
210	Accounts payable		5,100
226	Salaries payable		200
248	Unearned rent revenue		1,200
260	Income taxes payable		300
320	Share capital		7,000
350	Dividends	1,000	
410	Commissions earned		16,100
440	Rent earned		1,200
610	Advertizing expense	200	
615	Commissions expense	1,000	
624	Dep. expense – truck	1,000	
631	Insurance expense	600	
632	Interest expense	400	
654	Rent expense	3,600	
656	Salaries expense	7,200	
668	Supplies expense	200	
669	Telephone expense	400	
830	Income taxes expense	300	
		$32,100	$32,100

P 3–5 continued

3.

Pape Pens Corporation
Income Statement
For the Year Ended December 31, 2018

Revenue		
Commissions	$16,100	
Rent	1,200	
Total revenue		$17,300
Expenses		
Advertizing	200	
Commissions	1,000	
Depreciation—truck	1,000	
Insurance	600	
Interest	400	
Rent	3,600	
Salaries	7,200	
Supplies	200	
Telephone	400	
Income taxes	300	
Total expenses		14,900
Net income		$ 2,400

Pape Pens Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total equity*
Balance, beginning of year	$ -0-	$ -0-	$ -0-
Shares issued	7,000	-0-	7,000
Net income		2,400	2,400
Dividends	-0-	(1,000)	(1,000)
Balance, end of year	$7,000	$1,400	$8,400

P 3–5 continued

3. continued

Pape Pens Corporation
Statement of Financial Position
At December 31, 2018

	Assets	
Cash		$ 3,300
Accounts receivable		4,000
Prepaid insurance		600
Unused supplies		300
Truck	$8,000	
Less: Accum. dep.	1,000	7,000
Total assets		$15,200
	Liabilities	
Accounts payable		$5,100
Salaries payable		200
Unearned rent revenue		1,200
Income taxes payable		300
Total liabilities		6,800
	Shareholders' Equity	
Share capital	$7,000	
Retained earnings	1,400	
Total shareholders' equity		8,400
Total liabilities and shareholders' equity		$15,200

P 3–5 continued

4. Pape Pens Corporation

General Journal

Page 2

	Dec. 2018	Description	F	Debit	Credit
		<u>Closing Entries</u>			
1.	Dec. 31	Commissions Earned	410	16,100	
		Rent Earned	440	1,200	
		Income Summary	360		17,300
		To close the revenue account balances.			
2.	31	Income Summary	360	14,900	
		Advertizing Expense	610		200
		Commissions Expense	615		1,000
		Depreciation Expense—Truck	624		1,000
		Insurance Expense	631		600
		Interest Expense	632		400
		Rent Expense	654		3,600
		Salaries Expense	656		7,200
		Supplies Expense	668		200
		Telephone Expense	669		400
		Income Taxes Expense	830		300
		To close the expense account balances.			
3.	31	Income Summary	360	2,400	
		Retained Earnings	340		2,400
		To close the income summary balances to retained earnings.			
4.	31	Retained Earnings	340	1,000	
		Dividends	350		1,000
		To close dividends to retained earnings.			

P 3–5 continued

5.

Pape Pens Corporation
Post-closing Trial Balance
December 31, 2018

Acct. No.	*Account*	*Balance Debit*	*Balance Credit*
101	Cash	$ 3,300	
110	Accounts receivable	4,000	
161	Prepaid insurance	600	
173	Unused supplies	300	
184	Truck	8,000	
194	Acc. dep. – truck		$ 1,000
210	Accounts payable		5,100
226	Salaries payable		200
248	Unearned rent revenue		1,200
260	Income taxes payable		300
320	Share capital		7,000
340	Retained earnings		1,400
		$16,200	$16,200

P 3-6 1., 3., 4., and 6.

Return to Question

Roth Contractors Corporation

Cash

(a)	5,000	(b)	1,200
(g)	800	(e)	1,800
(i)	2,000	(h)	3,450
(m)	2,000	(l)	3,225
	9,800		9,675
Bal.	125		

Accounts Receivable

(f)	4,500	(i)	2,000
(j)	6,500		
	11,000		2,000
Bal.	9,000		

Prepaid Insurance

(e)	1,800	(o)	150
Bal.	1,650		

Prepaid Rent

(b)	1,200	(p)	400
Bal.	800		

Unused Supplies

(q)	350		

Truck

(c)	10,000		

Accounts Payable

		(c)	10,000
		(d)	1,000
		(n)	100
		Bal.	11,100

Wages Payable

		(s)	1,500

Unearned Repair Revenue

		(r)	2,000

Income Taxes Payable

		(u)	500

Accum. Dep'n Truck

		(t)	208

Share Capital

		(a)	5,000

Repair Revenue

(r)	2,000	(f)	4,500
		(g)	800
		(j)	6,500
		(m)	2,000
	2,000		13,800
		Bal.	11,800

Advertizing Expense

(h)	350		
(l)	200		
Bal.	550		

Depreciation Expense-Truck

(t)	208		

Insurance Expense

(o)	150		

Interest Expense

(h)	100		
(l)	150		
Bal.	250		

Income Taxes Expense

(u)	500		

Rent Expense

(p)	400		

Supplies Expense

(d)	1,000	(q)	350
Bal.	650		

Telephone Expense

(h)	75		

Truck Operating Expense

(h)	425		
(l)	375		
Bal.	800		

Utilities Expense

(n)	100		

Wages Expense

(h)	2,500		
(l)	2,500		
(s)	1,500		
Bal.	6,500		

P 3–6 continued

2. Roth Contractors Corporation

General Journal

Page 1

Dec. 2018	Description	F	Debit	Credit
a.	Cash		5,000	
	Share Capital			5,000
b.	Prepaid Rent		1,200	
	Cash			1,200
c.	Truck		10,000	
	Accounts Payable			10,000
d.	Supplies Expense		1,000	
	Accounts Payable			1,000
e.	Prepaid Insurance		1,800	
	Cash			1,800
f.	Accounts Receivable		4,500	
	Repair Revenue			4,500
g.	Cash		800	
	Repair Revenue			800
h.	Advertizing Expense		350	
	Interest Expense		100	
	Telephone Expense		75	
	Truck Operating Expense		425	
	Wages Expense		2,500	
	Cash			3,450
i.	Cash		2,000	
	Accounts Receivable			2,000
j.	Accounts Receivable		6,500	
	Repair Revenue			6,500
l.	Advertizing Expense		200	
	Interest Expense		150	
	Truck Operating Expense		375	
	Wages Expense		2,500	
	Cash			3,225

Roth Contractors Corporation
General Journal continued

Dec. 2018	Description	F	Debit	Credit
m.	Cash		2,000	
	Repair Revenue			2,000
n.	Utilities Expense		100	
	Accounts Payable			100

5.

Roth Contractors Corporation
General Journal

Page 2

Dec. 31 2018	Description	F	Debit	Credit
	Adjusting Entries			
o.	Insurance Expense		150	
	Prepaid Insurance			150
p.	Rent Expense		400	
	Prepaid Rent			400
r.	Unused Supplies		350	
	Supplies Expense			350
q.	Repair Revenue		2,000	
	Unearned Repair Revenue			2,000
r.	Wages Expense		1,500	
	Wages Payable			1,500
t.	Depreciation Expense—Truck		208	
	Accumulated Depreciation—Truck			208
	$10,000/48 mos. = $208 per month (rounded)			
u.	Income Taxes Expense		500	
	Income Taxes Payable			500

P 3-6 continued

7.

Roth Contractors Corporation
Adjusted Trial Balance
December 31, 2018

	Account Balances	
	Debit	*Credit*
Cash	$ 125	
Accounts Receivable	9,000	
Prepaid Insurance	1,650	
Prepaid Rent	800	
Unused Supplies	350	
Truck	10,000	
Accumulated Depreciation—Truck		$ 208
Accounts Payable		11,100
Wages Payable		1,500
Income Taxes Payable		500
Unearned Revenue		2,000
Share Capital		5,000
Repair Revenue		11,800
Advertizing Expense	550	
Depreciation Expense—Truck	208	
Insurance Expense	150	
Interest Expense	250	
Rent Expense	400	
Supplies Expense	650	
Telephone Expense	75	
Truck Operating Expense	800	
Utilities Expense	100	
Wages Expense	6,500	
Income Taxes Expense	500	
	$32,108	$32,108

P 3–6 continued

8. Roth Contractors Corporation
Income Statement
For the Year Ended December 31, 2018

Revenue		
Repairs		$11,800
Expenses		
Advertizing	$ 550	
Depreciation—truck	208	
Insurance	150	
Interest	250	
Rent	400	
Supplies	650	
Telephone	75	
Truck operating	800	
Utilities	100	
Wages	6,500	
Income taxes	500	
Total expenses		10,183
Net income		$ 1,617

Roth Contractors Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total equity*
Balance, beginning of year	$ -0-	$ -0-	$ -0-
Shares issued	5,000	-0-	5,000
Net income		1,617	1,617
Balance, end of year	$5,000	$1,617	$6,617

P 3–6 continued

3. continued

Roth Contractors Corporation
Statement of Financial Position
At December 31, 2018

	Assets	
Cash		$ 125
Accounts receivable		9,000
Prepaid insurance		1,650
Prepaid rent		800
Unused supplies		350
Truck	$10,000	
Less: Accum. dep.	208	9,792
Total assets		$21,717
	Liabilities	
Accounts payable		$11,100
Wages payable		1,500
Unearned repair revenue		2,000
Income taxes payable		500
Total liabilities		15,100
	Shareholders' Equity	
Share capital	$5,000	
Retained earnings	1,617	
Total shareholders' equity		6,617
Total liabilities and shareholders' equity		$21,717

P 3–6 continued

9. Roth Contractors Corporation

General Journal

Page 2

	Dec. 2018	Description	F	Debit	Credit
		<u>Closing Entries</u>			
1.	Dec. 31	Repair Revenue		11,800	
		Income Summary			11,800
		To close the revenue account balances.			
2.	31	Income Summary		10,183	
		Advertizing Expense			550
		Depreciation Expense—Truck			208
		Insurance Expense			150
		Interest Expense			250
		Rent Expense			400
		Supplies Expense			650
		Telephone Expense			75
		Truck Operating Expense			800
		Utilities Expense			100
		Wages Expense			6,500
		Income Taxes Expense			500
		To close the expense account balances.			
3.	31	Income Summary		1,617	
		Retained Earnings			1,617
		To close the income summary balances to retained earnings.			

P 3–6 continued

9. continued

Roth Contractors Corporation
Post-closing Trial Balance
December 31, 2018

	Balance	
Account	*Debit*	*Credit*
Cash	$ 125	
Accounts receivable	9,000	
Prepaid insurance	1,650	
Prepaid rent	800	
Unused supplies	350	
Truck	10,000	
Acc. dep. – truck		$ 208
Accounts payable		11,100
Wages payable		1,500
Unearned repair revenue		2,000
Income taxes payable		500
Share capital		5,000
Retained earnings		1,617
	$21,925	$21,925

P 3-7 Return to Question

1., 3., 4., and 6.

Snow Services Corporation

Cash

Bal.	30,000	(a)	15,000
(b)	12,000	(c)	600
(f)	900	(d)	5,000
(g)	150	(h)	5,000
(i)	1,200	(j)	3,000
	44,250		28,600
Bal.	15,650		

Short-term Investments

(d)	5,000		

Interest Receivable

(q)	50		

Prepaid Insurance

(c)	600	(m)	50
Bal.	550		

Unused Supplies

(o)	200		

Equipment

(h)	5,000		

Truck

(a)	15,000		

Accumulated Depreciation-Equipment

		(r)	104

Accumulated Depreciation-Truck No.194

		(k)	250

Accounts Payable

		(e)	500

Wages Payable

		(t)	150

Unearned Advertizing Revenue

		(p)	600

Unearned Fees Revenue

		(l)	8,000

Unearned Interest Revenue

		(n)	75

Unearned Rent Revenue

		(s)	800

Share Capital

		Bal.	30,000

Other Revenue

(p)	600	(f)	900
		Bal.	300

Interest Earned

(n)	75	(g)	150
		(q)	50
	75		200
		Bal.	125

Rent Earned

(s)	800	(i)	1,200
		Bal.	400

Service Revenue

(l)	8,000	(b)	12,000
		Bal.	4,000

Depreciation Expense Equipment

(r)	104		

Depreciation Expense-Truck

(k)	250		

Insurance Expense

(m)	50		

Supplies Expense

(e)	500	(o)	200
Bal.	300		

Wages Expense

(j)	3,000		
(t)	150		
Bal.	3,150		

P 3–7 continued

2. Snow Services Corporation

General Journal

Page 1

	Jan. 2018	Description	F	Debit	Credit
a.	Jan. 31	Truck		15,000	
		Cash			15,000
b.	31	Cash		12,000	
		Service Revenue			12,000
c.	31	Prepaid Insurance		600	
		Cash			600
d.	31	Short-term investments		5,000	
		Cash			5,000
e.	31	Supplies Expense		500	
		Accounts Payable			500
f.	31	Cash		900	
		Other Revenue			900
g.	31	Cash		150	
		Interest Earned			150
h.	31	Equipment		5,000	
		Cash			5,000
i.	31	Cash		1,200	
		Rent Earned			1,200
j.	31	Wages Expense		3,000	
		Cash			3,000

P 3–7 continued

5. Snow Services Corporation

General Journal

Page 2

Jan 2018		Description	F	Debit	Credit
		<u>Adjusting Entries</u>			
k.	Jan. 31	Depreciation Expense—Truck		250	
		Accumulated Depreciation—Truck			250
		($15,000 x 1/60 mos. = $250)			
l.	31	Service Revenue		8,000	
		Unearned Fees Revenue			8,000
m.	31	Insurance Expense		50	
		Prepaid Insurance			50
n.	31	Interest Earned		75	
		Unearned Interest Revenue			75
o.	31	Unused Supplies		200	
		Supplies Expense			200
p.	31	Other Revenue		600	
		Unearned Advertizing Revenue			600
q.	31	Interest Receivable		50	
		Interest Earned			50
r.	31	Depreciation Expense—Equipment		104	
		Accumulated Depreciation—Equipment			104
		($5,000 x 1/48 mos. = $104 rounded)			
s.	31	Rent Earned		800	
		Unearned Rent Revenue			800
t.	31	Wages Expense		150	
		Wages Payable			150

P 3–7 continued

7. Snow Services Corporation
Adjusted Trial Balance
January 31, 2018

	Account Balances	
	Debit	*Credit*
Cash	$15,650	
Short-term investments	5,000	
Interest receivable	50	
Prepaid insurance	550	
Unused supplies	200	
Equipment	5,000	
Truck	15,000	
Accumulated depreciation—equipment		$ 104
Accumulated depreciation—truck		250
Accounts payable		500
Wages payable		150
Unearned advertizing revenue		600
Unearned fees revenue		8,000
Unearned interest revenue		75
Unearned rent revenue		800
Share capital		30,000
Other revenue		300
Interest earned		125
Rent earned		400
Service revenue		4,000
Depreciation expense—equipment	104	
Depreciation expense—truck	250	
Insurance expense	50	
Supplies expense	300	
Wages expense	3,150	
	$45,304	$45,304

CHAPTER FOUR
The Classified Statement of Financial Position and Related Disclosures

Concept Self-check

1. Economists define wealth as an increase or decrease in the entity's ability to purchase goods and services. Accountants use a more specific measurement—they consider only increases and decreases resulting from actual transactions. If a transaction has not taken place, they do not record a change in wealth.

Return to Question

2. Financial statements are primarily intended for external users.

3. Assets and liabilities are classified as either *current* or *non-current*. The current asset category includes accounts whose future benefits are expected to expire within one fiscal year. Non-current assets consist of PPE, long-term investments like shares of another corporation, and intangible assets like patents. Current liabilities consist of amounts due within one-year on borrowings, accounts payable, and accruals like income taxes payable. Non-current liabilities include items like long-term borrowings. Shareholder's equity is divided into share capital and retained earnings.

4. Current assets are those resources that the entity expects to convert to cash or consume in the upcoming fiscal year or operating cycle, whichever is longer.

5. Non-current assets are assets that will be useful for more than one year or more than one operating cycle, whichever is longer.

6. Current liabilities are obligations that must be paid within the next fiscal year. or normal operating cycle, if this is longer than the fiscal year.

7. Non-current liabilities are borrowings that do not require repayment for more than one year or for more than one operating cycle, whichever is longer.

8. Notes to the financial statements provide relevant details that are not included in the body of the financial statements, like repayment terms of borrowings and depreciation rates of plant and equipment. Notes usually also disclose items like significant accounting policies and assumptions used to prepare the financial statements.

9. The auditor's report is a structured statement issued by an independent examiner, usually a professional accountant, who is contracted by the company to report the audit's findings to the company's board of directors. An audit report provides some assurance to present and potential investors and creditors that the company's financial statements are trustworthy. Therefore, it is a useful means to reduce the risk of their financial decisions.

Concept Self-check continued

10. The report describes management's responsibility for the accurate preparation and presentation of financial statements. This statement underscores the division of duties involved with the publication of financial statements. It clearly states that management is responsible for preparing the financial statements, including estimates that underlie the accounting numbers.

11. The economic resources of Big Dog Carworks Corp. are its assets: cash, accounts receivable, inventories, prepaid expenses and property, plant and equipment.

12. The financial statements are the statement of financial position, the income statement, the statement of changes in equity, and the statement of cash flows. Notes to the financial statements are also included. The statements report the financial position of the company at year-end, the results of operations for the year, changes in share capital and retained earnings, sources and uses of cash during the year, and information in the notes that is not quantifiable or that provides additional supporting information to the financial statements.

13. Fundamentally, accounting measures the financial progress of an entity. The purpose of financial statements is to communicate information about this progress to external users, chiefly investors and creditors.

14. ASSETS = LIABILITIES + SHAREHOLDERS' EQUITY
    $284,645 = 241,145 + 43,500.

15. Net assets equal $43,500 ($284,645 – 241,145). Net assets is synonymous with shareholder's equity. They represent the amount of total assets attributable to the shareholders after taking into account the claims of creditors.

16. The individual assets of Big Dog Carworks Corp. as shown on the statement of financial position are cash, accounts receivable, merchandize inventories, prepaid expenses, and property, plant, and equipment. Its liabilities are borrowings, accounts payable, and income taxes payable.

17. GAEB permit the accountant to report financial information more fairly, objectively, comparably, and relevantly to outside parties who rely on this information. For instance, the use of accrual accounting allows the activities of the company to be divided into meaningful time periods that facilitate the timely analysis of financial performance.

18. Note 3(g) refers to materiality as a consideration in the estimates and assumptions used to recognise assets, liabilities, income, and expenses. The fact that all figures are rounded to the nearest dollar is an application of materiality.

19. Big Dog Carworks Corp. uses the accrual basis of accounting because it records items such as accounts receivable, inventory, and accounts payable.

20. Per Note 3(d), property, plant, and equipment are depreciated on a straight-line basis over their estimated useful lives. Land is not depreciated.

Concept Self-check continued

21. The president's salary is payment for work already done, not for work that will be done. It is likely true that some work the president has done will benefit future periods, but this benefit is too difficult to quantify and involves too much uncertainty to record it as an asset.

22. a. Current asset accounts: Per Note 3(a), revenue and expenses are accrued. This will give rise to current assets like accounts receivable, prepaid expenses, accounts payable, income taxes payable, and accrued liabilities.

    b. Non-current asset accounts: Per Note 3(d), PPE are depreciated at various rate. This would require yearly adjustments to the accounts.

    c. Current liability accounts: income taxes payable are adjusted at the end of the period to reflect the estimated amount of taxes incurred for the period. All expenses that are incurred but not yet paid are added to the unrecorded accrual accounts. Examples are salaries payable for partial periods and interest owed but not yet paid.

    d. Non-current liability accounts: borrowings must be analyzed to determine current and non-current amounts, as shown in Note 5.

23. The accounting process is generally as follows and likely applies to BDCC:
    a. Transactions are analyzed and recorded in the general journal.
    b. The general journal entries are posted to the general ledger accounts.
    c. The equality of debits and credits is established by the trial balance.
    d. The account balances are analyzed, and adjusting entries are prepared.
    e. The adjusting entries are posted to the general ledger accounts.
    f. An adjusted trial balance is prepared to prove the equality of debits and credits.
    g. Closing entries are prepared from the worksheet.
    h. Closing entries are posted to the general ledger.
    i. A post-closing trial balance is prepared.

24. The statement of financial position is classified in order to facilitate the analysis of its information. For instance, comparing amounts that will be needed to be satisfied within the upcoming year (current liabilities) with resources available to satisfy these claims (current assets) allows readers to assess the relative ability of the corporation to meets its short-term obligations as they become due.

25. Big Dog Carworks Corp. makes it easier to compare financial information from period to period by presenting comparative annual financial data for two years.

26. The auditor is H. K. Walker, Chartered Professional Accountant. The audit report states that the financial statements of BDCC have been examined in accordance with generally accepted auditing standards. It also states that, in the auditor's opinion, the statements present fairly the financial position of BDCC and the results of its operations and changes in financial position for the year ended December 31, 2020. There are no concerns raised in the report.

Concept Self-check continued

27. The auditor's report indicates that GAEB have been consistently applied in BDCC's financial statements (see last sentence of the report).

28. Management's responsibilities for financial statements are to:
    a. Ensure that they are prepared in accordance with GAEB, in this case International Financial Reporting Standards.
    b. Ensure their integrity and objectivity.
    c. Establish a system of internal controls to safeguard assets and produce reliable accounting records.

    Though the financial statements are produced under the direction of management, they belong to the shareholders. Shareholders are the beneficial owners of the company.

CP 4–1

Return to Question

Viking Company Ltd.
Statement of Financial Position
At December 31, 2018

Assets		
Current		
Cash	$20	
Accounts receivable	100	
Notes receivable	40	
Prepaid insurance	30	
Unused supplies	10	
Total current assets		$ 200
Property, plant, and equipment		
Land	2,000	
Building	1,000	
Equipment	500	
Net property, plant, and equipment		3,500
Total assets		$3,700
Liabilities		
Current		
Accounts payable	$200	
Bank loan	500	
Salaries payable	60	
Total current liabilities		$ 760
Non-current		
Mortgage payable		1,500
Total liabilities		2,260
Shareholders' Equity		
Share capital	1,200	
Retained earnings	220	
Total shareholders' equity		1,440
Total liabilities and shareholders' equity		$3,700

CP 4–2

Return to Question

Oregon Corporation
Statement of Financial Position
At October 31, 2018

Assets		
Current		
Cash	$2	
Accounts receivable	5	
Inventories	3	
Total current assets		$ 10
Non-current investments		4
Property, plant, and equipment		
Land	200	
Buildings	10	
Equipment	5	
Net property, plant, and equipment		215
Total assets		$229
Liabilities		
Current		
Accounts payable	$30	
Current portion of mortgage payable	4	
Total current liabilities		$34
Non-current		
Mortgage payable		6
Total liabilities		40
Shareholders' Equity		
Share capital	100	
Retained earnings (balancing figure)	89	
Total shareholders' equity		189
Total liabilities and shareholders' equity		$229

P 4-1

Return to Question

1. Equipment is always an asset and in this case non-current asset, as its useful life is likely greater than one fiscal year. Cash is almost always a current asset. Short-term investments are current assets because they are readily marketable, by definition. Notes receivable should be divided into current and non-current portions. Unused supplies are likely current assets, as they are generally used in the next fiscal year. The bank loan is a liability divided into current and non-current portions as indicated. Salaries payable is likely a current liability, as these will be paid in the next fiscal year in all likelihood. The last line on the statement of financial position should read "Total Liabilities and Shareholders' Equity". The statement of financial position lists a building account but not a land account. Sometimes a company owns a building without owning land, but it is more likely that these two assets should have been separated when they were acquired. The building (or land and building) is correctly shown as a current asset as it was sold within one fiscal year of the statement of financial position date. A note to the financial statements would be needed to explain why this item is treated in such an unusual manner. Retained earnings should be shown in the shareholders' equity section.

3. Additional disclosure should be considered for (see BDCC notes in text):
   – treatment of capitalised borrowing costs, if any
   – valuation bases for non-current assets, share capital, and inventory
   – depreciation rates for plant and equipment
   – details about cost and accumulated depreciation amounts for property, plant, and equipment
   – details about debt, including basis of valuation, interest rates, due dates, any assets securing the debt, repayment amounts and intervals, and when terms will be re-negotiated
   – details about share capital.

P 4-1 continued

2.

Abbey Limited
Statement of Financial Position
At November 30, 2018

	Assets	
Current		
Cash	$ 1,000	
Short-term investments	2,500	
Notes receivable	5,000	
Merchandize inventory	3,000	
Unused supplies	100	
Building*	12,000	
Total current assets		$23,600
Non-current notes receivable		1,000
Property, plant, and equipment		
Equipment	2,000	
Truck	1,350	
Net property, plant, and equipment		3,350
Total assets		$27,950
	Liabilities	
Current		
Bank loan	$ 400	
Accounts payable	5,600	
Notes payable	500	
Salaries payable	250	
Current portion of mortgage payable	2,000	
Total current liabilities		$ 8,750
Non-current		
Bank loan	600	
Notes payable	1,500	
Mortgage payable	4,000	
Total non-current liabilities		6,100
Total liabilities		14,850
	Shareholders' Equity	
Share capital	11,100	
Retained earnings	2,000	
Total shareholders' equity		13,100
Total liabilities and shareholders' equity		$27,950

*Land may need to be separated out

P 4-2

Return to Question

1.

	2018	2017
Opening retained earnings		
(2018: given; 2017: derived)	$ 2,000	$ 1,000
Net income (derived)	**6,000**	**1,000**
Dividends (given)	(1,000)	(-0-)
Ending retained earnings (needed to balance)	$7,000	*$2,000

* Retained earnings at the end of 2017 must be the same as the amount at the start of 2018 ($2,000).

2.

Joyes Enterprises Ltd.
Statement of Financial Position
At December 31, 2018
($000)

	2018	2017
Assets		
Current		
Cash	$ 2,000	$ 1,000
Accounts receivable	5,000	3,000
Merchandize inventory	19,000	24,500
Prepaid insurance	1,000	1,000
Notes receivable	1,500	2,000
Total current assets	28,500	31,500
Non-current notes receivable	1,500	-0-
Property, plant, and equipment		
Land	5,000	5,000
Buildings	24,000	20,000
Equipment	16,000	12,000
Net property, plant, and equipment	45,000	37,000
Total assets	$75,000	$68,500
Liabilities		
Current liabilities		
Bank loan*	$ 1,000	$ -0-
Mortgage payable*	2,000	2,000
Accounts payable	7,000	4,000
Income taxes payable	3,000	2,500
Total current liabilities	13,000	8,500
Non-current liabilities		
Bank loan	4,000	5,000
Mortgage payable	3,000	5,000
Total non-current liabilities	7,000	10,000
Total liabilities	20,000	18,500
Shareholders' Equity		
Share capital	48,000	48,000
Retained earnings (per 1. above)	7,000	2,000
Total shareholders' equity	55,000	50,000
Total liabilities and shareholders' equity	$75,000	$68,500

P 4-2 continued

*The mortgage payable declined from $7,000 to $5,000 during 2018. Therefore, the current portion at December 31, 2017 must be $2,000. The bank loan balance did not change during 2018. Therefore, the current portion at December 31, 2017 must be $-0-.

3. Current assets total $28,500. Current liabilities total $13,000. The company appears to have sufficient resources to meet its obligations in 2019.

4. The statement of financial position would show:

	2018	*2017*
Property, plant, and equipment (Note X)	**$**45,000	$37,000

Note X might show:

X. Property, plant, and equipment

Details of the company's property, plant, and equipment and their carrying amounts at December 31 are as follows:

	2018				*2017*
	Land	*Building*	*Equip.*	*Total*	*Total*
Carrying Amount, Jan. 1	$ 5,000	$ 20,000	$ 12,000	$37,000	$ 37,000
Additions	-0-	4,000	4,000	8,000	-0-
Carrying Amount, Dec. 31	$ 5,000	$ 24,000	$ 16,000	$45,000	$ 37,000

(Other presentation formats are acceptable if reasonable and informative.)

P 4-3

Return to Question

_b_ 1. The significant accounting policies, which management believes are appropriate for the company, are described in Note X to the financial statements.

_c_ 2. The financial statements of Acme Supplies Ltd. have been prepared in accordance with International Financial Reporting Standards (IFRS) as issued the International Accounting Standards Boards (IASB).

_b_ 3. Management has established systems of internal control that are designed to provide reasonable assurance that assets are safeguarded from loss or unauthorized use [. . .]

_b_ 4. The board of directors is responsible for ensuring that management fulfils its responsibilities for financial reporting and internal control.

_c_ 5. When preparing the financial statements, management undertakes a number of judgments, estimates, and assumptions about the recognition and measurement of assets, liabilities, income, and expenses. Information about estimates and assumptions that have the most significant effect on recognition and measurement of assets, liabilities, income, and expenses is provided below. Actual results may be substantially different.

_c_ 6. The mortgage is payable to Last Chance Bank. It bears interest at 5% per year and is amortized over 20 years.

P 4-3 continued

_a_ 7. [. . .] the accompanying financial statements of Acme Supplies Ltd., which comprise the statement of financial position as at December 31, 2020, the income statement, statement of changes in equity, and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

_a_ 8. An [. . .] involves performing procedures to obtain [. . .] evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the [. . .] judgment, including assessment of the risks of material misstatement of the financial statements, whether due to fraud or error.

_b_ 9. The accompanying financial statements of the company are the responsibility of management.

_c_ 10. Revenue arises from the rendering of service. It is measured by reference to the fair value of consideration received or receivable.

_c_ 11. The bank loan is due on demand and bears interest at 4% per year. It is secured by real estate of the company.

_b_ 12. The audit committee reviews the annual financial statements and reporting to the board, and makes recommendations with respect to their acceptance.

_b_ 13. Management recognizes its responsibility for conducting the company's affairs in compliance with established financial standards and applicable laws, and maintains proper standards of conduct for its activities.

_a_ 14. My responsibility is to express an opinion on the financial statements based on my audit.

_b_ 15. Estimates are necessary in the preparation of these statements and, based on careful judgments, have been properly reflected.

_a_ 16. I believe that the [. . .] evidence I have obtained is sufficient and appropriate to provide a basis for my [. . .].

_c_ 17. Land held for use in production or administration is stated at cost. Other property, plant, and equipment are initially recognized at acquisition cost plus any costs directly attributable to bringing the assets to the locations and conditions necessary to be employed in operations. They are subsequently measured using the cost model: cost less subsequent depreciation.

_b_ 18. In making those risk assessments, [. . .]considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design [. . .]procedures that are appropriate in the circumstances

_c_ 19. The share capital of Acme Supplies Ltd. consists of fully-paid common shares with a stated value of $1 each.

_c_ 20. The principal activity of Acme Supplies Ltd. is the retail sale of merchandize.

CHAPTER FIVE
Accounting for the Sale of Goods

Concept Self-check

Return to Question

1. A company providing a service holds no inventory for resale. A company that sells goods must match the cost of the goods sold with the revenue the sales generate. The income statement will show this. This includes the calculation of gross profit—the difference between sales and cost of goods sold. A service business income statement would not show these items.

2. Gross profit results from deducting cost of goods sold from sales. For example, if a vehicle is sold for $16,000 but cost $12,000, the gross profit calculation would be

Sales	$16,000
Cost of Goods Sold	12,000
Gross Profit	4,000

The gross profit on the sale is $4,000. The gross profit percentage is $4,000/16,000 or 25 per cent. That is for every $1 of sales, the business earns $.25 on average to cover other expenses.

3. In a perpetual inventory system, the Merchandize Inventory and Cost Of Goods Sold accounts in the general ledger are updated immediately when a purchase or sale of goods occurs.

4. When merchandize inventory is purchased, the cost is recorded in a Merchandize Inventory general ledger account.

5. The amount of a purchase allowance is recorded as a credit to the Merchandize Inventory account and a debit to Accounts Payable (or Cash if the account has been paid and a cheque received.)

6. The term “1/15, n30” means that the amount owing must be paid within 30 days (‘n’ = net). However, if cash payment is made within 15 days, the purchase price will be reduced by 1%.

7. A purchase discount is recorded at the time of payment. Accounts Payable is debited for the full amount. Cash is credited for the net payment (full amount owing minus the purchase discount). Merchandize inventory is credited for the amount of the purchase discount.

8. The sale of merchandize inventory is recorded with two entries:
   a. recording the sale by debiting Cash or Accounts Receivable and crediting Sales, and
   b. recording the cost of the sale by debiting Cost of Goods Sold and crediting Merchandize Inventory.

Concept Self-check continued

9. When a sales return occurs, the sales and related cost of goods sold recorded in the general ledger are reversed, since the goods are returned to inventory.

10. A sales discount is a reduction in sales amounts when a customer pays within a certain time period. Cash is debited for the net amount (amount receivable less sales discount). Accounts Receivable is credited for the full amount. Sales Discounts is debited for the amount of the discount. This account is netted against Sales on the income statement.

11. Usually, a physical count of inventory is conducted at the fiscal year-end and valued. This amount is then compared to the Merchandize Inventory account balance in the general ledger. These should agree, unless inventory has been lost for some reason. This discrepancy is called shrinkage. To adjust for shrinkage, Merchandize Inventory is credited and Cost of Goods Sold is debited.

12. Purchases, purchase discounts and allowances, transportation expenses to deliver goods to the merchandizer, and shrinkage are recorded in the Merchandize Inventory general ledger account under the perpetual inventory system.

13. All items with credit balances are still closed to the Income Summary for a merchandizing company. In a service company, usually this closing entry only includes the Revenue general ledger account. In a merchandizing company, Purchase Returns and Allowances and Purchase Discounts, as well as Sales, will also be closed to the Income Summary, as these all have normal credit balances. Additional accounts with normal debit balances also need to be closed to the Income Summary in a merchandizing company. These include Sales Discounts and Sales Returns and Allowances under a perpetual inventory system.

14. The classified multiple-step income statement shows expenses by both function and nature. The broad categories that show expenses by function include operating expenses, selling expenses, general and administrative expenses, and income taxes. Within each of these categories, the nature of expenses is disclosed such as sales salaries, advertizing, depreciation, supplies, and insurance.

15. Rent revenue, interest and dividends earned, and gains on the sale of property, plant, and equipment are reported under Other Revenues and Expenses because these types of revenue are usually not part of normal operations. Interest expense can also be listed under Other Revenues and Expenses because it does not result from operating activities; it is a financing activity because it is associated with the borrowing of money. Other examples of non-operating expenses include losses on the sale of property, plant, and equipment.

Concept Self-check continued

16. The perpetual inventory system records all transactions affecting the statement of financial position item Merchandize Inventory at the point that these are incurred. These expenditures' include purchases, import duties, discounts and allowances for damage and returns, transportation and handling costs necessary to prepare goods for sale, and subsequent sales of merchandize to customers. The periodic inventory system records all these types of transactions as income statement items. The Merchandize Inventory account is adjusted only at the end of the accounting year. A physical count of goods on hand is conducted, the goods are valued and the Merchandize Inventory account is adjusted accordingly. The advantage of the perpetual inventory system is its relative simplicity and lower administrative costs. The advantage of the perpetual inventory system is that it provides a more accurate inventory valuation at all times. It can be used to compare recorded and actual inventory items on hand at year-end to determine if there are discrepancies due to theft, for instance.

17. The contra accounts associated with Purchases are
    a. Purchase returns and Allowances, which accumulates goods returned to suppliers because of some defect or error; and
    b. Purchase discounts, which accumulates discounts taken when payment is made within a specified discount period.

18. Cost of goods available for sale is calculated by taking opening inventory (counted and valued at the prior period-end), adding the balance from the Purchases account in the, deducting Purchase Returns and Allowances and Purchase Discounts balances, and adding the Transportation-In balance from their general ledger accounts.

19. Cost of goods sold is calculated by taking cost of goods available for sale (see #18 above), and deducting ending inventory (counted and valued at the period-end).

20. Ending inventory is recorded in the accounts of a merchandizer through closing entries. The opening balance in the Merchandizing Inventory (statement of financial position) account is credited and the Income Summary account debited. The ending inventory is counted and valued. This amount is then recorded by debiting the Merchandize Inventory account in the general ledger and crediting the Income Summary account.

CP 5–1

Return to Question

1.

	2021	*2020*	*2019*	*2018*
Sales	$10,000	$9,000	$8,000	$7,000
Cost of Goods Sold	7,500	6,840	6,160	[b] 5,460
Gross Profit	2,500	2,160	1,840	[a] $1,540
Gross Profit Percentage	25%	24%	23%	22%

[a] $7,000 x .22 = $1,540
[b] $7,000 – 1,540 = $5,460

2. Gross profit percentages are increasing steadily each year, as are sales. These are healthy trends.

CP 5–2

Return to Question

Reber Corp.
General Journal

Date 2018	Description	F	Debit	Credit
Jul. 6	Merchandize Inventory	150	600	
	Accounts Payable	210		600
	To record purchase of inventory on account.			
9	Accounts Payable	210	200	
	Merchandize Inventory	150		200
	To record returns made on goods purchased.			
15	Accounts Payable	210	400	
	Cash	101		396
	Purchase Discounts	559		4
	To record payment made within discount period [($600 – 200) x 1% = $4].			

CP 5–3

Return to Question

Boucher Ltd.
General Journal

Date 2017	Description	F	Debit	Credit
Jun. 1	Merchandize Inventory	150	1,200	
	Accounts Payable	210		1,200
	To record inventory purchase.			
3	Accounts Receivable	110	1,500	
	Sales	500		1,500
	Cost of Goods Sold	570	1,200	
	Merchandize Inventory	150		1,200
	To record sale to Wright Inc.: terms 2/10, net 30.			
8	Sales Returns and Allowances	508	800	
	Accounts Receivable	110		800
	Merchandize Inventory	150	600	
	Cost of Goods Sold	570		600
	To record merchandize returned.			
13	Sales Discounts	509	14	
	Cash	101	686	
	Accounts Receivable	110		700
	To record payment received and discount taken [($1,500 – 800) x 2% = $14].			

CP 5–4

Return to Question

1. Horne Inc.:

May 5	Accounts Receivable	4,000	
	Sales		4,000
	Cost of Goods Sold	2,500	
	Merchandize Inventory		2,500
	To record sale on account to Sperling.		
May 7	Sales Returns and Allowances	500	
	Accounts Receivable		500
	Merchandize Inventory	300	
	Cost of Goods Sold		300
	To record return of items from Sperling.		
May 15	Cash	3,430	
	Sales Discounts	70	
	Accounts Receivable		3,500
	To record payment by Sperling: discount applied.		
Dec. 31	Cost of Goods Sold	100	
	Merchandize Inventory		100
	To adjust the Merchandize Inventory account at year-end to physical count ($3,000 – 2,500 + 300 = $800 per records - $700 per count = $100 adjustment needed for shrinkage.)		

2. Sperling Renovations Ltd:

May 5	Merchandize Inventory	4,000	
	Accounts Payable		4,000
	To record purchase on account from Horne.		
May 7	Accounts Payable	500	
	Merchandize Inventory		500
	To record return of merchandize to Horne.		
May 15	Accounts Payable	3,500	
	Merchandize Inventory	70	
	Cash		3,430
	To record payment to Horne: discount taken.		

CP 5–5

Return to Question

1.

Smith Corp.
Income Statement
For the Year Ended June 20, 2018

Sales		$72,000
Less: Sales returns and allowances		(2,000)
Net sales		70,000
Cost of goods sold		50,000
Gross profit		20,000
Selling expenses		
Advertizing	$1,500	
Commissions	4,000	
Delivery	1,000	
Insurance	1,000	
Rent	2,500	
Salaries	5,000	15,000
Net income		$ 5,000

2. Gross profit percentage = $20,000/70,000 = 28.6%

CP 5–6

Return to Question

(a)

Dec. 31	Sales	500	72,000	
	Income Summary	360		72,000
	To close all income statement accounts with credit balances to the Income Summary account.			

(b)

Dec. 31	Income Summary	360	67,000	
	Advertizing Expense	610		1,500
	Commissions Expense	615		4,000
	Cost of Goods Sold	570		50,000
	Delivery Expense	620		1,000
	Insurance Expense	631		1,000
	Rent Expense	654		2,500
	Salaries Expense	656		5,000
	Sales Returns and Allowances	508		2,000
	To close all income statement accounts with debit balances to the Income Summary and remove opening inventory from the Merchandize Inventory account.			

(c)

Dec. 31	Income Summary	360	5,000	
	Retained Earnings	340		5,000
	To close the Income Summary account to the Retained Earnings account.			

CP 5–7

Return to Question

Opening Inventory + Purchases + Transportation-In = Cost of Goods Available
Cost of Goods Available - Ending Inventory = Cost of Goods Sold

A. ? + $1,415 + $25 = $1,940
   Opening Inventory = $500

   $1,940 = $340 = ?
   Cost of Goods Sold = $1,600

B. $184 + ? + $6 = $534
   Purchases = $344

   $534 - $200 = ?
   Cost of Goods Sold = $334

C. $112 + $840 + $15 = ?
   Cost of Goods Available = $967

   $967 - $135 = ?
   Cost of Goods Sold = $832

D. $750 + $5,860 + ? = $6,620
   Transportation-In = $10

   $6,620 - ? = $5,740
   Ending Inventory = $880

CP 5–8

Return to Question

Opening inventory		$ 375
Purchases	$2,930	
Purchase discounts	(5)	
Purchase returns and allowances	(20)	
Transportation-in	105	
Goods available for sale		3,010
Less: Ending inventory		(440)
Cost of goods sold		$2,945

CP 5–9

Return to Question

1.

	A	*B*	*C*	*D*
Sales (a)	$300	$150	$300 [8]	$ 90
Opening Inventory	80 [1]	40	40	12
Purchases	240	120 [6]	220 [7]	63
Cost of Goods Available	320	160 [5]	260	75 [9]
Less: Ending Inventory	(120) [3]	(60)	(60)	(15)
Cost of Goods Sold	200 [2]	100	200	60
Gross Profit (b)	$100	$ 50 [4]	$100	$ 30 [10]
Gross Profit percentage (a/b)	33%	33%	33%	33%

[1] $320 – 240 = $80
[2] $300 – 100 = $200
[3] $320 – 200 = $120
[4] $150 – 100 = $50
[5] $100 + 60 = $160
[6] $160 – 40 = $120
[7] $260 – 40 = $220
[8] $100 + 200 = $300
[9] $12 + 63 = $75
[10] $90 – 60 = $30

2. All the companies have the same gross profit percentage. It is difficult to differentiate performance on this basis alone.

CP 5–10

Return to Question

1.

Mohan Corp.
Income Statement
For the Year Ended December 31, 2018

Sales		$25,000
Less: Sales discounts		(400)
Sales returns and allowances		(2,000)
Net sales		22,600
Cost of goods sold		
Purchases	$20,000	
Purchase returns and allowances	(1,000)	
Purchase discounts	(300)	
Transportation-in	500	
Cost of goods available for sale	19,200	
Less: Ending inventory	(7,900)	
Cost of goods sold		11,300
Gross profit		$11,300

2. Gross profit percentage = $11,300/$22,600 = 50%

CP 5–11

Return to Question

1.

O'Donnell Corp.
Income Statement
For the Year Ended June 30, 2018

Sales		$72,000
Less: Sales returns and allowances		(2,000)
Net sales		70,000
Cost of goods sold		
Opening inventory	$ 6,000	
Purchases	35,000	
Purchase returns and allowances	(2,000)	
Transportation-in	1,000	
Cost of goods available for sale	40,000	
Less: Ending inventory	(10,000)	
Cost of goods sold		30,000
Gross profit		40,000
Selling expenses		
Advertizing	1,500	
Commissions	4,000	
Delivery	1,000	
Insurance	1,000	
Rent	2,500	
Salaries	5,000	15,000
Net income		$25,000

2. Gross profit percentage = $40,000/70,000 = 57.1%

CP 5–12

Return to Question

(a)

Dec. 31	Merchandize Inventory (ending)	150	10,000	
	Sales	500	72,000	
	Purchase Returns and Allowances	558	2,000	
	Income Summary	360		84,000
	To close all income statement accounts with credit balances to the Income Summary account and record ending inventory balance.			

(b)

Dec. 31	Income Summary	360	59,000	
	Merchandize Inventory (opening)	150		6,000
	Advertizing Expense	610		1,500
	Commissions Expense	615		4,000
	Delivery Expense	620		1,000
	Insurance Expense	631		1,000
	Purchases	550		35,000
	Rent Expense	654		2,500
	Salaries Expense	656		5,000
	Sales Returns and Allowances	508		2,000
	Transportation-In	560		1,000
	To close all income statement accounts with debit balances to the Income Summary and remove opening inventory from the Merchandize Inventory account.			

(c)

Dec. 31	Income Summary	360	15,000	
	Retained Earnings	340		15,000
	To close the Income Summary account to the Retained Earnings account.			

CP 5–13

Return to Question

1. Sherman Stores Ltd:

Oct.	8	Purchases	2,800	
		Accounts Payable		2,800
	12	Accounts Payable	800	
		Purchase Returns and Allowances		800

a. Paid on Oct. 8:

Oct.	8	Accounts Payable	2,800	
		Purchase Discounts		28
		Cash		2,772

b. Paid on Oct. 25:

Oct.	25	Accounts Payable	2,000	
		Cash		2,000

2. Morris Wholesalers Corp.:

Oct.	8	Accounts Receivable	2,800	
		Sales		2,800
	12	Sales Returns and Allowances	800	
		Accounts Receivable		800

a. Received payment on Oct. 18:

Oct.	18	Cash	2,772	
		Sales Discounts	28	
		Accounts Receivable		2,800

b. Received payment on Oct. 25:

Oct.	25	Cash	2,000	
		Accounts Receivable		2,000

P 5–1

1. Return to Question

Salem Corp.
General Journal
Page 1

Date 2018	Description	F	Debit	Credit
Jul. 2	Cash	101	5,000	
	Share Capital	320		5,000
	To record the issue of shares to George Salem.			
2	Merchandize Inventory	150	3,500	
	Accounts Payable	210		3,500
	To record purchases on credit 2/10, n/30, from Blic Pens, Ltd.			
2	Accounts Receivable	110	2,000	
	Sales	500		2,000
	Cost of Goods Sold	570	1,200	
	Merchandize Inventory	150		1,200
	To record sale to Spellman Chair Rentals, Inc. 2/10, n/30.			
3	Rent Expense	654	500	
	Cash	101		500
	To record July rent payment.			
5	Equipment	183	1,000	
	Cash	101		1,000
	To record purchase of equipment from Easton Furniture Ltd.			
8	Cash	101	200	
	Sales	500		200
	Cost of Goods Sold	570	120	
	Merchandize Inventory	150		120
	To record sale and receipt of cash from Ethan Matthews Furniture Ltd.			
8	Merchandize Inventory	150	2,000	
	Accounts Payable	210		2,000
	To record purchases on credit 2/15, n/30, from Shaw Distributors, Inc.			
9	Cash	101	1,960	
	Sales Discount	509	40	
	Accounts Receivable	110		2,000
	To record receipt of amount due from Spellman Chair Rentals, Inc.			
10	Accounts Payable	210	3,500	
	Cash	101		3,430
	Merchandize Inventory	150		70
	To record payment to Blic Pens Ltd.			
10	Merchandize Inventory	150	200	
	Accounts Payable	210		200
	To record purchases on credit n/30, from Peel Products, Inc.			

P 5–1 continued

Salem Corp.
General Journal
Page 2

Date 2018	Description	F	Debit	Credit
July 15	Accounts Receivable	110	2,000	
	Sales	500		2,000
	Cost of Goods Sold	570	1,300	
	Merchandize Inventory	150		1,300
	To record sale to Eagle Products Corp. 2/10, n/30.			
15	Merchandize Inventory	150	1,500	
	Accounts Payable	210		1,500
	To record purchases on credit 2/10, n/30, from Bevan Door, Inc.			
15	Accounts Payable	210	100	
	Merchandize Inventory	150		100
	To record credit note from Shaw Distributors Inc.			
16	Sales Returns and Allowances	508	200	
	Accounts Receivable	110		200
	Merchandize Inventory	150	150	
	Cost of Goods Sold	570		150
	To record credit note issued to Eagle Products Corp.			
20	Accounts Receivable	110	3,500	
	Sales	500		3,500
	Cost of Goods Sold	570	2,700	
	Merchandize Inventory	150		2,700
	To record sale to Aspen Promotions, Ltd. 2/10, n/30.			
20	Accounts Payable	210	950	
	Cash	101		931
	Merchandize Inventory	150		19
	To record payment of half of the amount due to Shaw Distributors Inc.			
24	Cash	101	882	
	Sales Discounts	509	18	
	Accounts Receivable	110		900
	To record receipt of half of the amount due from Eagle Products Corp.			
24	Accounts Payable	210	1,500	
	Cash	101		1,470
	Merchandize Inventory	150		30
	To record payment made to Bevan Door, Inc.			
26	Accounts Receivable	110	600	
	Sales	500		600
	Cost of Goods Sold	570	400	
	Merchandize Inventory	150		400
	To record sale to Longbeach Sales, Ltd. for terms 2/10, n/30.			

P 5–1 continued

Salem Corp.
General Journal

Page 3

Date 2017	Description	F	Debit	Credit
26	Merchandize Inventory	150	800	
	Accounts Payable	210		800
	To record purchase from Silverman Co. for terms 2/10, n/30.			
31	Merchandize Inventory	150	350	
	Cash	101		350
	To record payment to Speedy Transport Co. for July.			

2. The unadjusted ending inventory balance at July 31 is $2,561, calculated as follows:

Merchandize Inventory

July 2	3,500	1,200	July 2
8	2,000	120	8
10	200	70	10
15	1,500	1,300	15
16	150	100	15
26	800	2,700	20
31	350	19	24
		30	24
		400	26
	8,500	5,939	
Unadj. Bal.	**2,561**		
		161	Adj. needed
Adj. Bal.	2,400		

Salem Corp.
General Journal

Page 3

Date 2018	Adjusting Entry	F	Debit	Credit
July 31	Cost of Goods Sold	570	161	
	Merchandize Inventory	150		161
	To record shrinkage and adjust ending inventory to July 31 count.			

P 5–2

1. Return to Question

Randall Sales Corp.
General Journal

Page 1

Date 2018	Description	F	Debit	Credit
May 1	Cash	101	2,000	
	Share Capital	320		2,000
	To record the issue of shares to Harry Randall.			
1	Cash	101	10,000	
	Bank Loan	201		10,000
	To record receipt of a demand loan from First Chance Bank.			
1	Prepaid Rent	162	1,500	
	Cash	101		1,500
	To record payment of rent for May, June, and July to Viva Corp.			
1	Equipment	183	5,000	
	Cash	101		5,000
	To record payment to Avanti Equipment, Ltd.			
1	Merchandize Inventory	150	5,000	
	Accounts Payable	210		5,000
	To record purchases from Renaud Wholesalers, Ltd. for terms 2/10, n/30.			
1	Accounts Receivable	110	2,500	
	Sales	500		2,500
	Cost of Goods Sold	570	1,700	
	Merchandize Inventory	150		1,700
	To record sale to North Vancouver Distributors for terms 2/10, n/30.			
2	Merchandize Inventory	150	1,800	
	Accounts Payable	210		1,800
	To record purchase from Lilydale Products, Ltd. for terms n/30.			
2	Accounts Receivable	110	2,000	
	Sales	500		2,000
	Cost of Goods Sold	570	1,400	
	Merchandize Inventory	150		1,400
	To record sale to Tarrabain Sales, Inc. for terms 2/10, n/30.			
3	Cash	101	500	
	Sales	500		500
	To record sale to Smith Weston Ltd.			
5	Prepaid Insurance	161	1,200	
	Cash	101		1,200
	To record payment to All West Insurance, Inc. for a one–year policy.			
5	Accounts Receivable	110	1,000	
	Sales	500		1,000
	Cost of Goods Sold	570	700	
	Merchandize Inventory	150		700
	To record sale to Trent Stores Corporation for terms 2/10, n/30.			

P 5–2 continued

Randall Sales Corp.
General Journal
Page 2

Date 2018	Description	F	Debit	Credit
May 6	Sales Returns and Allowances	508	500	
	Accounts Receivable	110		500
	Merchandize Inventory	150	300	
	Cost of Goods Sold			300
	To record the issue of a credit note to Tarrabain Sales Inc..			
8	Accounts Payable	210	300	
	Merchandize Inventory	150		300
	To record credit memo received from Renaud Wholesalers Ltd. for defective merchandize returned.			
8	Merchandize Inventory	150	2,800	
	Accounts Payable	210		2,800
	To record purchases from Pinegrove Novelties, Ltd. for terms 2/15, n/30.			
9	Cash		101	2,450
	Sales Discounts	509	50	
	Accounts Receivable	110		2,500
	To record amount received from North Vancouver Distributors.			
9	Accounts Payable	210	1,700	
	Cash	101		1,666
	Merchandize Inventory	150		34
	To record payment to Renaud Wholesaler Corp. (2,000 - 300 = 1,700)			
10	Accounts Receivable	110	400	
	Sales	500		400
	Cost of Goods Sold	570	250	
	Merchandize Inventory	150		250
	To record sale to Eastern Warehouse for terms 2/10, n/30.			
11	Cash		101	1,470
	Sales Discounts	509	30	
	Accounts Receivable	110		1,500
	To record receipt from Tarrabain Sales Inc. after 2% discount taken.			
13	Merchandize Inventory	150	100	
	Cash	101		100
	To record payment to Fast Delivery Corporation.			
15	Merchandize Inventory	150	1,500	
	Accounts Payable	210		1,500
	To record purchase from James Bay Distributors Inc. for terms 2/10, n/30.			

P 5–2 continued

Randall Sales Corp.
General Journal

Page 3

Date 2018	Description	F	Debit	Credit
May 15	Accounts Receivable	110	1,500	
	Sales	500		1,500
	Cost of Goods Sold	570	1,100	
	Merchandize Inventory	150		1,100
	To record sale to Ransom Outlets Inc. for terms 2/10, n/30.			
15	Commissions Expense	615	500	
	Cash	101		500
	To record payment to Yvonne Smith for sales invoices 1, 2, and 3.			
19	Accounts Payable	210	1,800	
	Cash	101		1,800
	To record payment to Lilydale Products Inc.			
19	Merchandize Inventory	150	1,200	
	Accounts Payable	210		1,200
	To record purchase from Midlife Stores Corp. for terms 1/10, n/30.			
22	Merchandize Inventory	150	600	
	Accounts Payable	210		600
	To record purchase from Speedy Sales Co. for terms n/30.			
22	Accounts Payable	210	2,800	
	Cash	101		2,744
	Merchandize Inventory	150		56
	To record payment to Pinegrove Novelties Inc.			
24	Merchandize Inventory	150	150	
	Cash	101		150
	To record payment to In Transit Corporation.			
25	Accounts Receivable	110	900	
	Sales	500		900
	Cost of Goods Sold	570	650	
	Merchandize Inventory	150		650
	To record sale to Timmins Centres Ltd. for terms 2/10, n/30.			
26	Cash		101	1,000
	Accounts Receivable	110		1,000
	To record receipt from Trent Stores Corporation.			
27	Delivery Expense	620	200	
	Cash	101		200
	To record payment to Intown Deliveries Ltd.			

P 5–2 continued

Randall Sales Corp.
General Journal
Page 4

Date 2018	Description	F	Debit	Credit
May 28	Cash	101	300	
	Sales	500		300
	Cost of Goods Sold	570	250	
	Merchandize Inventory	150		250
	To record sale to Betty Regal.			
28	Purchases	500	200	
	Cash	101		200
	To record purchase from Joe Balla Sales Inc.			
28	Accounts Receivable	110	900	
	Sales	500		900
	Cost of Goods Sold	570	700	
	Merchandize Inventory	150		700
	To record sale to Sault Rapids Corp. for terms 2/10, n/30.			
29	Merchandize Inventory	150	100	
	Accounts Payable	210		100
	To record purchase from Amigos Inc.			
29	Delivery Expense	620	300	
	Cash	101		300
	To record payment to Intown Deliveries Ltd.			
29	Advertizing Expense	610	400	
	Cash	101		400
	To record payment for May to Main Force Advertizing Agency.			
29	Utilities Expense	676	100	
	Cash	101		100
	To record payment to State Hydro for electricity.			
29	Commissions Expense	615	350	
	Cash	101		350
	To record payment to Yvonne Smith for sales invoices 4, 5, 6, and 7.			
30	Cash	101	1,000	
	Accounts Receivable	110		1,000
	To record payment received from Ransom Outlets Inc.			
31	Accounts Payable	210	700	
	Cash	101		700
	To record payment to Midlife Stores Corp.			

P 5–2 continued

Randall Sales Corp.
General Journal

Page 5

2018	Adjusting Entries		Debit	Credit
May 31	Rent Expense	165	500	
	Prepaid Rent	162		500
	To record expiration of May prepaid rent.			
31	Insurance Expense	631	100	
	Prepaid Insurance	161		100
	To record expiration of May prepaid insurance.			
31	Cost of Goods Sold	570	110	
	Merchandize Inventory	150		110*
	To record shrinkage and ending inventory at May 31 per physical count as follows:			

Merchandize Inventory

May 1	5,000	1,700	May 1
2	1,800	1,400	2
6	300	700	5
8	2,800	300	8
13	100	34	9
15	1,500	250	10
19	1,200	1,100	15
22	600	56	22
24	150	650	25
28	200	250	28
29	100	700	28
	13,750	7,140	
Unadj. Bal.	6,610		
		110	*Adj. needed
Adj. Bal.	6,500		

P 5–3

1. Return to Question

Whirlybird Products Inc.
General Ledger

Retained Earnings *No. 340*

		(c)	5,000

Sales *No. 510*

(a)	37,800		37,800
Bal.	-0-		

Income Summary *No. 360*

(b)	32,800	(a)	37,800
(c)	5,000		
Bal.	-0-		

Sales Returns & Allowances *No. 508*

	690	(b)	690
Bal.	-0-		

Sales Discounts *No. 509*

	310	(b)	310
Bal.	-0-		

Cost of Goods Sold *No. 570*

	26,800	(b)	26,800
Bal.	-0-		

Salaries Expense *No. 656*

	5,000	(b)	5,000
Bal.	-0-		

2. Gross profit = $37,800 – 690 – 310 – 26,800 = $10,000.

P 5–4

1.

Return to Question

Southern Cross Corporation
Income Statement
For the Year Ended December 31, 2018

Sales		$100,000
Less: Sales returns and allowances		10,000
Net sales		90,000
Cost of goods sold		70,000
Gross profit		20,000
Other expenses		
Delivery	$2,000	
Office supplies	7,000	
Salaries	4,000	13,000
Net income		$ 7,000

2.

Southern Cross Corporation
General Journal

Date 2018	Closing Entries	F	Debit	Credit
	(a)			
Dec. 31	Sales	500	100,000	
	Income Summary	360		100,000
	To close accounts with credit balances to the Income Summary.			
	(b)			
Dec 31	Income Summary	360	93,000	
	Sales Returns and Allowances	508		10,000
	Cost of Goods Sold	570		70,000
	Delivery Expense	620		2,000
	Office Supplies Expense	650		7,000
	Salaries Expense	656		4,000
	To close accounts with debit balances to the Income Summary.			
	(c)			
Dec. 31	Income Summary	360	7,000	
	Retained Earnings	340		7,000
	To close Income Summary account to the Retained Earnings account.			

P 5–5

1.

Return to Question

Acme Automotive Inc.
General Journal

	Date 2017	Description	F	Debit	Credit
a.	Dec. 31	Accounts Receivable	110	1,000	
		Sales	500		1,000
		Cost of Goods Sold	570	700	
		Merchandize Inventory	150		700
		To accrue amounts receivable at year-end.			
b.	31	Unused Office Supplies	170	100	
		Office Supplies Expense	650		100
		To adjust supplies still on hand at year-end to count.			
c.	31	Telephone Expense	669	460	
		Accounts Payable	210		460
		To accrue amount owing at year-end.			
d.	31	Cost of Goods Sold	570	2,300	
		Merchandize Inventory	150		2,300
		To record shrinkage and adjust ending inventory balance to physical count as follows:			

Merchandize Inventory

Unadj. Bal.	56,000	700	(a)
	55,300		
		2,300	Adj. needed
Adj. Bal.	53,000		

P 5–5 continued

2.

Acme Automotive Inc.
Income Statement
For the Year Ended December 31, 2017

Sales		$101,000
Less: Sales returns and allowances		(1,500)
Sales discounts		(500)
Net sales		99,000
Cost of goods sold		37,000
Gross profit		62,000
Operating expenses		
Selling		
Advertizing	$1,700	
Commissions	4,800	
Delivery	650	
Rent	1,950	
Total selling	9,100	
General and administrative		
Insurance	450	
Office supplies	150	
Telephone	760	
Utilities	290	
Total general and administrative	1,650	
Total operating expenses		10,750
Income from operations		51,250
Interest		600
Income before income taxes		50,650
Income taxes		2,400
Net income		$48,250

Acme Automotive Inc.
Statement of Changes in Equity
For the Year Ended December 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Balance, Jan. 1	$2,000	$ 600	$ 2,600
Net income		48,250	48,250
Balance, Dec. 31	$2,000	$48,850	$50,850

P 5–5 continued

Acme Automotive Inc.
Statement of Financial Position
At December 31, 2017

Assets		
Current		
Cash		$ 750
Accounts receivable		13,000
Merchandize inventory		53,000
Unused supplies		100
Total current		66,850
Equipment		4,400
Total assets		$71,250
Liabilities		
Current		
Bank loan		$ 5,000
Accounts payable		13,000
Income taxes payable		2,400
Total liabilities		20,400
Shareholders' Equity		
Share capital	2,000	
Retained earnings	48,850	50,850
Total liabilities and share. equity		$71,250

P 5–5 continued

3.

Acme Automotive Inc.
General Journal

Date 2017		Description	F	Debit	Credit
		Closing Entries			
e.	Dec. 31	Sales	500	101,000	
		Income Summary	360		101,000
		To close all credit balance accounts to the Income Summary account.			
f.	31	Income Summary	360	52,750	
		Sales Returns and Allowances	508		1,500
		Sales Discounts	509		500
		Cost of Goods Sold	570		37,000
		Advertizing Expense	610		1,700
		Commissions Expense	615		4,800
		Delivery Expense	620		650
		Insurance Expense	631		450
		Interest Expense	632		600
		Office Supplies Expense	650		150
		Rent Expense	654		1,950
		Telephone Expense	669		760
		Utilities Expense	676		290
		Income Taxes Expense	830		2,400
		To close all debit balance accounts to the Income Summary account.			
g.	31	Income Summary	360	48,250	
		Retained Earnings	340		48,250
		To close the Income Summary account to the Retained Earnings account.			

P 5–6

Return to Question

Providence Corp.
General Journal

Page 1

Date 2018	Description	F	Debit	Credit
Jul. 2	Cash	101	5,000	
	Share Capital	320		5,000
	To record the issue of shares to Pam Providence.			
2	Purchases	550	3,500	
	Accounts Payable	210		3,500
	To record Purchases on credit 2/10, n/30, from Blic Pens Ltd.			
2	Accounts Receivable	110	2,000	
	Sales	500		2,000
	To record sale to Spellman Chair Rentals Inc. 2/10, n/30.			
3	Rent Expense	654	500	
	Cash	101		500
	To record July rent payment.			
5	Equipment	183	1,000	
	Cash	101		1,000
	To record purchase of equipment.			
8	Cash	101	200	
	Sales	500		200
	To record receipt of cash from Ethan Matthews Furniture Ltd.			
8	Purchases	550	2,000	
	Accounts Payable	210		2,000
	To record Purchases on credit 2/15, n/30, from Shaw Distributors Inc.			
9	Cash	101	1,960	
	Sales Discount	509	40	
	Accounts Receivable	110		2,000
	To record receipt of amount due from Spellman Chair Rentals Inc.			
10	Accounts Payable	210	3,500	
	Cash	101		3,430
	Purchase Discounts	559		70
	To record payment to Blic Pens Ltd.			
10	Purchases	550	200	
	Accounts Payable	210		200
	To record Purchases on credit n/30, from Peel Products Inc.			
15	Accounts Receivable	110	2,000	
	Sales	500		2,000
	To record sale to Eagle Products Corp. 2/10, n/30.			

P 5–6 continued

Providence Corp.
General Journal
Page 2

Date 2018	Description	F	Debit	Credit
July 15	Purchases	550	1,500	
	Accounts Payable	210		1,500
	To record purchases on credit 2/10, n/30, from Bevan Door Inc.			
15	Accounts Payable	210	100	
	Purchase Returns and Allowances	558		100
	To record credit note from Shaw Distributors Inc.			
16	Sales Returns and Allowances	508	200	
	Accounts Receivable	110		200
	To record credit note issued to Eagle Products Corp.			
20	Accounts Receivable	110	3,500	
	Sales	500		3,500
	To record sale to Aspen Promotions Ltd. 2/10, n/30.			
20	Accounts Payable	210	950	
	Cash	101		931
	Purchase Discounts	559		19
	To record payment of half of the amount due to Shaw Distributors Inc.			
24	Cash		101	882
	Sales Discounts	509	18	
	Accounts Receivable	110		900
	To record receipt of half of the amount due from Eagle Products Corp.			
24	Accounts Payable	210	1,500	
	Cash	101		1,470
	Purchase Discounts	559		30
	To record payment made to Bevan Door Inc.			
26	Accounts Receivable	110	600	
	Sales	500		600
	To record sale to Longbeach Sales Ltd. for terms 2/10, n/30.			
26	Purchases	550	800	
	Accounts Payable	210		800
	To record purchase from Silverman Co. for terms 2/10, n/30.			
31	Transportation-In	560	350	
	Cash	101		350
	To record payment to Speedy Transport Co. for July.			
31	No entry is made to record inventory on hand until closing entries are made.			

P 5–7

Return to Question

Robert Sales Corp.
General Journal

Page 1

Date 2018	Description	F	Debit	Credit
May 1	Cash	101	2,000	
	Share Capital	320		2,000
	To record the issue of shares to Rob Robert.			
1	Cash	101	10,000	
	Bank Loan	201		10,000
	To record receipt of a demand loan from First Chance Bank.			
1	Prepaid Rent	162	1,500	
	Cash	101		1,500
	To record payment of rent for May, June, and July.			
1	Equipment	183	5,000	
	Cash	101		5,000
	To record payment to Avanti Equipment Ltd.			
1	Purchases	550	5,000	
	Accounts Payable	210		5,000
	To record purchases from Renaud Wholesalers Ltd. for terms 2/10, n/30.			
1	Accounts Receivable	110	2,500	
	Sales	500		2,500
	To record sale to North Vancouver Distributors for terms 2/10, n/30.			
2	Purchases	550	1,800	
	Accounts Payable	210		1,800
	To record purchase from Lilydale Products Ltd. for terms n/30.			
2	Accounts Receivable	110	2,000	
	Sales	500		2,000
	To record sale to Tarrabain Sales Inc. for terms 2/10, n/30.			
3	Cash	101	500	
	Sales	500		500
	To record sale to Smith Weston Ltd.			
5	Prepaid Insurance	161	1,200	
	Cash	101		1,200
	To record payment to All West Insurance Inc. for a one–year policy.			
5	Accounts Receivable	110	1,000	
	Sales	500		1,000
	To record sale to Trent Stores Corporation for terms 2/10, n/30.			

P 5–7 continued

Robert Sales Corp.
General Journal
Page 2

Date 2018	Description	F	Debit	Credit
May 6	Sales Returns and Allowances	508	500	
	Accounts Receivable	110		500
	To record the issue of a credit note to Tarrabain Sales Inc. for merchandize returned.			
8	Accounts Payable	210	300	
	Purchase Returns and Allowances	558		300
	To record credit memo received from Renaud Wholesalers Corp. for defective merchandize returned.			
8	Purchases	550	2,800	
	Accounts Payable	210		2,800
	To record purchases from Pinegrove Novelties Ltd. for terms 2/15, n/30.			
9	Cash	101	2,450	
	Sales Discounts	509	50	
	Accounts Receivable	110		2,500
	To record amount received from North Vancouver Distributors.			
9	Accounts Payable	210	1,700	
	Cash	101		1,666
	Purchase Discounts	559		34
	To record payment to Renaud Wholesalers Ltd. (2,000 - 300 = 1,700)			
10	Accounts Receivable	110	400	
	Sales	500		400
	To record sale to Eastern Warehouse for terms 2/10, n/30.			
11	Cash	101	1,470	
	Sales Discounts	509	30	
	Accounts Receivable	110		1,500
	To record receipt from Tarrabain Sales Inc. after 2% discount taken.			
13	Transportation-In	560	100	
	Cash	101		100
	To record payment to Fast Delivery Corporation.			
15	Purchases	550	1,500	
	Accounts Payable	210		1,500
	To record purchase from James Bay Distributors Inc. for terms 2/10, n/30.			
15	Accounts Receivable	110	1,500	
	Sales	500		1,500
	To record sale to Ransom Outlets Inc. for terms 2/10, n/30.			

P 5–7 continued

Robert Sales Corp.
General Journal

Page 3

Date 2018	Description	F	Debit	Credit
May 15	Commissions Expense	615	500	
	Cash	101		500
	To record payment to Yvonne Smith for sales invoices 1, 2, and 3.			
19	Accounts Payable	210	1,800	
	Cash	101		1,800
	To record payment to Lilydale Products Inc.			
19	Purchases	550	1,200	
	Accounts Payable	210		1,200
	To record purchase from Midlife Stores Corp. for terms 1/10, n/30.			
22	Purchases	550	600	
	Accounts Payable	210		600
	To record purchase from Speedy Sales Co. for terms n/30.			
22	Accounts Payable	210	2,800	
	Cash	101		2,744
	Purchase Discounts	559		56
	To record payment to Pinegrove Novelties Inc.			
24	Transportation-In	560	150	
	Cash	101		150
	To record payment to In Transit Corporation.			
25	Accounts Receivable	110	900	
	Sales	500		900
	To record sale to Timmins Centres Ltd. for terms 2/10, n/30.			
26	Cash	101	1,000	
	Accounts Receivable	110		1,000
	To record receipt from Trent Stores Corporation.			
27	Delivery Expense	620	200	
	Cash	101		200
	To record payment to Intown Deliveries Ltd.			
28	Cash	101	300	
	Sales	500		300
	To record sale to Betty Regal.			
28	Purchases	500	200	
	Cash	101	200	
	To record purchase from Joe Balla Sales Inc.			

P 5–7 continued

Robert Sales Corp.
General Journal

Page 4

Date 2018	Description	F	Debit	Credit
May 28	Accounts Receivable	110	900	
	Sales	500		900
	To record sale to Sault Rapids Corp. for terms 2/10, n/30.			
29	Purchases	550	100	
	Accounts Payable	210		100
	To record purchase from Amigos Inc.			
29	Delivery Expense	620	300	
	Cash	101		300
	To record payment to Intown Deliveries Ltd.			
29	Advertizing Expense	610	400	
	Cash	101		400
	To record payment for May to Main Force Advertizing Agency.			
29	Utilities Expense	676	100	
	Cash	101		100
	To record payment to State Hydro for electricity.			
29	Commissions Expense	615	350	
	Cash	101		350
	To record payment to Yvonne Smith for sales invoices 4, 5, 6, and 7.			
30	Cash	101	1,000	
	Accounts Receivable	110		1,000
	To record payment received from Ransom Outlets Inc.			
31	Accounts Payable	210	700	
	Cash	101		700
	To record payment to Midlife Stores Corp.			
31	No entry is made to record inventory on hand until closing entries are made.			
	Adjusting Entries			
31	Rent Expense	165	500	
	Prepaid Rent	162		500
	To record expiration of May prepaid rent.			
31	Insurance Expense	631	100	
	Prepaid Insurance	161		100
	To record expiration of May prepaid insurance.			

P 5–8

Return to Question

Zenith Products Inc.
General Ledger

Merchandize Inventory — No. 150

Op. Bal.	4,000	(b)	4,000
(a)	6,000		
End. Bal.	6,000		

Retained Earnings — No. 340

		(c)	5,000

Purchases — No. 550

	22,500	(b)	22,500
Bal.	-0-		

Income Summary — No. 360

(b)	32,800	(a)	37,800
(c)	5,000		
Bal.	-0-		

Purchase Returns & Allowances — No. 558

(a)	575		575
Bal.	-0-		

Sales — No. 510

(a)	31,000		31,000
Bal.	-0-		

Purchase Discounts — No. 559

(a)	225		225
Bal.	-0-		

Sales Returns & Allowances — No. 508

	690	(b)	690
Bal.	-0-		

Transportation – In — No. 560

	300	(b)	300
Bal.	-0-		

Sales Discounts — No. 509

	310	(b)	310
Bal.	-0-		

Salaries Expense — No. 656

	5,000	(b)	5,000
Bal.	-0-		

P 5–8 continued

2\.

Zenith Products Inc.
Partial Income Statement
For the Year Ended December 31, 2018

Sales		$31,000
Less: Sales returns and allowances		(690)
Sales discounts		(310)
Net sales		30,000
Cost of goods sold		
Opening inventory	$ 4,000	
Purchases	22,500	
Less: Purchase returns and allowances	(575)	
Purchase discounts	(225)	
Add: Transportation-in	300	
Cost of goods available for sale	26,000	
Less: Ending inventory	(6,000)	
Cost of goods sold		20,000
Gross profit		$10,000

P 5–9

1\.

Northern Lights Corporation
Partial Income Statement
For the Year Ended December 31, 2018

Return to Question

Sales		$100,000
Less: Sales returns and allowances		(10,000)
Net sales		90,000
Cost of goods sold		
Opening inventory	$ 12,000	
Purchases	70,000	
Less: Purchase returns and allowances	(6,000)	
Purchase discounts	(4,000)	
Add: Transportation-in	3,000	
Cost of goods available for sale	75,000	
Less: Ending inventory	(15,000)	
Cost of goods sold		60,000
Gross profit		$ 30,000

P 5–9 continued

2. Northern Lights Corporation
General Journal

Date 2018		Closing Entries	F	Debit	Credit
a.	Dec. 31	Merchandize Inventory	150	15,000	
		Sales	500	100,000	
		Purchase Returns and Allowances	558	6,000	
		Purchase Discounts	559	4,000	
		Income Summary	360		125,000
		To close all income statement accounts with credit balances to Income Summary and record ending inventory balance in the Merchandize Inventory account.			
b.	Dec 31	Income Summary	360	104,000	
		Merchandize Inventory	150		12,000
		Sales Returns and Allowances	508		10,000
		Purchases	550		70,000
		Transportation-In	560		3,000
		Delivery Expense	620		2,000
		Office Supplies Expense	650		7,000
		To close all income statement accounts with debit balances to Income Summary and eliminate opening inventory balance in the Merchandize Inventory account.			
c.	Dec. 31	Income Summary	360	21,000	
		Retained Earnings	340		21,000
		To close the Income Summary account to Retained Earnings.			

3. Net income is $21,000, the amount credited to retained earnings in closing entry *c.*

P 5–10

1. Return to Question

Tom's Trucks Inc.
General Journal

	Date 2017	Description	F	Debit	Credit
a.	Dec. 31	Telephone Expense	669	60	
		Accounts Payable	210		60
		To accrue amount owing at year-end.			
b.	31	Accounts Receivable	110	600	
		Sales	500		600
		To accrue amounts receivable at year-end.			
c.	31	Unused Office Supplies	170	100	
		Office Supplies Expense	650		100
		To adjust supplies still on hand at year-end to count.			
d.		No entry is made. The correct merchandize inventory balance at year-end is recorded when the closing entries are posted.			

P 5–10 continued

2.

Tom's Trucks Inc.
Income Statement
For the Year Ended December 31, 2017

Sales		$100,600
Less: Sales returns and allowances		(1,500)
Sales discounts		(500)
Net sales		98,600
Cost of goods sold		
Opening inventory	$56,000	
Purchases	35,000	
Less: Purchase returns and allows.	(1,700)	
Purchase discounts	(300)	
Transportation-in	1,000	
Cost of goods available for sale	90,000	
Less: Ending inventory	(58,000)	
Cost of goods sold		32,000
Gross profit		66,600
Operating expenses		
Selling		
Advertizing	1,700	
Commissions	4,800	
Delivery	650	
Insurance	450	
Rent	1,950	
Total selling	9,550	
General and administrative		
Supplies	150	
Telephone	360	
Utilities	290	
Total general and administrative	800	
Total operating expenses		10,350
Income from operations		56,250
Interest		600
Income before income taxes		55,650
Income taxes		2,400
Net income		$53,250

Tom's Trucks Inc.
Statement of Changes in Equity
For the Year Ended December 31, 2017

	Share capital	*Retained earnings*	*Total equity*
Balance, Jan. 1	$2,000	$600	$ 2,600
Net income		53,250	53,250
Balance, Dec. 31	$2,000	$53,850	$55,850

P 5–10 continued

Tom's Trucks Inc.
Statement of Financial Position
At December 31, 2017

Assets		
Current		
Cash		$ 750
Accounts receivable		13,000
Merchandize inventory		58,000
Unused supplies		100
Total current		71,450
Equipment		4,400
Total assets		$75,850
Liabilities		
Current		
Accounts payable		$12,600
Income taxes payable		2,400
Total current		15,000
Bank loan		5,000
Total liabilities		20,000
Shareholders' Equity		
Share capital	2,000	
Retained earnings	53,850	55,850
Total liabilities and share. equity		$75,850

P 5–10 continued

3. Tom's Trucks Inc.
General Journal

Date 2017		Closing Entries	F	Debit	Credit
f.	Dec. 31	Merchandize Inventory	150	58,000	
		Sales	500	100,600	
		Purchase Returns and Allowances	558	1,700	
		Purchase Discounts	559	300	
		Income Summary	360		160,600
		To close all credit balance accounts to the Income Summary account and record ending inventory.			
g.	31	Income Summary	360	107,350	
		Merchandize Inventory	150		56,000
		Sales Returns and Allowances	508		1,500
		Sales Discounts	509		500
		Purchases	550		35,000
		Transportation-In	560		1,000
		Advertizing Expense	610		1,700
		Commissions Expense	615		4,800
		Delivery Expense	620		650
		Insurance Expense	631		350
		Interest Expense	632		600
		Office Supplies Expense	650		250
		Rent Expense	654		1,950
		Telephone Expense	669		360
		Utilities Expense	676		290
		Income Taxes Expense	830		2,400
		To close all debit balance accounts to Income Summary account and expense opening inventory.			
h.	31	Income Summary	360	53,250	
		Retained Earnings	340		53,250
		To close the Income Summary account to the Retained Earnings account.			

CHAPTER SIX

Assigning Costs to Merchandize

Concept Self-check

Return to Question

1. The three inventory cost flow assumptions that are allowed under GAEB are first-in, first out (FIFO), weighted average, and specific identification.

2. There is no effect on financial statements of using different inventory cost flow assumptions, unless purchase prices are changing.

3. When prices are rising, FIFO costing yields the highest ending inventory and the highest net income, while weighted average costing produces the lowest ending inventory and the lowest net income.

4. In a period of rising prices, the FIFO inventory cost flow assumption would maximize net income and thus management's year-end bonus. Assume a gadget is acquired on January 1 for $10 and one on July 1 for $16. On December 1, one gadget is sold for $20. Gross profit calculations under each cost flow assumption would be:

	FIFO	*Wtd. avg.*
Sales	$20	$20
Cost of Goods Sold	10	12 *
Gross Profit	$10	$ 8

*($10 + 16)/2 = $12

If prices were falling, the choice would be the opposite. The weighted average inventory cost flow assumption yields the higher net income.

5. If the ending inventory is overstated at the end of 2017, then cost of goods sold is understated; therefore, the 2017 net income is overstated by $5,000. In 2018, the opening inventory would be overstated and cost of goods sold would be overstated; therefore, the net income would be understated by $5,000.

6. The laid-down cost of inventory is the invoice price of the goods less purchase discounts, plus transportation-in, insurance while in transit, and any other expenditure made by the purchaser to get the merchandize to the place of business and ready for sale.

7. Inventory must be evaluated at each fiscal year-end to determine whether the net realizable value (NRV) is lower than cost. Net realizable value is the expected selling cost of inventory, less any applicable costs related to the sale.

8. The primary reason for the use of the LCNRV method of inventory valuation is prudence. If the likely value of inventory has declined below cost, it is prudent to recognize the loss immediately, rather than when the goods are eventually sold to better inform investors and creditors of estimated future cash flows.

Concept Self-check continued

9. Estimating inventory is useful for two reasons:

   a. It is useful for inventory control. When a total inventory amount is calculated under a periodic inventory system through physical count and valuation, an estimate can help check the accuracy.

   b. It is useful for the preparation of interim financial statements. Under a periodic inventory system, inventory on hand at any point in time is not readily available. To take a physical count often would be costly and inconvenient. An estimate offers a way of determining a company's inventory at any point in time in a cost-effective manner.

10. Under the gross profit method, the percentage of profit remaining after accounting for cost of goods sold (the gross profit percentage) is assumed to remain the same from year to year. By applying the rate to sales, gross profit and then cost of goods sold can be estimated. Opening inventory and purchases will be known from the accounting records, so cost of goods available for sale can be determined. The difference between the cost of goods sold and cost of goods available for sale is the ending inventory amount.

    Under the retail inventory method, mark-up on goods purchased then sold is considered to be constant. Both cost and selling prices of goods acquired are then valued at retail by using the mark-up amount. From this, the ending inventory at retail is calculated. By applying the cost percentage (cost of goods available for sale divided by retail cost of goods available for sale) to the retail ending inventory, its value at cost can be calculated.

    i. Example — gross profit method:

Sales		$100
Cost of Goods Sold:		
Opening Inventory (from records)	80	
Purchases (from records)	70	
Cost of Goods Available for Sale	150	
Ending Inventory	(a)?	(b)?
Gross Profit		$(c)?

If the gross profit percentage average is 25%, the following can be estimated:

(c) Gross profit	= 25% x $100	= $25
(b) Cost of goods sold	= $100 – $25 (c)	= $75
(a) Ending inventory	= $150 – $75 (b)	= $75

Ending inventory (a) would be $75.

Concept Self-check continued

ii. Example — retail inventory method; assumed mark-up = 200%:

	At Retail		At Cost	
Sales		$500		$500
Cost of Goods Sold:				
Opening Inventory (records)	$(b)		$ 80	
Purchases (records)	(b)		300	
Cost of Goods Available for Sale	(c)		380	
Ending Inventory	(d)?		(e)?	
Cost of Goods Sold		(a)?		(f)?
Gross Profit (same as Sales)		$-0-		(g)?

(a) Cost of Goods restated at retail to equal sales = $500

(b) Opening Inventory and Purchases re-stated at retail
= $300 x 200% = $600; 80 x 200%
= $160

(c) Cost of Goods Available at retail = $600 (b) + 160 (b)
= $760

(d) Ending Inventory at retail

= Cost of Goods Available at retail – Cost of Goods Sold at retail
= $760 (c) – 500 (a)
= $260

(e) Inventory at cost = Inventory at retail/200%
= $260 (c)/200%
= $130

(f) Cost of Goods Sold at cost = $380 – 130(e) = $250

(g) Gross Profit at cost = $500 – $250(e) = $250

11. The gross profit method is particularly useful in cases where goods have been stolen or lost in a fire; in such cases it is not possible to determine the balance in the ending inventory by a physical count when the periodic inventory system is used.

12. The retail inventory method assumes an average inventory cost flow assumption because the cost percentage used to calculate ending inventory and cost of goods sold is based on a constant mark-up.

Concept Self-check continued

13. Under the periodic inventory system, purchased inventory is recorded in the general ledger Purchases account; under a perpetual inventory system, it is recorded under Merchandize Inventory.

    When inventory is sold under the periodic inventory system, there is no entry to cost of goods sold; this is determined at the end of the period. Under the perpetual inventory system, an entry is recorded in the Cost of Goods Sold account and an offsetting decrease is recorded under Merchandize Inventory when each sale transaction occurs.

CP 6–1 Return to Question

1. FIFO

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1	$100
7	10	$2	$20				100 10	$1 $2	$120
9				80	$1	$80	20 10	$1 $2	$40
21	20	$3	$60				20 10 20	$1 $2 $3	$100
24				20 10 10	$1 $2 $3	$70	10	$3	**$30**

2. Weighted average (answers may differ depending on rounding assumptions)

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1.00	$100.00
7	10	$2	$20				110	$1.09[1]	$120.00
9				80	$1.09	$87.20	30	$1.09[3]	$32.80[2]
21	20	$3	$60				50	$1.86[4]	$92.80
24				40	$1.86	$74.40	10	$1.84[6]	**$18.40**[5]

[1] ($100 + 20)/(100+10) = $1.09 (rounded)
[2] $120.00 – 87.20 = $32.80 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[3] $32.80/30 units = $1.09 per unit (rounded)
[4] ($32.80 + 60.00)/(30 + 20) = $1.86 per unit (rounded)
[5] $92.80 – 74.40 = $18.40
[6] $18.40/10 = $1.84 per unit

CP 6–2

Return to Question 1. FIFO

	Purchased			Sold			Balance in Inventory		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							2,000	$.50	$1,000
5				1,200	$.50	$600	800	$.50	$400
6	1,000	$2	$2,000				800 1,000	$.50 $2.00	$2,400
10	500	$1	$500				800 1,000 500	$.50 $2.00 $1.00	$2,900
16				800 1,000 200	$.50 $2.00 $1.00	$2,600	300	$1.00	$300
21	1,000	$2.50	$2,500				300 1,000	$1.00 $2.50	**$2,800**

a.	Jan. 5	Accounts Receivable	110	6,000	
		Sales	550		6,000
		Cost of Goods Sold	570	600	
		Merchandize Inventory	150		600
		To record Jan. 5 sales; COGS at FIFO.			
b.	Jan. 16	Accounts Receivable	110	12,000	
		Sales	550		12,000
		Cost of Goods Sold	570	2,600	
		Merchandize Inventory	150		2,600
		To record Jan. 16 sales; COGS at FIFO.			

c. Per the above table, there are 1,300 units on hand: 300 @ $1; 1,000 @ $2.50, for a total ending inventory cost of $2,800.

2. Weighted average (answers may differ depending on rounding assumptions)

	Purchased			Sold			Balance in Inventory		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							2,000	$.50	$1,000
5				1,200	$.50	$600	800	$.50	$400
6	1,000	$2	$2,000				1,800	$1.33[1]	$2,400
10	500	$1	$500				2,300	$1.26[2]	$2,900
16				2,000	$1.26	$2,520	300	$1.27[4]	$380[3]
21	1,000	$2.50	$2,500				1,300	$2.22[5]	**$2,880**

[1] ($400 + $2,000)/(800 + 1,000) = $1.33 per unit (rounded)
[2] ($2,400 + $500)/(1,800 + 500) = $1.26 per unit (rounded)
[3] $2,900 – 2,520 = $380 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[4] $380/300 = $1.27 per unit (rounded)
[5] $2,880/1,300 = $2.22 per unit (rounded)

CP 6–2 continued

a.	Jan. 5	Accounts Receivable	110	6,000	
		Sales	550		6,000
		Cost of Goods Sold	570	600	
		Merchandize Inventory	150		600
		To record Jan. 5 sales; COGS at weighted average.			
b.	Jan. 16	Accounts Receivable	110	12,000	
		Sales	550		12,000
		Cost of Goods Sold	570	2,520	
		Merchandize Inventory	150		2,520
		To record Jan. 16 sales; COGS at weighted average.			

c. Per the above table, there are 1,300 units on hand @ $2.22 (rounded), for a total ending inventory cost of $2,880. This should be calculated as the inventory balance of $380 on January 16 plus the January 21 purchase of $2,500, *not* 1,300 units x wtd. avg. cost of $2.22.

CP 6–3

1. a. FIFO

Return to Question

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
May 1							100	$1	$100
5				80	$1	$80	20	$1	$20
6	200	$2	$400				20 200	$1 $2	$420
12	125	$3	$375				20 200 125	$1 $2 $3	$795
13				20 200 80	$1 $2 $3	$660	45	$3	$135
19	350	$2	$700				45 350	$3 $2	$835
29	150	$1	$150				45 350 150	$3 $2 $1	$985
30				45 350 5	$3 $2 $1	$840	145	$1	**$145**
	Total COGS					**$1,580**			

CP 6–3 continued

1. b. Specific identification

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
May 1							100	$1	$100
5				80	$1	$80	20	$1	$20
6	200	$2	$400				20	$1	$420
							200	$2	
							20	$1	
12	125	$3	$375				200	$2	$795
							125	$3	
13				125	$3	$725	20	$1	$70
				175	$2		25	$2	
							20	$1	
19	350	$2	$700				25	$2	$770
							350	$2	
							20	$1	
29	150	$1	$150				25	$2	$920
							350	$2	
							150	$1	
30				20	$1		25[1]	$2	
				300	$2	$700	50[2]	$2	**$220**
				80	$1		70[3]	$1	
	Total COGS					**$1,505**			

[1] May 6 purchase
[2] May 19 purchase
[3] May 29 purchase

CP 6–3 continued

1. c. Weighted average

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
May 1							100	$1.00	$100
5				80	$1	$80	20	$1.00	$20
6	200	$2	$400				220	$1.91[1]	$420
12	125	$3	$375				345	$2.30[2]	$795
13				300	$2.30	$690	45	$2.30	$105[3]
19	350	$2	$700				395	$2.04[4]	$805
29	150	$1	$150				545	$1.75[5]	$955
30				400	$1.75	$700	145	$1.76[7]	**$255**[6]
	Total COGS					**$1,470**			

[1] $420/220 units = $1.91 per unit (rounded)
[2] $795/345 units = $2.30 per unit (rounded)
[3] $795 – 690 = $105 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[4] $805/395 units = $2.04 per unit (rounded)
[5] $955/545 units = $1.75 per unit (rounded)
[6] $955 – 700 = $255
[7] $255/145 units = $1.76 per unit (rounded)

2.

	FIFO	*Spec. ident.*	*Wtd. avg.*
Sales	$3,900	$3,900	$3,900
Cost of goods sold	(1,580)	(1,505)	(1,470)
Gross profit	$2,320	$2,395	$2,430

3. The weighted average inventory cost flow assumption maximizes net income ($2,430) and ending inventory ($253.75).

CP 6–4

Return to Question

3	Matches actual flow of goods with actual flow of costs in all cases
1	Matches old costs with new sales prices
1	Results in the lowest net income in periods of falling prices
2,3	Does not assume any particular flow of goods
1	Best suited for situations in which inventory consists of perishable goods
1	Values inventory at approximate replacement cost

CP 6–5 Return to Question

	2017 Statements				2018 Statements			
Errors	*Open. invent.*	*End. invent.*	*2017 Total assets*	*2017 Net income*	*Open. invent.*	*End. invent.*	*2018 Total assets*	*2018 Net income*
1. Goods purchased in 2017 were included in December 31 inventory, but the transaction was not recorded until early 2018.	*0*	*0*	*0*	+	*0*	*0*	*0*	-
2. Goods purchased in 2018 were included in December 31, 2017 inventory, and the transaction was recorded in 2017.	*0*	+	+	*0**	+	*0*	*0*	*0*
3. Goods were purchased in 2017 and the transaction recorded in that year; however, the goods were not included in the December 31 inventory as they should have been.	*0*	-	-	-	-	*0*	*0*	+
4. Goods purchased in 2017 were excluded from December 31 inventory, and the transaction was recorded early in 2018.	*0*	-	-	*0*	-	*0*	*0*	*0*

* The effects of this error cancel each other out, so net income is not affected in either 2017 or 2018.

CP 6–6

Return to Question

1. a. Ending inventory for 2019 was understated by $2,000. Instead of being $5,000, it should have been $7,000. Thus, cost of goods sold should have been $18,000 and gross profit, $12,000. Because of this mistake, the 2020 opening inventory was also understated by $2,000, causing cost of goods sold to be understated by $2,000 and gross profit overstated by $2,000 It should have been $15,000.

   b. The 2021 ending inventory was overstated by $5,000. It should have been $10,000. Thus, cost of goods sold should have been $30,000 and gross profit, $20,000.

2. For 2019, the merchandize inventory on the statement of financial position was understated by $2,000. Thus, the total assets were $2,000 less than they should have been. For 2020, there is no effect on the statement of financial position, as the error is in opening inventory. For 2021, the ending inventory in the statement of financial position is overstated by $5,000, which means that total assets were overstated by $5,000.

CP 6–7

Return to Question

1. LCNRV on a unit–by–unit basis:
   (2 x $50) + (3 x $75) + (4 x $20) = $405

2. LCNRV on a group inventory basis:
   (2 x $50) + (3 x $150) + (4 x $25) = $650
   (2 x $60) + (3 x $75) + (4 x $20) = $425

   Therefore, LCNRV = $425

CP 6–8

Return to Question

1.

Sales		$300,000	100%
Cost of goods sold			
Opening inventory	$ 80,000		
Purchases	150,000		
Cost of goods available	230,000		
Ending inventory (estimated)	(c)		
Cost of goods sold		(b)	66 2/3%
Gross profit		(a)	33 1/3%

(a) Gross profit = 33 1/3% of Sales
= 33 1/3% x $300,000
= $100,000

(b) Cost of goods sold = Sales – gross profit
= $300,000 – 100,000
= $200,000

(c) Estimated ending inventory
= Cost of goods available – cost of goods sold
= $230,000 – $200,000
= $30,000

2. Balton lost about $30,000 of inventory in the fire and is claiming $45,000. This does not seem reasonable.

CP 6–9 Return to Question

1.

	At retail			*At cost*		
Sales		$ 276,000			$ 276,000	
Cost of goods sold						
Opening inventory	$ 78,000			$ 26,000		
Purchases	282,000			90,000		
Transportation-in	—			4,000		
Cost of goods available for sale	360,000 (a)			120,000		
Less: Ending inventory	(84,000) (c)			(28,000) (d)		
Cost of goods sold		276,000	(b)		92,000	(e)
Gross Profit		$ 0			$ 184,000	(f)

2. Mark-up = $276,000/92,000 = 300%.

CP 6–10 Return to Question

The estimated ending inventory at cost is $25,000, calculated as follows:

	At retail			At cost		
Sales (given)		$ 250,000			$ 250,000	
Cost of goods sold						
Opening inventory	$ 20,000			$ 10,000		
Purchases	280,000			140,000		
Cost of goods available for sale	300,000 (a)			150,000		
Less: Ending inventory	(50,000) (c)			**(25,000)** (d)		
Cost of goods sold		250,000	(b)		125,000	
Gross profit		$ 0			$ 125,000	

CP 6–11

Return to Question

	1	2	3	4
Opening inventory	$ 0	$3,000	$1,000	$2,000
Purchases	5,000	5,000	5,000	5,000
Ending inventory	(2,000)	(4,000)	(1,500)	(0)
Cost of goods sold	$3,000	$4,000	$4,500	$7,000

CP 6–12

Return to Question

	FIFO		Spec. ident.		Wtd. Avg.	
Sales		$1,200		$1,200		$1,200
Cost of goods sold						
Opening inventory	$100		$100		$100	
Purchases	550[1]		550		550	
Goods avail. for sale[2]	650		650		650	
Less: Ending inv.	(250)[3]		(140)[4]		(130)[5]	
Cost of goods sold		400		510		520
Gross profit		$800		$690		$680

[1] ($10 + $40+ $90 + $160 + $250) = $550

[2] Total units available

(100 + 10 + 20 + 30 + 40 + 50)	250	units
Total units sold (given)	(200)	units
Ending inventory	50	units

[3] 50 units @ $5 = $250

[4]

Purchase	#1	10 @ $1	$10
	#2	20 @ $2	40
	#4	10 @ $4	40
	#5	10 @ $5	50
		50	$140

[5] $650/250 units = $2.60 per unit x 50 units = $130

CP 6–13

Return to Question

1. Specific identification ending Inventory:

1,200	units @ $0.50 =	$ 600
1,000	units @ $2.00 =	2,000
300	units @ $1.00 =	300
2,500	units	$2,900

2. FIFO ending inventory:

1,000	units @ $2.00 =	$2,000
500	units @ $1.00 =	500
1,000	units @ $2.50 =	2,500
2,500		$5,000

3. Weighted average ending inventory:

2,000	units @ $0.50 =	$1,000
1,000	units @ $2.00 =	2,000
500	units @ $1.00 =	500
1,000	units @ $2.50 =	2,500
4,500		$6,000

Weighted average cost = $6,000/4,500 units = $1.33/unit x 2,500 units = $3,333 (rounded)

4. Specific identification cost of goods sold:

800	units @ $.50 =	$ 400
200	units @ $1.00 =	200
1,000	units @ $2.50 =	2,500
2,000		$3,100

5. FIFO cost of goods sold: 2,000 units @ $0.50 = $1,000

6. Weighted average cost of goods sold:

2,000	units @ $0.50 =	$1,000
1,000	units @ $2.00 =	2,000
500	units @ $1.00 =	500
1,000	units @ $2.50 =	2,500
4,500		$6,000

Weighted average cost = $6,000/4,500 units = $1.33/unit x 2,000 units = $2,667 (rounded)

CP 6–14

Return to Question

1. a. FIFO ending inventory = (150 x \$3) + (50 x \$2) = \$550

   b. Specific identification ending inventory = (100 x \$1) + (100 x \$3) = \$400

   c. Weighted average = (100 x \$1) + (200 x \$1) + (125 x \$2) + (350 x \$2) + (150 x \$3)
   = \$1,700/925 = \$1.84/unit (rounded)

   Weighted average ending inventory = \$1.84 x 200 = \$368

2. Units sold = 925 – 200 = 725 units x \$2 = \$1,450 total sales.

	FIFO		*Spec. ident*		*Wtd. avg.*	
Sales		\$1,450		\$1,450		\$1,450
Cost of goods sold						
Opening inventory	\$ 100		\$ 100		\$ 100	
Purchases	1,600		1,600		1,600	
Cost of goods available for sale	1,700		1,700		1,700	
Less: Ending inventory	(550)		(400)		(368)	
Cost of goods sold		1,150		1,300		1,332
Gross profit		\$ 300		\$ 150		\$ 118

P 6–1 Return to Question

1. The COGS calculation is the same for all three methods:

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							50	$1	$50
Apr. 15	200	$2	$400				50 200	$1 $2	$450
Apr. 25				50 200	$1 $2	$450	-0-	$-0-	$-0-
Oct. 15	600	$5	$3,000				600	$5	$3,000
Oct. 25				500	$5	$2,500	100	$5	**$500**
	Total COGS					**$2,950**			

2. Cost of goods sold is $2,950 under all three alternatives. Therefore gross profit and net income will also be the same.

3. You should advize the president that all of the alternatives have the same effect. However, once an inventory cost flow assumption is adopted, it must be used consistently in future years. This minimizes the ability to manipulate net income through accounting policy changes, if that is the president's plan.

P 6–2 Return to Question

1. a. FIFO

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							25	$1	$25
Feb. 15	15	$2	$30				25 15	$1 $2	$55
Feb. 28				25 5	$1 $2	$35	10	$2	$20
Mar. 14	10	$3	$30				10 10	$2 $3	$50
Apr. 9				10 5	$2 $3	$35	5	$3	$15
Oct. 28	35	$4	$140				5 35	$3 $4	$155
Dec. 4	40	$5	$200				5 35 40	$3 $4 $5	$355
Dec. 21				5 35 10	$3 $4 $5	$205	30	$5	**$150**
	Total COGS					**$275**			

P 6–2 continued

The journal entry would be:

Dec. 21	Accounts Receivable	110	300	
	Sales	550		300
	Cost of Goods Sold	570	205	
	Merchandize Inventory	150		205
	To record Dec. 21 sales; COGS at FIFO.			

1. b. Weighted average

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							25	$1.00	$25.00
Feb. 15	15	$2	$30				40	$1.38[1]	$55.00
Feb. 28				30	$1.38	$41.40	10	$1.36[3]	$13.60[2]
Mar. 14	10	$3	$30				20	$2.18[4]	$43.60
Apr. 9				15	$2.18	$32.70	5	$2.18	$10.90
Oct. 28	35	$4	$140				40	$3.77[5]	$150.90
Dec. 4	40	$5	$200				80	$4.39[6]	$350.90
Dec. 21				50	$4.39	$219.50	30	$4.38[8]	**$131.40**[7]
	Total COGS					**$293.60**			

[1] $55/40 units = $1.38 per unit (rounded)
[2] $55.00 – 41.40 = $13.60 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[3] $13.60/10 units = $1.36 per unit (rounded)
[4] $43.60/29 units = $2.18 per unit (rounded)
[5] $150.90/40 units = $3.77 per unit (rounded)
[6] $350.90/80 units = $4.39 per unit (rounded)
[7] $350.90 – 219.50 = $131.40
[8] $131.40/30 units = $4.38 per unit (rounded)

The journal entry would be:

Dec. 21	Accounts Receivable	110	300.00	
	Sales	550		300.00
	Cost of Goods Sold	570	219.50	
	Merchandize Inventory	150		219.50
	To record Dec. 21 sales; COGS at weighted average.			

2.

	FIFO	*Wtd. avg.*
Sales	$420[1]	$420.00
COGS	275	293.60
Gross Profit	$145	$126.40

[1] (30 x $2) + (15 x $4) + (50 x $6) = $420

P 6–2 continued

Weighted average more closely matches cost of goods sold with sales because it uses more recent purchase prices to calculate cost of goods sold.

3. More income taxes would be paid under FIFO because gross profit is higher using FIFO in a period of rising prices. Weighted average minimizes income taxes in a period of rising prices so that accounting policy should be adopted.

P 6–3

Return to Question

1.

Product A									
	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							4,000	$11.90	$47,600
Jan. 7	8,000	$12.00	$96,000				12,000	$11.97[1]	$143,600
Mar. 30				9,000	$11.97	$107,730	3,000	$11.96[3]	$35,870[2]
May 10	12,000	$12.10	$145,200				15,000	$12.07[4]	$181,070
Jul. 4				14,000	$12.07	$169,000	1,000	$12.07	**$12,070**

[1] ($47,600 + 96,000)/12,000 units = $11.97 per unit (rounded)
[2] $143,600 – 107,730 = 35,870 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[3] $35,870/3,000 units = 11.96 per unit (rounded)
[4] ($35,870 + 145,200)/15,000 units = $12.07 per unit (rounded)

Product B									
	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							2,000	$13.26	$26,520
Jan. 13	5,000	$13.81	$69,050				7,000	$13.65[1]	$95,570
Jul. 15				1,000	$13.65	$13,650	6,000	$13.65[3]	$81,920[2]
Oct. 13	7,000	$14.21	$99,470				13,000	$13.95[4]	$181,390
Dec. 14				8,000	$13.95		5,000	$13.99[5]	**$69,970**

[1] ($26,520 + 69,050)/7,000 units = $13.65 per unit (rounded)
[2] $95,570 – 13,650 = 81,920 (This eliminates rounding errors. Remember, cost of goods available – cost of goods sold = ending inventory.)
[3] $81,920/6,000 units = 13.65 per unit (rounded)
[4] ($81,920 + 99,470)/13,000 units = $13.95 per unit (rounded)
[5] $69,970/5,000 units = 13.99 per unit (rounded)

2. Total ending inventory at December 31, 2018:

Product A	$12,070
Product B	69,970
Total	$82,040

P 6–3 continued

3. Computerized accounting software would do most of the calculations otherwise done manually. Even calculating only two products' transactions by hand is tedious and time-consuming.

4. If only two products are sold by Southern Cross and there are only a handful of inventory sales and purchases, the company should consider using the simpler periodic inventory system.

P 6–4 Return to Question

1. a. FIFO

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1	$100
3	100	$1	$100				100 100	$1 $1	$200
8	200	$2	$400				200 200	$1 $2	$600
10				200	$1	$200	200	$2	$400
15	300	$3	$900				200 300	$2 $3	$1,300
20				200 200	$2 $3	$1,000	100	$3	$300
27	400	$1	$400				100 400	$3 $1	**$700**
	Total COGS					**$1,200**			

P 6–4 continued

1. b. Specific identification

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1	$100
3	100	$1	$100				100	$1	$200
							100	$1	
8	200	$2	$400				100	$1	
							100	$1	$600
							200	$2	
10				50	$1		50	$1	
				150	$2	$350	100	$1	$250
							50	$2	
15	300	$3	$900				50	$1	
							100	$1	$1,150
							50	$2	
							300	$3	
20				100	$1	$1,000	50	$1	$150
				300	$3		50	$2	
27	400	$1	$400				50	$1	
							50	$2	**$550**
							400	$1	
	Total COGS					**$1,350**			

1. c. Weighted Average

	Purchased			*Sold*			*Balance in Inventory*		
Date	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*	*Units*	*Unit Cost*	*Total $*
Jan. 1							100	$1.00	$100
3	100	$1	$100				200	$1.00	$200
8	200	$2	$400				400	$1.50[1]	$600
10				200	$1.50	$300	200	$1.50	$300
15	300	$3	$900				500	$2.40[2]	$1,200
20				400	$2.40	$960	100	$2.40	$240
27	400	$1	$400				500	$1.28[3]	**$640**
	Total COGS					**$1,260**			

[1] ($200 + 400)/400 units = $1.50 per unit
[2] ($300 + 900)/500 units = $2.40 per unit
[3] ($240 + 400)/500 units = $1.28 per unit

P 6–4 continued

2. FIFO journal entries

Jan. 3	Merchandize Inventory	100	
	Accounts Payable		100
8	Merchandize Inventory	400	
	Accounts Payable		400
10	Accounts Receivable	600	
	Sales		600
	Cost of Goods Sold	200	
	Merchandize Inventory		200
	(200 units X $1)		
15	Merchandize Inventory	900	
	Accounts Payable		900
20	Accounts Receivable	2,000	
	Sales		2,000
	Cost of Goods Sold	1,000	
	Merchandize Inventory		1,000
	[(200 units X $2) + (200 units X $3)]		
27	Merchandize Inventory	400	
	Accounts Payable		400

3.

	FIFO	*Spec. ident.*	*Wtd. Avg.*
COGS	$1,200	$1,350	$1,260
Ending Inv.	700	550	640
Total	$1,900	$1,900	$1,900

All the totals are the same. Different inventory cost flow assumptions merely change the amount of cost of goods available for sale allocated to either cost of goods sold and ending inventory.

P 6–5

Return to Question

1. Ending inventory for 2017 was overstated by $2,000. Thus, cost of goods sold should have been $2,000 higher, or $22,000 and gross profit $2,000 lower, or $28,000. Because of this mistake, the 2018 opening inventory was also overstated by $2,000, causing cost of goods sold to be overstated by $2,000 and gross profit to be understated by $2,000. Gross profit should have been $29,000.

2. 2017 total and net assets were overstated by $2,000. 2018 total assets and net assets were correct.

P 6–6

Return to Question

Item	*Cost*	*Market*	*Unit LCNRV*	*Group LCNRV*
A	$ 60	$ 63	$ 60	
B	40	40	40	
C	80	78	78	
D	50	42	42	
	$230	$223	$220	$223*

*Lower of total cost or total market value is used; in this case, total market

P 6–7

Return to Question

1.

	2018						2019					
Item	*Cost*		*Net realizable value*	*Unit basis (LCNRV)*		*Cost*		*Nets realizable value*	*Unit basis (LCNRV)*	
Product X	$14,000		$15,000	$14,000		$15,000		$16,000	$15,000	
Product Y	12,500		12,000	12,000		12,000		11,500	11,500	
Product Z	11,000		11,500	11,000		10,500		10,000	10,000	
Total	$37,500	(3)	$38,500	$37,000	(1)	$37,500	(4)	$37,500	$36,500	(2)

2.

2018	*Unit basis (LCNRV)*			*Group basis (LCNRV)*			*Cost basis*		
Sales			$240,000			$240,000			$240,000
Cost of goods sold									
Opening inventory	$ 20,000			$20,000			$20,000		
Purchases	240,000			240,000			240,000		
Cost of goods available	260,000			260,000			260,000		
Ending inventory	37,000	(1)		37,500	(3)		37,500	(3)	
Total cost of goods sold			223,000			222,500			222,500
Gross profit			$17,000			$17,500			$17,500

P 6–7 continued

3.

2019		*Unit basis (LCNRV)*		*Group basis (LCNRV)*		*Cost basis*
Sales		$ 280,000		$ 280,000		$ 280,000
Cost of goods sold						
Opening inventory	$ 37,000		$37,500		$37,500	
Purchases	260,000		260,000		260,000	
Cost of goods available	297,000		297,500		297,500	
Ending inventory	36,500 (2)		37,500 (4)		37,500 (4)	
Cost of goods sold		260,500		260,000		260,000
Gross profit		$ 19,500		$ 20,000		$ 20,000

4. b. (2018:$17,500; 2019:$20,000)

5. Using LCNRV/group basis and using the cost basis yield the same maximum profit ($20,000).

P 6–8

Return to Question

1.

Sales		$305
Less: Sales returns		5
Net sales		300
Cost of goods sold:		
Opening inventory	$ 25	
Purchases	175	
Less: Purchases returns	(5)	
Transportation-in	3	
Cost of goods available	198	
Ending inventory	15 (c)	
Cost of goods sold		183 (b)
Gross profit		$117 (a)

(a) Net sales = 39% x $300 = $117
(b) Cost of goods sold = Net sales – gross profit = $300 – $117 = $183
(c) Ending inventory = Goods available for sale – cost of goods sold
= $198 – $183 = $15

P 6–9

Return to Question

1. Retail inventory method

		At retail			*At cost, should be*
Sales		$ 160,000			$ 160,000
Less: Sales returns		10,000			10,000
Net sales		$150,000			150,000
Cost of goods sold					
Opening inventory	$ 20,000			$ 11,000	
Purchases	164,000			80,000	
Less: Purchases returns	(4,000)			(2,000)	
Transportation-in				1,000	
Cost of goods available for sale	180,000			90,000	
Ending inventory	(30,000) (b)			(15,000) (c)	
Cost of goods sold		150,000 (a)			75,000
Gross profit		$ 0			$ 75,000

(a) Cost of goods sold = Net sales
(b) Estimating ending inventory at retail
= Cost of goods available for sale – cost of goods sold
= $180,000 – $150,000
= $30,000
(c) Estimated ending inventory at cost= $30,000/200% = $15,000

2. Inventory lost = Estimated ending inventory – actual inventory on hand
= $15,000 – 5,000
= $10,000

3. Some of the inventory may have been stolen or sold for less than the assumed mark-up.

4. Adopting a perpetual inventory system might be cost-effective, given the amount of the discrepancy ($10,000 out of $180,000 of goods available for sale). A perpetual inventory system would enable staff to compare actual amounts of goods in ending inventory to the accountings records to determine where the discrepancies arose, as well as possible solutions (for example, more physical safeguards for high-value goods).

P 6–10

Return to Question

a.

Specific identification	*2018*	*2019*	*2020*
Sales	$1,000	$1,200	$1,150
COGS			
Op. inv.	0	360	400
Purchases	1,280	1,100	1,010
End. inv.	(360)	(400)	(320)
Cost of goods sold	920	1,060	1,090
Gross profit/net income	$ 80	$ 140	$ 60

b.

FIFO	*2018*	*2019*	*2020*
Sales	1,000	1,200	1,150
COGS			
Op. inv.	0	300	320
Purchases	1,280	1,100	1,010
End. inv.	(300)	(320)	(280)
Cost of goods sold	980	1,080	1,050
Gross profit/net income	$ 20	$ 120	$ 100

c.

Weighted average	*2018*	*2019*	*2020*
Sales	$1,000	$1,200	$1,150
COGS			
Op. inv.	0	340	420
Purchases	1,280	1,100	1,010
End. inv.	(340)	(420)	(300)
Cost of goods sold	940	1,020	1,130
Gross profit/net income	$ 60	$ 180	$ 20

P 6–11

Return to Question

1.

	Units	*FIFO*	*Spec. ident.*	*Weighted average*
Opening inventory	50	$ 50	$ 50	$ 50
Purchases	800	2,800	2,800	2,800
Cost of goods available	850	$2,850	$2,850	$2,850

2.

		FIFO	*Spec. ident.*	*Weighted average*
FIFO: 200 @ $5	=	$1,000		
Sp. ident: (50 @ $1) + (150 @ $2)	=		$ 350	
Wtd. avg.: $2,850/850 = $3.35/unit (rounded) x 200 units				$670

3.

	Units	*FIFO*	*Spec. ident.*	*Weighted average*
Cost of goods avail. for sale	850	$2,850	$2,850	$2,850
Ending inventory	200	1,000	350	671
Cost of goods sold	650	$1,850	$2,500	$2,179

P 6–11 continued

4. Based on response 3 above:
   a. Weighted average income is less than specific identification by $321 ($2,179-2,500)
   b. Specific identification income is greater than FIFO income by $650 ($2,500-1,850)
   c. No difference

5. Cost of purchases are rising. Specific identification costing is more realistic with respect to income measurement in a period of rising prices (in this case) as it more closely matches current costs with current revenue.

P 6–12

Return to Question

1. Ending inventory (FIFO) = $1 x 25 = $25

2. Ending inventory (wtd. avg.) = $5 x 25 = 65 *
   Difference $ 40
   *(25 x $5) + (15 x $4) + (10 x $3) + (35 x $2) + (40 x $1) = $325/125 units = $2.60/unit x 25 units = $65.

3.

	FIFO		Wtd. avg.	
Sales		$360[1]		$360
Cost of goods sold				
Opening inventory	$125		$125	
Purchases	200		200	
Cost of goods available	325		325	
Less: Ending inventory	(25)	300	(65)	260
Gross profit		$ 60		$100

[1] (30 x $6) + (20 x $4) + (50 x $2) = $360

In a period of decreasing prices (as in this example), weighted average produces a higher net income than FIFO because more-recent costs are matched against recent sales, thus producing a better matching of costs with revenues.

4. Under FIFO in a period of decreasing prices, less income taxes would be payable, since income would be lower than under weighted average.

   Therefore in a period of rising prices, more taxes would be payable using FIFO, since income would be higher than under weighted average. Over the life of the company, though, the same amount of taxes would be paid. The chosen inventory valuation method affects only the timing of cost of goods sold recognition.

P 6–13

Return to Question

1. Total purchases

Jan.	7	8,000 units @ $12.00 = $ 96,000
Mar.	30	9,000 units @ $12.40 = $111,600
May	10	12,000 units @ $12.00 = $144,000
Jul.	4	16,000 units @ $12.60 = $201,600
Sept.	2	6,000 units @ $12.80 = $ 76,800
Dec.	14	7,000 units @ $12.70 = $ 88,900
Total purchases		$**718,900**

Ending inventory

FIFO					Spec. ident				
	Quantity	*Unit cost*	*Total cost*			*Quantity*	*Unit cost*	*Total cost*	
Dec. 14	7,000	$12.70	$88,900		Jan. 1	4,000	$11.90	$ 47,600	
Sep. 2	6,000	12.80	76,800		Jan. 7	8,000	12.00	96,000	
Jul. 4	2,000	12.60	25,200		Mar. 30	3,000	12.40	37,200	
	15,000		$**190,900**	(1)		15,000		$**180,800**	(2)

Weighted average			
	Quantity	*Unit cost*	*Total cost*
Jan. 1	4,000	$11.90	$ 47,600
Jan. 7	8,000	12.00	96,000
May 30	9,000	12.40	111,600
May 10	12,000	12.00	144,000
Jul. 4	16,000	12.60	201,600
Sept. 2	6,000	12.80	76,800
Dec. 14	7,000	12.70	88,900
	62,000		$766,500

Average cost per unit: $\frac{\$766{,}500}{62{,}000 \text{ units}}$ = $12.36 (rounded)

Ending inventory: 15,000 units x 12.36 = **$185,400** (3)

P 6–13 continued

2.

	Income Statement					
	FIFO		*Sp. ident.*		*Wtd. avg.*	
Sales						
(47,000 units @ $16 per unit)		$752,000		$752,000		$752,00
Cost of goods sold						
Opening inventory	$ 47,600		$ 47,600		$47,600	
Purchases	718,900		718,900		718,900	
Cost of goods available	766,500		766,500		766,500	
Ending inventory	190,900 (1)		180,800 (2)		185,400 (3)	
Cost of goods sold		575,600		585,700		581,100
Gross profit		$176, 400		$166,300		$170,900

3. Specific identification inventory valuation best matches revenue with costs in this case, because recent higher prices are matched against relatively recent selling prices.

P 6–14

Return to Question

1. to 3.

	Rising prices				Falling prices			
	FIFO		*Wtd. avg.*		*FIFO*		*Wtd. avg.*	
Sales		$5,000		$5,000		$5,000		$5,000
Cost of goods sold								
Opening inventory	$1,000		$1,000		$1,000		$1,000	
Purchases	6,000		6,000		4,000		4,000	
Cost of goods available	7,000		7,000		5,000		5,000	
Less: Ending inventory	3,000		2,917[1]		2,000[2]		2,083[3]	
Cost of goods sold		4,000		4,083		3,000		2,917
Gross profit		$1,000		$ 917		$2,000		$2,083

[1] Weighted average/rising: ($1,000 + 6,000)/600 units x 250 units = $2,917 (rounded)
[2] FIFO/falling: 250 units x $8 = $2,000
[3] Weighted average/falling: [$1,000 + (500 x $8)]/600 units x 250 units = $2,083 (rounded)

4. Less taxes would be payable under weighted average in a period of rising prices (gross profit is lower). More taxes would be payable under weighted average in a period of falling prices. However, there would be no difference in total over the life of the company.

CHAPTER SEVEN
Cash and Receivables

Concept Self-check

1. Internal control is the system, plan, or organization established to ensure, as far as practical, the orderly and efficient conduct of business. In part, it is used to ensure accurate record-keeping and the timely preparation of financial statements, safeguard the assets of the business, and promote efficiency.

2. An imprest petty cash system reimburses petty cash for an amount equal to the amounts disbursed when the fund has been depleted.

Return to Question

3. When a petty cash fund is established, a regular cheque is written for the amount to be held in the petty cash fund. The general ledger account Petty Cash is debited and Cash is credited. The cheque is cashed and the funds are held by the petty cash fund custodian.

   When the balance of cash in the funds held by the custodian is low, a cheque is written to reimburse the fund for the amount of all receipts held. The cheque is recorded as a debit to the applicable expense accounts and a credit to the Petty Cash account in the general ledger.

4. A bank reconciliation is a comparison of the items shown on the bank statement with the entries made in the records of the entity. A reconciliation leads to the update of the accounting records and the correction of errors, if any. Thus, control over cash is enhanced.

5. Different reconciling items that may appear in a bank reconciliation are as follows:

Book Reconciling Items	*Bank Reconciling Items*
Book errors	Outstanding deposits
NSF cheques	Outstanding cheques
Bank charges	Bank errors

6. The steps in preparing a bank reconciliation are:

   Step 1

   List the ending general ledger cash balance on the bank reconciliation as the unreconciled general ledger Cash balance.

   Step 2

   List the ending cash balance on the bank statement on the bank reconciliation as the unreconciled bank statement balance.

   Step 3

   Compare clearing cheques shown on the bank statement with cheques recorded as cash disbursements in the company's records, including outstanding cheques shown on the prior month's bank reconciliation.

Concept Self-check continued

Step 4

Identify other disbursements made by the bank but not recorded in the company records.

Step 5

Compare the deposits shown on the bank statement with the amounts recorded in the company general ledger Cash account.

Step 6

Review the prior month's bank reconciliation for outstanding deposits.

Step 7

Rectify any errors in the company records or in the bank statement that become apparent during the reconciliation process.

Step 8

Total both sides of the bank reconciliation. The result should be that the reconciled general ledger Cash balance and the bank statement balances are equal.

Step 9

The adjusted balance calculated in the bank reconciliation must be reflected in the company's general ledger Cash account by means of adjusting entries.

7. A cheque received from trade customers that has been deposited but cannot be cleared by the bank because the customer's own bank balance is less than the amount of the cheque is an NSF (not sufficient funds) cheque.

8. Allowance for doubtful accounts is a contra accounts receivable account showing the estimated amount that will not be collected. To set it up, bad debt expense is debited and the allowance is credited for the estimated amount. In this way, the bad debt expenses for the period are matched with revenues for that period.

9. The income statement method for calculating the estimated amount of doubtful accounts assumes that a certain percentage of sales made on account will become uncollectible. The percentage is applied to credit sales and is chosen on the basis of bad debt experience of previous years. The estimated bad debt expense is calculated independently of any current balance in the Allowance for Doubtful Accounts general ledger account.

10. Ageing of accounts receivable is the detailed analysis of trade accounts receivable based on time that has elapsed since the creation of the receivable. An estimated loss percentage is applied to each time category to estimate an uncollectible amount. The estimated bad debt expense consists of the difference between the current balance in the Allowance for Doubtful Accounts general ledger account and the amount required to be set up based on this analysis.

Concept Self-check continued

11. The usual balance in the Accounts Receivable general ledger account is a debit. Occasionally, as a result of double payments, merchandize returns, or allowances granted for example, a credit balance occurs in some accounts. Theoretically, the credit balance should be transferred to liabilities. In practice, the net amount of accounts receivable is reported on the statement of financial position unless the credits would materially distort the numbers reported.

12. An example entry would be:

Dr.	Notes Receivable – Customer A	$xxxx	
Cr.	Sales (or, e.g., Service Revenue)		$xxx

    If the note is created as a result of an outstanding account receivable, the entry would be:

Dr.	Notes Receivable – Customer A	$xxxx	
Cr.	Accounts Receivable – Customer A		$xxx

CP 7–1

Return to Question

2017				
Mar.	1	Petty Cash	200	
		Cash		200
		To establish petty cash fund.		
	12	Office Supplies Expense	60	
		Maintenance Expense	35	
		Miscellaneous Selling Expense	25	
		Cash		120
		To reimburse petty cash.		
	18	Petty Cash	200	
		Cash		200
		To increase petty cash balance to $400.		
	25	Office Supplies Expense	75	
		Delivery Expense	30	
		Cash		105
		To reimburse petty cash.		
	28	Cash	50	
		Petty Cash		50
		To reduce petty cash fund balance to $350.		

CP 7–2

Return to Question

Ferguson Corp.
Bank Reconciliation
At December 31, 2017

Cash per general ledger, Dec. 31		$5,005	Cash per bank statement, Dec. 31		$7,000
Add:	Note collected by bank	1,300	*Add:*	Error Fluet Inc. cheque	200
	Interest on note	25		Outstanding deposit	700
Less:	Bank service charges	(30)	*Less:*	Outstanding cheques	(1,600)
Adjusted Cash balance, Dec. 31		$6,300	Adjusted Cash balance, Dec. 31		$6,300

2017 adjusting entries:

Dec.	31	Cash	1,325	
		Note Receivable		1,300
		Interest Earned		25
		To record the note collected by the bank.		
	31	Bank Charges Expense	30	
		Cash		30
		To record service charges from the bank.		

CP 7–3

Return to Question

Gladstone Ltd.
Bank Reconciliation
At March 31, 2017

Cash per general ledger, Mar. 31		$2,531	Cash per bank statement, Mar. 31		$1,500
Add:	Error cheque No. 4302	27	*Add:*	Outstanding deposit	1,000
	Note receivable	250		Error re. Global	250
	Interest on note	50			
Less:	Service charges—March	(20)	*Less:*	Outstanding cheques	(622)
	Service charges—note	(10)			
	NSF cheque	(700)			
Adjusted cash balance, Mar. 31		$2,128	Adjusted cash balance, Mar. 31		$2,128

2017 adjusting entries:

Mar. 31	Cash	27	
	Office Supplies Expense		27
	To correct ck. no. 4302		
	Cash	290	
	Note Receivable		250
	Interest Earned		50
	Bank Charges Expense	10	
	To record note collected by the bank.		
	Bank Charges Expense	20	
	Cash		20
	To record service charges for March.		
	Accounts Receivable	700	
	Cash		700
	To record NSF cheque returned.		

CP 7–4

Return to Question

1.

2017				
Dec.	31	Bad Debt Expense	5,000	
		Allowance for Doubtful Accounts		5,000
2018				
Apr.	15	Allowance for Doubtful Accounts	700	
		Accounts Receivable		700
Aug.	8	Allowance for Doubtful Accounts	3,000	
		Accounts Receivable		3,000
Dec.	31	Bad Debt Expense	4,000	
		Allowance for Doubtful Accounts		4,000
2019				
Mar.	6	Accounts Receivable	200	
		Allowance for Doubtful Accounts		200
Sept.	4	Allowance for Doubtful Accounts	4,000	
		Accounts Receivable		4,000
Dec.	31	Bad Debt Expense	4,500	
		Allowance for Doubtful Accounts		4,500

2. Both methods are estimates and attempt to match expenses with revenues. Over time, the allowance for doubtful accounts under either method should be approximately the same. If not, management should review the percentage estimates under each method to ensure that they are reasonable.

CP 7–5

Return to Question

1. Allowance for doubtful accounts = 5% x $125,000 = $6,250

2. The Allowance for Doubtful Accounts general ledger account has a balance of $3,000 but the balance should be $6,250. The difference is the amount of the bad debt expense.

   Bad debt expense = ($6,250 - $3,000) = $3,250

3. Impulse Inc.
   Partial Statement of Financial Position
   At December 31, 2017

Assets		
Accounts receivable	$125,000	
Less: Allowance for doubtful accounts	6,250	$118,750
OR		
Accounts receivable (net of $6,250 AFDA)		$118,750

CP 7–6

Return to Question

1. | | |
|---|---|
| Allowance for doubtful accounts, Dec. 31, 2017 | $8,000 |
| Written off in 2018 | (2,400) |
| | 5,600 |
| Allowance for doubtful accounts, Dec. 31, 2018 | (9,000) |
| Bad debt expense for 2018 | $3,400 |

2. | | |
|---|---|
| Allowance for doubtful accounts, Dec. 31, 2018 | $ 9,000 |
| Written off in 2019 | (1,000) |
| Recovered in 2019 | 300 |
| | 8,300 |
| Allowance for doubtful accounts, Dec. 31, 2019 | (10,000) |
| Bad debt expense for 2019 | $ 1,700 |

CP 7–7

Return to Question

1. a. | | | |
|---|---|---|
| Bad Debt Expense | 15,000 | |
| Allowance for Doubtful Accounts | | 15,000 |

(2% x $750,000 = $15,000)

b. Allowance for Doubtful Accounts = $3,000 + $15,000 = $18,000

2. a. | | | |
|---|---|---|
| Bad Debt Expense | 11,700 | |
| Allowance for Doubtful Accounts | | 11,700 |

[10% x ($150,000 - 3,000)] = 14,700 - 3,000 = $11,700

b. Allowance for Doubtful Accounts = $3,000 + $11,700 = $14,700
(or 10% x ($150,000-3,000))

3. There is a difference in the estimates because different methods are used. The first method is based on a percentage of sales; the second on aging of accounts receivable.

CP 7–8

Return to Question

1. a. Bad debt expense = 2% x $200,000 = $4,000
   b. Allowance for doubtful accounts = $1,000 debit - $4,000 credit = $3,000 credit
2. a. Bad debt expense = (5% x $50,000) + $1,000 debit = $3,500
   b. Allowance for doubtful accounts = (5% x $50,000) = $2,500
3. The calculation made in question 1 above better matches revenue and expenses. The revenue (sales) is directly related to the amount that is written off as bad debt expense.

   The calculation made in question 2 above better matches accounts receivable to allowance for doubtful accounts and thus produces a better statement of financial position valuation.

CP 7–9

Return to Question

1. 2017

Nov. 1	Note Receivable – Smith Co.	12,000	
	Account Receivable – Smith Co.		12,000

To record conversion of account receivable to 3-month, 6% note receivable.

2. 2017

Dec. 31	Interest Receivable	120	
	Interest Earned		120

To record accrued interest on note receivable – Smith Co. ($12,000 x 6% x 2/12 mos. = $120)

3. 2018

Feb. 1	Cash	12,180	
	Note Receivable – Smith Co.		12,000
	Interest Receivable		120
	Interest Earned		60

To record collection of Smith Co. note receivable ($12,000 x 6% x 1/12 mos. = $60)

P 7–1

Return to Question

1. 2017

Dec. 1	Petty Cash	200	
	Cash		200
	To establish petty cash fund.		
14	Office Supplies Expense	30	
	Maintenance Expense	20	
	Cash Over/short Expense	4	
	Cash		54
	To reimburse petty cash and record shortage.		
29	Office Supplies Expense	10	
	Delivery Expense	20	
	Cash Over/short Expense		2
	Cash		28
	To reimburse petty cash and record overage.		
31	Cash	50	
	Petty Cash		50
	To reduce petty cash fund balance to $50.		

2. The fund is small but adequate. Overage/shortages are not large. These are good indicators. The manager could consider reviewing the reimbursed receipts occasionally to ensure they are reasonable and petty cash disbursements are adequately supported.

P 7–2

Return to Question

1.

a	The company has received a $3,000 loan from the bank, that was deposited into its bank account but was not recorded in the books of the company.
e	A $250 cheque was not returned with the bank statement though it was paid by the bank.
d	Cheques amounting to $4,290 shown as outstanding on the November reconciliation still have not been returned by the bank.
a	A collection of a note receivable for $1,000 made by the bank has not been previously reported to Goertzen. This includes interest earned of $50.
c	The bank has erroneously charged Goertzen with an $1,100 cheque which should have been charged to Gagetown Ltd.
b	A $350 cheque made out by Fynn Company and deposited by Goertzen has been returned by the bank marked NSF; this is the first knowledge Goertzen has of this action.
a	A cheque for $840 was erroneously recorded as $730 in the company records.
c	A $600 bank deposit of December 31 does not appear on the bank statement.
b	Bank service charges amounting to $75 were deducted from the bank statement but not yet from the company records.

2.

Goertzen Ltd.
Bank Reconciliation
At December 31, 2017

Cash per general ledger, Dec. 31			$84,293	Cash per bank statement, Dec. 31			$90,568
Add:	Bank loan not recorded	$3,000		*Add:*	Cheque charged to		
	Bank collection not				wrong account	$1,100	
	recorded on books	950			Outstanding deposit	600	1,700
	Interest earned on note	50					92,268
	Error in recording cheque	110	4,110				
			88,403				
Less:	NSF cheque	350					
	Bank charge	75	425	*Less:*	Outstanding cheques		4,290
Adjusted Cash balance, Dec. 31			$87,978	Adjusted Cash balance, Dec. 31			$87,978

P 7–2 continued

3.

Dec.31	Cash	3,000	
	Bank Loan		3,000
	To record proceeds of bank loan.		
31	Cash	1,000	
	Notes Receivable		950
	Interest Earned		50
	To record collection of notes receivable by bank.		
31	Cash	110	
	Accounts Receivable		110
	To record correction of cheque deposited as $730, should have been $840.		
31	Bank Charges Expense	75	
	Cash		75
	To record monthly bank charges.		
31	Accounts Receivable	350	
	Cash		350
	To record NSF cheque from Fynn Company returned by the bank.		

P 7–3

1.

Return to Question

Gibson Energy Ltd.
Bank Reconciliation
At November 30, 2018

Cash per general ledger, Nov. 30			$4,213	Cash per bank statement, Nov. 30				$4,440
Add:	Error on cheque No. 1042	$ 54		*Add:*	Outstanding deposit			611
	Note collected	500	554					
			4,767					5,051
Less:	NSF cheque	130		*Less:*	Outstanding cheques			
	Service charge	10			No.	1014	$152	
	Note collection fee	6	146			1054	32	
						1192	54	
						1193	83	
						1194	109	430
Adjusted cash balance, Nov. 30			$4,621		Adjusted cash balance, Nov. 30			$4,621

P 7–3 continued

2.	Nov.	30	Cash	54	
			Office Supplies Expense		54
			To adjust for error in recording cheque no. 1042.		
		30	Accounts Receivable	130	
			Cash		130
			To record NSF cheque.		
		30	Bank Charges Expense	10	
			Cash		10
			To record bank charges for the month.		
		30	Cash	494	
			Bank Charges Expense	6	
			Notes Receivable		500
			To record a collection made by the bank.		

P 7–4

Return to Question

1. Accounts receivable = balance + credits = $74,460 + 3,200 + 1,800 = $79,460

2. The $5,000 credit balance could be shown as a current liability on the statement of financial position, unless it is considered immaterial. In that case, it would be netted against accounts receivable with debit balances and $74,460 would be shown in the asset section of the statement of financial position.

P 7–5

Return to Question

1.	2017			
	Dec.31	Allowance for Doubtful Accounts	2,000	
		Bad Debt Expense		2,000
		To adjust balance to 3% of $100,000 A/R.		
	2018			
	a.	Allowance for Doubtful Accounts	9,000	
		Accounts Receivable		9,000
	b.	Accounts Receivable	800,000	
		Sales		800,000
	c.	Cash	700,000	
		Accounts Receivable		700,000
	d.	Accounts Receivable	2,000	
		Allowance for Doubtful Accounts		2,000
		Cash	2,000	
		Accounts Receivable		2,000

P 7–5 continued

e.	Bad Debt Expense	14,000	
	Allowance for Doubtful Accounts		14,000

Allowance for Doubtful Accounts

Debit	Credit	
	5,000	Balance at Dec. 31, 2017
2,000		Write-offs and recovery
9,000	2,000	
4,000		Balance before adjustment
	14,000	Adjustment needed
	10,000	Balance at Dec. 31, 2018

2. Allowance for Doubtful Accounts

Debit	Credit	
	5,000	Balance at Dec. 31, 2017
	6,000	1% of $600,000 sales
	11,000	Adjusted bal. Dec. 31, 2017
9,000		Transaction (a)
	8,000	1% of $800,000 sales
	2,000	Transaction (d)
	12,000	Balance at Dec. 31, 2018

P 7–6

Part A: 2017

1. Dec. 31	Allowance for Doubtful Accounts	1,000	
	Accounts Receivable		1,000

Return to Question

2. Calculation of uncollectible amount at December 31, 2017

Age (days)	*Accounts receivable*	*Estimated loss percentage*	*Estimated uncollectible amount*
1-30	$ 50,000	2%	$1,000
31-60	27,000	4%	1,080
61-90	40,000	5%	2,000
91-120	30,000	10%	3,000
Over 120	2,000 *	50%	1,000
	$149,000		$8,080

* net of R. Laws' balance

AFDA adjusting entry = (starting balance – accounts written off) – ending balance

= ($1,500 Cr – 1,000 Dr) – 8,080 Cr.

= $7,580 Cr. needed

2017			
Dec. 31	Bad Debt Expense	7,580	
	Allowance for Doubtful Accounts		7,580

P 7–6 continued

Part B: 2018

Accounts Receivable	700,000	
Sales		700,000
Cash	599,000	
Accounts Receivable		599,000
Allowance for Doubtful Accounts	10,000	
Accounts Receivable		10,000

Calculation of uncollectible amount at December 31, 2018

Age (days)	*Accounts receivable*	*Estimated loss percentage*	*Estimated uncollectible amount*
1-30	$170,000	2%	$ 3,400
31-60	35,000	3%	1,050
91-120	27,000	25%	6,750
Over 120	8,000	50%	4,000
	$240,000		$15,200

AFDA adjusting entry = (starting balance- accounts written off) – ending balance required
= ($8,080 Cr. – 10,000 Dr.) - $15,200 Cr.
= $17,120 Cr. needed

2018			
Dec. 31	Bad Debt Expense	17,120	
	Allowance for Doubtful Accounts		17,120

P 7–7

Return to Question

1. a.

Allowance for Doubtful Accounts	25,000	
Accounts Receivable		25,000

b.

Accounts Receivable	15,000	
Allowance for Doubtful Accounts		15,000
Cash	15,000	
Accounts Receivable		15,000

2. Allowance for doubtful accounts = ($15,000 Cr. - $25,000 Dr.) (1a) + $15,000 Cr. (1b)
= $5,000 Cr. balance

3. a. Balance required = 3% of credit sales
= 3% x 70% x $1,000,000
= $21,000

Bad Debt Expense	16,000	
Allowance for Doubtful Accounts		16,000

To record the proper balance: $21,000 Cr. required; $5,000 Cr. is already in the account.

b.

Bad Debt Expense	7,500	
Allowance for Doubtful Accounts		7,500

To record the proper balance: $12,500 Cr. required, $5,000 Cr. is already in the account.

P 7–7 continued

c. Calculation of uncollectible amount at December 31, 2018

Age (days)	*Accounts receivable*	*Estimated loss percentage*	*Estimated uncollectible amount*
1-30	$100,000	2%	$ 2,000
31-60	50,000	4%	2,000
61-90	25,000	5%	1,250
91-120	60,000	10%	6,000
Over 120	15,000	50%	7,500
	$250,000		$18,750

Bad Debt Expense	13,750	
Allowance for Doubtful Accounts		13,750

To record the proper balance: $18,750 Cr. required, $5,000 Cr. already in the account.

P 7–8

Return to Question

1. 2017

AFDA adjusting entry = (starting balance-accounts written off)-ending balance required

= ($1,500 Cr. - $600Dr.) - $3,900 Cr.

= $3,000 Cr. needed

Bad Debt Expense	3,000	
Allowance for Doubtful Accounts		3,000

To record adjustment needed ($3,900 - [$1,500 - $600])

2. 2018

AFDA adjusting entry = (starting balance – accounts written off + accounts recovered) – ending balance required

= ($3,900Cr. - $300Dr. + $400Cr)

Bad Debt Expense	3,200	
Allowance for Doubtful Accounts		3,200

To record adjustment needed ($7,200 - [$3,900 - $300 + $400])

3. 2018

Jun. 5	Accounts Receivable	400	
	Allowance for Doubtful Accounts		400
5	Cash	400	
	Accounts Receivable		400

P 7–9

[Return to Question]

1\.

	2019	Accounts Receivable	8,540,000	
		Sales		8,540,000
		To record sales for 2019.		
		Accounts Receivable (Huron Supplies)	15,600	
		Allowance for Doubtful Accounts		15,600
		To reinstate account of Huron Supplies previously written off as uncollectible.		
		Cash	8,262,560	
		Accounts Receivable		8,262,560
		To account for collections during year.		
		Allowance for Doubtful Accounts	33,660	
		Accounts Receivable		33,660
		To write off bad debts.		
		Notes Receivable (12%, 6 months)	520,000	
		Accounts Receivable		520,000
		To record receipt of note (assumes cash is included in the $8,262,560 above).		
2. a.	Dec. 31	Bad Debt Expense	21,870	
		Allowance for Doubtful Accounts		21,870(2)
		To record bad debt expense provision:		
		10% on $200,580 — $20,058		
		2% on $807,600 (1) — 16,152		
		Required allowance — $36,210		
b.	Dec. 31	Interest Receivable	10,400	
		Interest Earned		10,400
		To record accrued interest on note receivable ($520,000 x 12% x 2/12 mos. = $10,400)		

(1) Accounts receivable not past due
= $1,268,800 + 8,540,000 - 8,262,560 + 15,600 - 33,660 - 200,580 - 520,000
= $807,600 x 2% = $16,152

(2) AFDA adjusting entry
= (starting balance – accounts written off + accounts recovered) - ending balance required)
= ($32,400 Cr. - $33,660 Dr + $15,600 Cr.) - $36,210 Cr.
= $21,870 Cr. needed

3\. Amount of bad debt expense on income statement = $21,870

4\. Allowance for doubtful accounts = $36,210

P 7–10

Return to Question

1. Ageing of Accounts Receivable
December 31, 2017
Age (days)

	1-30	31-60	61-90	91-120	121-150	+150
Greenwood						600
Granville					335	
Kutcher	275	720				
Lamb						445
Grimm			822			
Fehr		250		465		922
Golden	500					
	$775	$970	$822	$465	$335	$1,967

2. Calculation of Uncollectible Amount
December 31, 2017

Age (days)	*Accounts receivable*	*Estimated loss percentage*	*Uncollectible amount*
1-30	$775	0.5%	$ 3.90
31-60	970	1.0%	9.70
61-90	822	3.0%	24.66
91-120	465	10.0%	46.50
121-150	335	25.0%	83.75
Over 150	1,967	50.0%	983.50
Totals	$5,334		$1,152.01

			Dr.	Cr.
3.	Dec. 31	Bad Debt Expense	952.01	
		Allowance for Doubtful Accounts		952.01
		To record the proper balance: $1,152.01 Cr. required, $200.00 Cr. already in the account.		

P 7–11

Return to Question

1.	Feb. 15	Allowance for Doubtful Accounts	200	
		Accounts Receivable		200
	Apr. 30	Accounts Receivable	100	
		Allowance for Doubtful Accounts		100
		Cash	100	
		Accounts Receivable		100
	Jun. 26	Cash	300	
		Allowance for Doubtful Accounts	400	
		Accounts Receivable		700
	Sep. 7	Allowance for Doubtful Accounts	350	
		Accounts Receivable		350
	Dec. 31	Allowance for Doubtful Accounts	800	
		Accounts Receivable		800

2.

Calculation of Uncollectible Amount
December 31, 2018

Age (days)	*Accounts receivable*	*Estimated Loss percentage*	*Estimated uncollectible amount*
1-30	$20,000	2%	$ 400
31-60	12,000	4%	480
61-90	5,000	5%	250
91-120	3,000	10%	300
Over 120	10,000	50%	5,000
Totals	$50,000		$6,430

Allowance for Doubtful Accounts

Debit	Credit	
	1,735	Balance at Dec. 31, 2017
200	100	Write-offs and recovery
400		
350		
800		
	85	Balance before adjustment
	6,345	Adjustment needed
	6,430	Balance needed at Dec. 31, 2018

Dec. 31	Bad Debt Expense	6,345	
	Allowance for Doubtful Accounts		6,345

P 7–12

Return to Question

1.	Note Receivable – Baron Cabinet Ltd.	12,000	
	Account Receivable – Baron Cabinet Ltd.		12,000
	To record conversion of account receivable to 12-month, 12% note receivable.		

2. No entry is required. Accrued interest was paid on December 31.

3.	Cash	10,600	
	Note Receivable – Baron Cabinet Ltd.		10,000
	Interest Earned		600
	To record collection of the February portion of Baron Cabinet Ltd. note receivable and interest for one month ($60,000 x 12% x 1/12 mo. = $600)		

CHAPTER EIGHT
Long-lived Assets

Concept Self-check

1. To capitalize a cost means to record an expenditure as a long-lived asset.

Return to Question

2. An expenditure is a cash disbursement. A capital expenditure is one that
   a. benefits more than the current accounting period, and these benefits are reasonably assured;
   b. enhances service potential or makes an asset more valuable, and
   c. is significant in amount.

   A revenue expenditure does not have these characteristics.

3. The purchase of a computer for business use qualifies as a capital expenditure when it benefits more than one accounting period. However, its purchase price may be immaterial, depending on the company's capitalization policy. The annual maintenance or repairs made to the computer to keep it running are revenue expenditures if the cash disbursements are frequent, small, and do not extend the life of the computer. Purchase of a part that significantly enhances performance or extends the useful life of the computer might be capitalized, again depending on materiality.

4. Purchasing land and buildings for a lump sum means that no distinction is made between the two items at the time the purchase price is negotiated. The purchase price must be apportioned between the Land and Building accounts because buildings are subject to depreciation. The purchase price, therefore, is allocated on the basis of relative fair values of the land and the buildings.

5. As a matter of expediency, companies usually set a dollar limit to help determine whether a disbursement is to be treated as a revenue or a capital expenditure because efforts required to capitalize and amortize an inexpensive item are so much greater than the benefits to be derived. The concept of materiality is used to determine the amount at which an expenditure is considered capital in nature.

6. The three criteria to capitalize a replacement part are:
   a. whether it is a material amount;
   b. whether the cost can be reliably measured; and
   c. whether it will enhance the future economic benefit of the asset.

Concept Self-check continued

7. When one asset is exchanged for another, the cost of the asset acquired is determined by the fair value of the asset given up.

8. Depreciation is the process of allocating the cost of a tangible, long-lived asset to each accounting period that will benefit from its use. The amount to be allocated depends on the estimate of the asset's useful life and residual value, and method of depreciation to be used.

9. As time elapses, the economic benefits provided by an asset may decrease, so that the efficiency of the asset is greater during its initial years and less later on. If a car is free from initial defect, it should not require any repairs in its first year of use, but it will need regular maintenance (e.g., oil changes). Eventually, it will likely require repairs, such as a replacement battery or new valves. The annual maintenance costs will increase, costing the user more to use the car. Therefore, the value of the car or the value of its services each year will decrease, so depreciation should likely be lower in subsequent years.

10. A usage method of depreciation is useful when the use of an asset varies from period to period and when wear and tear is the major cause of depreciation. A time–based method, such as straight–line depreciation, assumes that each period receives services of equal value from the use of the asset; time–based methods ignore asset usage. The preferable method is a matter of judgement.

    The sports car may wear out in two ways. The distance travelled has a large bearing on the value of the car; however, the passage of time also does, as an older model generally sells for less than its original cost. In terms of the useful life of the car, it will only last for a certain number of kilometres and it only renders services if it is driven. A usage method is likely best to measure depreciation, since the car is not necessarily driven for equal times during each period; the less it is driven, the more periods it will last.

11. Under the declining balance method, a constant depreciation rate is applied in each accounting period to the remaining carrying amount (cost less accumulated depreciation). Carrying amount declines more quickly in earlier years. Under the straight–line method, the carrying amount declines by the same amount over the useful life of the asset.

12. If an asset is expected to have a 10-year life, then, each year 10 per cent of its life is over (100%/10 years = 10%). The double-declining balance is double this rate or 20% per year applied to the carrying amount of the asset at the end of the previous year.

13. Partial year depreciation is calculated in the year in which a long-lived asset is purchased or disposed. It can be calculated by several means – for example, using the half-year rule or by pro-rating depreciation expense over the number of months that the asset was in use.

Concept Self-check continued

14. Either changes in estimated residual value or useful life may affect the calculation of depreciation expense. In both cases, no change is made to depreciation expense already recorded. The effects of the changes are spread over the remaining future periods.

15. Subsequent capital expenditures affect depreciation calculations in the same manner as changes in accounting estimates. The effects are accounted for prospectively (over the remaining future periods).

16. At the end of each reporting period, the recoverable amount (fair value less estimated costs of disposal) of an asset must be compared to its carrying value. If the recoverable amount is lower, the carrying value must be adjusted downward (a credit to the asset account) and an impairment loss must be recorded (a debit to an expense account). Subsequent years' depreciation expense calculations must also be adjusted.

17. Estimates of future events are commonplace in accounting, and is deemed necessary to provide more meaningful information to financial statement users, within reason. Depreciation is one example. The benefits of matching the use of a capital asset to the revenue of future periods that it helps to produce is considered useful information under GAEB. To facilitate this, depreciation methods rely on estimates of future events, and these are subject to error. Accounting is intended to produce financial information that is not precise but rather a fair representation of the activities of the entity. If the estimates used subsequently prove to be incorrect, they are adjusted.

18. Significant parts may have different estimated usage patterns, useful lives, and residual values. They may be replaced at different points in the useful life of the long-lived asset. Separate accounting for significant parts allows for these differences to be reflected in the financial statements.

19. A gain or loss on disposal does not occur if the carrying amount of an asset is the same as the proceeds of disposition. This rarely occurs.

20. A trade-in involves acquiring a long-lived asset by giving up a similar asset to the one being acquired (i.e., exchanging it) as part of the purchase price. It is not quite the same as an outright sale, which involves giving up a long-lived asset and receiving another type of asset like cash for it.

21. The trade-in allowance may be higher or lower than the fair value of the used asset on the open market. Dealers often give more trade-in allowance on a used car than it is actually worth to make purchasers think that they are getting a better deal on the new car.

22. The cost of the new asset is calculated as the sum of cash paid plus the fair value of the trade-in.

Concept Self-check continued

23. Intangible assets, unlike property, plant, and equipment, cannot be touched or otherwise sensed. They are the same as PPE in that they represent future economic benefits to an entity over more than one accounting period, and so are similarly capitalized.

24. A patent is an exclusive right granted by the state to an inventor to produce and sell an invention for a specified period of time. A patent's useful life may be affected by economic factors based on demand and competition. The 20–year life may be excessive; a shorter life may be more realistic. For example, if a company develops a unique computer and patents it, even though it cannot be reproduced by other firms for 20 years, nothing stops a competitor from studying it, improving it, and patenting this improved computer. Although the "unique" computer may be useful for many years, it may be technologically obsolete before the patent expires.

25. A copyright is the exclusive right granted by the state to publish a literary or artistic work. It exists for the lifetime of the author and for a specific period of time after death. Similarly, a trademark is a legal right granted by the state, in this case for an entity to use a symbol or a word as a trademark to identify one of its products or services. A copyright would be granted for a piece of music or a novel. Examples of trademarks are the word "Coke"® on soft drink bottles and the stylized 'M'® of the McDonald's® logo.

26. Intangible assets are generally measured and recorded at cost. The measurement basis should be disclosed, along with
    a. the type of amortization method for each class of intangible asset;
    b. opening and ending balances for cost, accumulated amortization, and carrying value, and disclosure of any changes;
    c. whether they are internally generated; and
    d. whether they have finite or indefinite lives.

27. Goodwill is a long-lived asset that represents the capitalized value of superior earnings obtained by purchasing the net assets of another company. Such factors as favourable customer relations, loyal and competent employees, possession of valuable patents or copyrights, high-quality products, or effective management help create goodwill. Goodwill differs from an intangible asset. It cannot be separately identified. It relates to the totality of the future benefits acquired. The useful life of goodwill is considered indefinite. Goodwill can only be purchased in an arms-length transaction because it is otherwise difficult to attach a value to it.

CP 8–1

Return to Question

h	Battery purchased for truck[1]
c	Cash discount received on payment for equipment
a	Commission paid to real estate agent to purchase land
c	Cost of equipment test runs
b	Cost to remodel building
b	Cost to replace manual elevator with automatic elevator
a	Cost of sewage system
c	Equipment assembly expenditure
c	Expenditures for debugging equipment
e	Installation of air–conditioner in automobile
b	Insurance paid during construction of building
a	Legal fees associated with court case to defend title to land purchased
h	Oil change for truck[1]
a	Payment for landscaping
a	Payment to demolish a derelict building on land purchased
a	Expenditures for removal of derelict structures
h	Repair made to building after moving in[1]
h	Repair of collision damage to truck[1]
h	Repair of torn seats in automobile[1]
h	Replacement of rusted fender on automobile[1]
e	Replacement of transmission on automobile
c	Special floor foundations for installation of equipment
h	Tires purchased for truck[1]
c	Transportation expenditures to bring equipment to plant.

[1]Assumed to be immaterial in amount. All others assumed to be material, estimable, and to benefit future periods, and therefore capitalized.

Alternate answers are acceptable if plausible.

CP 8–2

Return to Question

1. Cost = $3,250 + $100 +$300 + $50 + (10% x $3,250) = $4,025. Answers may vary. The table may be recorded as a separate asset. Also, all or some of the expenditures may be considered immaterial.

2. Straight–Line Method:

		Straight–line	*Double–declining balance*	
Year	1	$378*	$4,025 x 40%** =	$1,610
	2	$755	2,415 x 40% =	966
	3	$755	1,449 x 40% =	580
	4	$755	869 x 40% =	348
	5	$755	521 x 40% =	208

$*\frac{(\$4,025 - 250)}{5 \text{ years}} \times ½ = \$378$ (rounded)

**(100%/5yrs. = 20% x 2 = 40%)

Under the straight-line method, each period is assumed to receive equal benefits from the use of the asset. Under the double-declining balance method, each period is charged a diminishing amount. The straight-line method would be more appropriate if the economic benefits would be used about equally over the years. The double-declining balance method would be better to use if the economic benefits were used up more in the first few years. The DDB method Is likely the better choice, given the probability of technological obsolescence of this type of asset.

CP 8–3

Return to Question

1. Journal entries to record the sale on the books of:

a. Freeman:

April 30, 2018		
Equipment	200,000	
Land		125,000
Gain on Disposal		75,000

The equipment is valued at the fair value of the asset given up.

b. The developer:

April 30, 2018		
Land	240,000	
Equipment		325,000
Accumulated Depreciation – Equipment	80,000	
Loss on Disposal	5,000	
Calculated as:		
Cost		$325,000
Accumulated depreciation		(80,000)
Carrying amount		245,000
Proceeds (fair value of equipment)		240,000
Loss on disposal		$ 5,000

CP 8–3 continued

2. The land may have been zoned as agricultural land. The appraiser may have valued the land assuming no change in use would occur. The developer may anticipate that the land could be rezoned to commercial land, which should increase its value.

CP 8–4

Return to Question

1. Straight–line method:

$$\frac{(\$110{,}000 - 10{,}000)}{10 \text{ years}} = \$10{,}000 \text{ per year}$$

2018 depreciation = $10,000 x ½ = $5,000
2019 depreciation = $10,000

2. Double–declining balance method:

$$\frac{100\%}{10 \text{ years}} \times 2 = 20\%$$

2018 depreciation = $110,000 x 20% x ½ = $11,000
2019 depreciation = ($110,000 – 11,000) x 20% = $19,800

CP 8–5

Return to Question

1. Straight–line method:

$$\frac{(\$25{,}000 - 5{,}000)}{5 \text{ years}} = \$4{,}000 \text{ per year}$$

2018 depreciation = $4,000 x ½ = $2,000
2019 depreciation = $4,000

2. Usage method:

$$\frac{(\$25{,}000 - 5{,}000)}{500{,}000 \text{ km.}} = \$.04/\text{km.}$$

2018 depreciation = 120,000 km. x $.04 = $4,800
2019 depreciation = 150,000 km. x $.04 = $6,000

The ½ year rule does not apply under usage methods of calculating depreciation.

3. Double–declining balance method:

$$\frac{100\%}{5 \text{ years}} = 20\% \times 2 = 40\% \text{ per year}$$

2018 depreciation = $25,000 x 40% = $10,000 x ½ yr. = $5,000
2019 depreciation = ($25,000 – 5,000) x 40% = $8,000

CP 8–6

Return to Question

1.	Jan. 31, 2018		
	Computer	3,000	
	Cash		3,000
	March 1, 2018		
	Computer	1,000	
	Cash		1,000
	Apr. 1, 2019		
	Computer	2,000	
	Cash		2,000

Alternate interpretations are acceptable, with adequate explanation.

2.	Dec. 31, 2018		
	Depreciation Expense	667	
	Accumulated Depreciation – Equipment		667
	To record 2018 depreciation: ($3,000 + 1,000) x 1/3 yrs. X 1/2 yr.).		
	Dec. 31, 2019		
	Depreciation Expense	2,667	
	Accumulated Depreciation – Equipment		2,667
	To record 2019 depreciation:		
	($3,000 + 1,000 + 2,000 - 667) x 1/2 yrs. $2,667		

CP 8–7

Return to Question

1. Straight–line method:

   Balance at end of 2019 = $110,000 – 5,000 – 10,000 = $95,000

   $\frac{\$95,000}{4 \text{ years}}$ = $23,750 per year

   2020 depreciation = $23,750

2. Double–declining balance method:
   Balance at end of 2019 = $110,000 – 11,000 – 19,800 = $79,200

   $\frac{100\%}{4 \text{ years}}$ x 2 = 50% per year

   2020 depreciation = $79,200 x 50% = $39,600

CP 8–8

Return to Question

1. Equipment sold for $50,000:

Cash	50,000	
Accumulated Depreciation	50,625	
Loss on Disposal	9,375	
Equipment		110,000
To record loss on disposal		

Cost	$110,000
Acc. dep'n. ($5,000 + 10,000 + 23,750 +11,875*)	(50,625)
Carrying amount	59,375
Proceeds of disposal	(50,000)
Loss on disposal	$ 9,375

*2021 depreciation expense = $23,750 x 1/2 = $11,875.

2. Equipment sold for $85,000:

Cash	85,000	
Accumulated Depreciation	50,625	
Equipment		110,000
Gain on Disposal		25,625
To record gain on disposal		

Cost of old asset	$110,000
Acc. dep'n. ($5,000 + 10,000 + 23,750 + 11,875)	(50,625)
Carrying amount	59,375
Proceeds of disposal (fair value)	(85,000)
Gain on disposal	$(25,625)

3. Equipment sold for $59,375:

Cash	59,375	
Accumulated Depreciation	50,625	
Equipment		110,000
To record disposal. No gain or loss resulted.		

Cost of old asset	$110,000
Acc. dep'n. ($5,000 + 10,000 + 23,750 + 11,875)	(50,625)
Carrying amount	59,375
Proceeds of disposal (fair value)	(59,375)
Gain on disposal	$ -0-

CP 8–9

Return to Question

Equipment*	145,000[3]	
Accumulated Depreciation	50,625	
Equipment		110,000
Cash		50,000[2]
Gain on Disposal		35,625
To record gain on disposal		

Cost of old asset	$110,000
Acc. dep'n.	
($5,000 + 10,000 + 23,750 + 11,875[1])	(50,625)
Carrying amount	59,375
Proceeds of disposal (fair value)	(95,000)
Gain on disposal	$(35,625)

[1] 2021 depreciation expense = $23,750 x 1/2 = $11,875

List price	150,000
Trade-in allowance	(100,000)
Cash paid	$50,000[2]

Cost of new asset = Cash paid[2] + fair value of asset traded in
= $50,000 + 95,000
= $145,000[3]

CP 8–10

Return to Question

1.

Depreciation Method	*Calculation*	*Year 1*	*Year 2*	*Year 3*
A: Straight–Line	$30,000/5 = $6,000	$3,000[1]	$6,000	$6,000
B: Declining Balance	40%[2] x $30,000	$6,000[3]		
	40% x $24,000		$9,600	
	40% x $14,400			$5,760

[1]$6,000 x ½ year rule

[2](100%/5 yrs.) = 20% x 2 = 40%

[3]12,000 x ½ year rule

2. The chief financial officer may be correct in asserting that depreciation is an arbitrary allocation method based on unreliable estimates. On the other hand, some general methods of a) recognising future benefits, and b) allocating these benefits over future periods in which they are used to earn revenue seems necessary to present the financial position and results of operations of an entity. Capitalizing certain non-current assets and deprecating them over their estimated useful lives is likely the best option. Although there are many specific techniques for calculating and allocating depreciation over future periods, the need for consistency and reliability within financial statements under GAEB requires that the technique, once chosen, should be applied in a similar manner from year to year unless circumstances change, and disclosed in the notes.

3. The method of depreciation chosen should be the one that best allocates the cost of the asset over its estimated useful life and over the accounting periods expected to receive benefits from its use (to best match costs with revenues earned).

CP 8–11

Return to Question

1. 2020

Jan. 1	Accumulated Depreciation — Machine 1	7,500	
	Cash	500	
	Gain on Disposal		500
	Machine 1		7,500
	To record gain on disposal		

Cost — machine 1	$7,500
Acc. dep'n. ($750* + 1,500 + 1,500 + 1,500 + 1,500 + 750*)	(7,500)
Carrying amount	-0-
Proceeds of disposal	(500)
Gain on disposal	$ (500)

* ½ year rules applies

2. 2020

Dec. 31	Depreciation Expense — Machine 2	788	
	Accumulated Depreciation — Machine 2		788

$$\text{Revised depreciation} = \frac{\text{(Remaining carrying amount – residual value)}}{\text{Revised remaining useful life}}$$

$$= \frac{(\$2{,}775^{1} – 1{,}200)}{2 \text{ years}}$$

$$= \$788 \text{ (rounded)}$$

Cost machine 2		$7,500
Acc. dep'n.		
2015: [($7,500 – 1,200) x 1/6 yrs. = 1,050 x 1/2 yr.]	$ 525	
2016 through 2019: ($1,050/yr. x 4 yrs.)	4,200	(4,725)
Carrying amount at December 31, 2019		$2,775[1]

3. 2020

Dec. 31	Depreciation Expense — Machine 3	690	
	Accumulated Depreciation — Machine 3		690

$$\text{Revised depreciation} = \frac{\text{(Remaining carrying amount – residual value)}}{\text{Revised remaining useful life}}$$

$$= \frac{(\$3{,}450^{*} – 0)}{5 \text{ years}}$$

$$= \$690$$

Cost machine 3		$7,500
Acc. dep'n.		
2015: [($7,500 – 300) x 1/8 yrs. = 900 x 1/2 yrs.]	$ 450	
2016 through 2019: ($900/yr. x 4 yrs.)	3,600	(4,050)
Carrying amount at December 31, 2019		$3,450*

CP 8–12

Return to Question

1. Equipment cost $15,000
   Less: Acc. depreciation to Dec. 31, 2018 3,750

   Carrying amount (Jan. 1, 2019) $11,250

   ($11,250 – 0)/4 yrs. = $2,813 (rounded) depreciation expense each year of remaining useful life

2. 2019

Dec. 31	Depreciation Expense—Equipment	2,813	
	Accumulated Depreciation—Equipment		2,813

3. Accumulated Depreciation—Equipment *No. 193*

Date 2018	Description	F	Debit	Credit	DR or CR	Balance
	Bal. Fwd.				Cr	2,250
Dec. 31	Depreciation for 2018			1,500	Cr	3,750
2019						
Dec. 31	Depreciation for 2019			2,813	Cr	6,563

4. If the estimated useful life of five years was known at the time of purchase, depreciation expense would have been $1,500 in 2016 ($15,000/5 yrs. X ½ yr.) and $3,000 each subsequent year until the equipment was fully depreciated or disposed.

5. Depreciation was calculated correctly in all years based on reasonable information available at the time. The estimates were updated when more accurate information was available. As such, the financial statement information would be deemed to be reasonable even though the depreciation expense varies between 2018 and subsequent years. The amounts also may be immaterial, so differences would not affect the usefulness of the financial statements.

CP 8–13

Return to Question

1\. a. Jan. 1, 2018

Truck	10,500	
Cash		10,500

To record the purchase of the truck.

b\. Dec. 31, 2018

Depreciation Expense	2,100	
Accumulated Depreciation—Truck		2,100

To record 2018 depreciation expense as follows:
(100%/5yrs. = 20% x 2 = 40% DDB; $10,500 x 40% x 1/2 = $2,100

c\. March 1, 2019

Truck	4,000	
Truck Operating Expense	3,500	
Cash		7,500

To record truck expenditures.

d\. Dec. 31, 2019

Depreciation Expense	4,160	
Accumulated Depreciation—Truck		4,160

To record 2019 depreciation expense

2019 depreciation expense is calculated as:

Year	*Carrying amount*	*DDB rate*	*Depreciation expense*
2018	$10,500	40% x ½ yr.	$2,100
2019	$12,400*	40%	4,960

*($10,500 + 4,000 – 2,100) = $12,400

2.a. March 3, 2020

Depreciation Expense — Truck	1,488	
Accumulated Depreciation — Truck		1,488

To record depreciation to date of disposal [($12,400 – 4,960) x 40% x ½ yr)] = $1,488.

b\. March 3, 2020

Accumulated Depreciation — Truck	8,548	
Cash	8,000	
Gain on Disposal		2,048
Truck		14,500

To record gain on disposal, as follows:

Cost — truck (10,500 + 4,000)	$14,500
Acc. dep'n. ($2,100 + 4,960 + 1,488)	(8,548)
Carrying amount	5,952
Proceeds of disposal	(8,000)
Gain on disposal	$ 2,048

CP 8–14

Return to Question

1. Jan. 1, 2018

Land	300,000	
Buildings	200,000	
Patents	100,000	
Machinery	250,000	
Goodwill	50,000	
Cash		900,000

To record purchase of Coffee Company assets.

2. Dec. 31, 2018

Depreciation Expense – Building	20,000[1]	
Depreciation Expense – Machinery	37,500[2]	
Amortization Expense – Patents	2,500[3]	
Accumulated Depreciation – Building		20,000
Accumulated Depreciation – Machinery		37,500
Patents		2,500

To record 2018 depreciation and amortization expense on assets acquired from Coffee Company as follows:

[1.] DDB rate: $\frac{100\%}{10 \text{ yrs.}} \times 2 = 20\%$

2018 building depreciation = \$200,000 x 20% x ½ yr. = \$20,000

[2.] 2018 machinery depreciation

$= (\$250,000 - 25,000) \times \frac{10,000}{60,000}$

= \$37,500

[3.] 2018 patent amortization = $\frac{\$100,000}{20 \text{ yrs.}} \times ½ \text{ yr.} = \$2,500$

3. Dec. 31, 2019

Impairment Loss	12,500	
Patents		12,500

To write-down patents to estimated value at December 31, 2019 as follows:

Cost	100,000
Accumulated amortization	(7,500)*
Carrying amount	92,500
Fair value	(80,000)
Impairment loss	\$12,500

*2018: (\$100,000/20 yrs. x ½ yr) =	\$2,500
2019: (\$100,000/20 yrs.) =	5,000
Total	\$7,500

CP 8–14 continued

4.

a. Dec. 2, 2020

Depreciation Expense – Machinery	75,000	
Accumulated Dep'n. – Machinery		75,000

To record depreciation in year of disposal as:
(250,000 – 25,000) x 20,000/60,000 units = $75,000

b. Dec. 2, 2020

Cash	100,000	
Accumulated Depreciation – Machinery	168,750	
Gain on Disposal		18,750
Machinery		250,000

To record sale of machinery as follows:

Cost		$250,000
Accumulated depreciation		
2018	37,500[1]	
2019	56,250[2]	
2020	75,000	(168,750)
Carrying amount		81,250
Proceeds of disposal		(100,000)
Loss on disposal		$ 18,750

[1] $(\$250,000 – 25,000) \times \frac{20,000}{60,000} \times ½\ \text{yr.} = \$37,500$

[2] $(\$250,000 – 25,000) \times \frac{15,000}{60,000} = \$56,250$

P 8–1

Return to Question

Cost of lots:		
Cheque to Jones		$140,000
Bank loan assumed by Arrow		100,000
Razing of barns		6,000
Legal, accounting, and brokerage fees		20,000
Clearing and levelling costs		10,000
Total outlays		$276,000
Less: Contra items:		
Proceeds from crops	$6,000	
Proceeds from house	1,600	
Proceeds from lumber	4,400	12,000
Net cost of 500 lots		$264,000
Net cost per lot ($264,000/500)		$528

P 8–2

Return to Question

1	Invoice price of new machine, net of cash discount offered
1	Cash discount on the above, which has not yet been taken (assumes the company follows this treatment)
5[1]	Anticipated first year's savings in operating costs from use of new machine
3[2]	Two–year service contract on operations of new machine paid in full
1	Cost of materials used while testing new machine
1	Cost of installing sound insulation in wall near machine so that nearby office employees will not be disturbed by it
1	Cost of removing machine that new machine replaces.

[1] No need to record; will be reflected as less operating costs in the first year

[2] Will be recorded as prepaid expense and written off over the two years in question

P 8–3

Return to Question

1.

Jul. 1	Amusement Ride	20,000	
	Accounts Payable		20,000
	To record acquisition of new amusement ride.		
4	Amusement Ride	4,000	
	Cash		4,000
	To record cost of base for new ride.		
5	Amusement Ride	520	
	Cash		520
	To record cost of transporting ride to park.		
5	Prepaid Insurance	90	
	Cash		90
	To record three years prepayment of insurance.		
5	Amusement Ride	675	
	Accounts Receivable	225	
	Cash		900
	To record payment for ride alterations and set up receivable from vendor.		
6	Amusement Ride	188	
	Cash		188
	To record cost of installation.		
15	Accounts Payable	20,000	
	Amusement Ride		200
	Cash		19,575
	Accounts Receivable		225
	To record payment of ride invoice less 1% discount and less account receivable re. alterations.		

2. The carrying value of the asset is $25,183 ($20,000 + 4,000 + 520 + 675 + 188 – 200)

P 8–4

Return to Question

1. Depreciation per unit = $\frac{\text{Cost}}{\text{Expected production}}$ = $\frac{\$90,000}{9,000 \text{ units}}$ = $10 per unit

Depreciation Based on Usage		
Year	*Units*	*Depreciation*
2017	2,000	$20,000
2018	3,000	$30,000

2. Accumulated depreciation at the end of 2019 is $50,000.

3. Carrying amount of the machine at the end of 2019 is $40,000 ($90,000 – 50,000).

4. Janz Corporation
Partial Statement of Financial Position
At December 31

	2019	*2018*
Assets		
Machinery	$90,000	$90,000
Less: Accumulated depreciation	50,000	20,000
Carrying amount	$40,000	$70,000

P 8–5

Return to Question

1. Depreciation Expense:

Year	*Straight–line*[1]	*Double–declining balance*[2]	*Usage*[3]
2018	$ 500	$1,250	$ 800
2019	1,000	1,875	1,200
2020	1,000	875[2]	1,600
2021	1,500	-0-	400[3]
Totals	$4,000	$4,000	$4,000

[1] 2018: ($5,000 – 1,000) x ¼ yrs. x ½ yr. = $500
2019: ($5,000 – 1,000) x ¼ yrs. = $1,000
2020: ($5,000 – 1,000) x ¼ yrs. = $1,000
2021: $1,500*
*Since the printer has reached the end of its estimated useful life, the carrying amount should be reduced to the estimated residual value of $1,000.

[2] DDB rate: $\frac{100\%}{4 \text{ yrs.}}$ x 2 = 50%

Year	*Carrying Amount*	*DDB Rate*	*Depreciation Expense*
2018	$5,000	50% x ½ yr.	$1,250
2019	3,750	50%.	$1,875
2020	1,875	50%	875*

*Limited to the amount that reduces carrying amount to estimated residual value.

[3] 2018: [($5,000 – 1,000) x 10,000/50,000 units] = $800
2019: [($5,000 – 1,000) x 15,000/50,000 units] = $1,200
2020: [($5,000 – 1,000) x 20,000/50,000 units] = $1,600
2021: $400*
*Limited to the amount that reduces carrying amount to estimated residual value.

2. Technological obsolescence is the most likely factor affecting estimated residual value and useful life of the printer. Deprecation rates and residual value estimates need to be reviewed annually. Any effects on depreciation expense that result from these changes are accounted for prospectively. Prior fiscal years' amounts are not changed.

3. When choosing between alternatives, management must take several factors into account. In this case, since significant changes are likely in printer technology, the double–declining balance method may be more suitable since it produces greater depreciation expense in the first few years. On the other hand, depreciation based on usage may more accurately represent the decline in value of the machine.

P 8–6

[Return to Question]

1. a. Usage $\frac{(\$11{,}000 - 2{,}000)}{75{,}000 \text{ units}} \times 20{,}000 \text{ units} = \$2{,}400$

   The ½ year rule does not apply to usage-based depreciation methods.

   b. Straight–line $\frac{(\$11{,}000 - 2{,}000)}{4 \text{ yrs.}} \times \frac{1}{2} \text{ yr.} = \$1{,}125$

   c. Double–declining balance 50%* x $11,000 x ½ yr = $2,750

   *100%/4 yrs. X 2 = 50% DDB rate

2.

		Depreciation expense	*Carrying amount*
a.	Usage	$2,400	$8,600
b.	Straight–line	$1,125	$9,875
c.	Double–declining balance	$2,750	$8,250

3. The straight-line method should be adopted, since it produces the least depreciation expense and hence the highest 2018 net income.

P 8–7

Return to Question

1. a. Straight-line method

Purchase of machinery	$23,000
Transportation charges	600
Installation charge	1,400
	25,000
Less: Residual value	1,000
Depreciable cost of machinery	$24,000

b. Double-declining balance method

Purchase of machinery	$23,000
Transportation charges	600
Installation charge	1,400
	25,000

2. a. Straight-line depreciation for each year ($24,000 x 1/3 years):

Depreciation Expense	8,000	
Accumulated Depreciation—Machine		8,000

b. Declining balance method:

2018	Depreciation Expense	16,750[1]	
	Accumulated Depreciation		16,750
2019	Depreciation Expense	5,528[2]	
	Accumulated Depreciation		5,528
2020	Depreciation Expense	1,722[3]	
	Accumulated Depreciation		1,722

[1] $\frac{100\%}{3 \text{ yrs.}}$ = 33 1/3% x 2 = 67% (rounded)

$25,000 x 67% = $16,750

[2] ($25,000 – 16,750) x 67% = $5,528 (rounded)

[3] ($25,000 – 16,750 – 5,528) x 67% = $1,824 (rounded), but limited to $1,722 to reduce carrying amount to estimated residual value

3.

Depreciable cost of machine	$24,000
Depreciation recorded in 2018	(8,000)
Depreciable amount for remaining four years	$16,000

Annual depreciation for the remaining four years of life: $16,000/4 yrs. = $4,000 per year

P 8–8

Return to Question

1.

Cost (Jan. 1, 2013)	$30,000
Less: Estimated residual value (10%)	3,000
Depreciable amount	$27,000
Annual depreciation = $27,000/20 yrs. =	$1,350

2013 depreciation ($1,350 x ½)	$ 675
2014 – 2019 deprecation ($1,350 x 6 yrs.)	8,100
Total depreciation to Dec. 31, 2019	$8,775

Cost	$30,000
Less: Accumulated depreciation	(8,775)
Carrying amount (Dec. 31, 2019)	$21,225

2.

Carrying amount (above)	$21,225
Less: New estimated residual value	(6,000)
Undepreciated cost (Jan. 1, 2020)	$15,225

3. Annual depreciation = $15,225/8 years = $1,903 (rounded)

Dec. 31, 2020		
Depreciation Expense	1,903	
Accumulated Depreciation		1,903
To record depreciation for year.		

4.

March 31, 2021		
Depreciation Expense	952	
Accumulated Depreciation		952
To record depreciation to date of disposal ($1,903 x ½).		

March 31, 2021		
Cash	22,000	
Accumulated Depreciation – Machine	11,630	
Gain on Disposal		3,630
Machine		30,000
To record gain on disposal as follows:		

Cost		$30,000
Accumulated depreciation		
2013	$ 675	
2014–2019	8,100	
2020	1,903	
2021	952	(11,630)
Carrying amount		18,370
Proceeds of disposal		(22,000)
Gain on disposal		$ (3,630)

P 8–9

Return to Question

Part A

1. 2018

May 1	Equipment	130,000	
	Cash		130,000
	To record the purchase of equipment.		

2. 2021

Jan. 1	Equipment—New	200,000[2]	
	Accumulated Depreciation—Old Equipment	74,400[1]	
	Equipment—Old		130,000
	Cash		140,000
	Gain on Disposal		4,400
	To record the trade-in of equipment as follows:		
	Cost		$ 130,000
	Accum. dep'n: 2018-18		(74,400)[1]
	Carrying amount		55,600
	Proceeds of disposal		(60,000)
	Gain on disposal		$ (4,400)
	*$300,000/50 yrs. = $6,000 per year		

[1] Accumulated depreciation = $\frac{\$130,000 - 10,000}{100,000 \text{ units}}$ x 62,000 units = $74,400

[2] Cost of new asset = $140,000 + 60,000 = $200,000

Part B

1. 2019

Jan. 1	Land	50,000	
	Building	300,000	
	Bank Loan		320,000
	Cash		30,000
	To record the purchase of a warehouse.		

2. 2023

Jul. 31	Account Receivable – Insurance Proceeds		270,000	
	Accumulated Depreciation—Building		24,000[1]	
	Loss on disposal		6,000[2]	
	Building			300,000
	To record settlement of fire loss by insurance company as follows:			
	Cost			$ 300,000
	Accum. dep'n:	2019 ($6,000* x 1/2 yr.)	$ 3,000	
		2020-20 ($6,000* x 3 yrs.)	18,000	
		2023 ($6,000* x 1/2 yr.)	3,000	(24,000)[1]
	Carrying amount at June 28			276,000
	Proceeds of disposal			(270,000)
	Loss on disposal			$ 6,000[2]
	*$300,000/50 yrs. = $6,000 per year			

P 8–10

Return to Question

1\. a. 2018

Sept. 30	Land	300,000	
	Buildings	100,000	
	Computer Software	75,000	
	Goodwill	25,000	
	Cash		500,000
	To record purchase of assets from Marine Company.		

b. 2018

Dec. 31	Depreciation Expense – Building	1,125[1]	
	Amortization Expense – Computer Software	25,000[2]	
	Accumulated Depreciation – Building		1,125
	Accumulated Amortization – Computer Software		25,000
	To record 2018 depreciation and amortization expense on assets acquired from Marine Company		

[1] ($100,000 – 10,000)/40 yrs. X ½ = $1,125

[2] $\frac{100\%}{3 \text{ yrs.}}$ x 2 = 67% x $75,000 x ½ = $25,000 (rounded)

c. No journal entry is required. Only impairment losses are recorded.

d. 2020

Sept. 15	Amortization Expense – Computer Software	5,583[1]	
	Computer Software		5,583
	To record amortization expense on computer software to date of sale.		

[1] 2019 amortization:
($75,000 – 25,000) x 67% (rounded) = $33,333
2020 amortization to date of disposal:
($75,000 – 25,000 – 33,333) x 67% x ½ yr. = $5,583

Sept. 15	Cash	65,000	
	Gain on Disposal		53,916
	Computer Software		11,084[1]
	To record sale of computer software as follows:		

Cost		$ 75,000
Accumulated amortization		
2018	$25,000	
2019	33,333	
2020	5,583	(63,916)
Carrying amount		11,084[1]
Proceeds of disposal		(65,000)
Gain on disposal		$(53,916)

P 8–10 continued

2.

Land		$300,000
Building	$100,000	
Accum. dep'n		
($1,125 + 2,250 + 2,250)	(5,625)	94,375
Goodwill		25,000
Total carrying amount		$419,375

CHAPTER NINE
Debt Financing: Current and Non-current Liabilities

Concept Self-check

Return to Question

1. A current liability is a debt that is expected to be paid within one year of the statement of financial position date or the next operating cycle, whichever is longer. A non-current liability is expected to be paid beyond one year of the statement of financial position date or the next operating cycle, whichever, is longer.

2. Examples of known current liabilities include accounts payable, salaries and wages payable, income taxes payable, unearned revenues, sales taxes payable, short-term bank loans, and the portion of long-term debt that will be paid within one year of the statement of financial position date.

3. An estimated current liability is a liability that is certain to exist, though the amount is somewhat uncertain and therefore can only be reasonably estimated. This usually occurs when a supplier invoice has not been received by the time the financial statements are prepared.

4. Two common examples of estimated current liabilities are warranty reserves and professional fees related to preparation or audit of year-end financial statements.

5. A contingent liability's existence is uncertain and improbable. Alternately, it is probable but its amount is unknown at the date financial statements are issued.

6. A loan, like a bond issue, is a means for an entity to raise investment capital through creditors. Both can be secured, and generally have fixed rates of interest and specified terms of repayment. However, loans are usually repaid with blended payments of interest and principal over the life of the liability. While the total payment on a loan is constant, the relative portion of interest decreases with each payment because loan principal is being reduced with each preceding payment. The portion of principal repayment increases. Bonds usually pay interest only to investors at regular intervals over the life of the issue plus a payment for the face value of the bond when it matures. They are usually issued to many investors as public offerings.

Concept Self-check continued

7. A loan and a finance lease are both long-term debt instruments. They are repaid with blended principal and interest payments over a specified period of time. However, proceeds from a long-term loan are usually obtained from a financial institution like a bank, and then used to purchase a long-lived asset from a third party like an equipment manufacturer. Title passes to the purchaser from the seller.

   Under a finance lease, the leasing company is usually the same as or closely associated with the company that owns the specific asset that is subject to the lease agreement. Title may not pass from the leasing company to the lessee. However, the rights and responsibilities of ownership are transferred to the lessee as well as beneficial ownership. As a result, a finance lease is essentially a purchase. The related assets is reported as an item of property, plant, and equipment, and the finance lease is reported as a liability on the statement of financial position.

CP 9–1

Return to Question

2018				
Dec. 31	Interest Expense	632	340	
	Interest Payable	222		340
	To adjust interest payable [($12,000 x 6% x 9/12 mos.) – 200].			

CP 9–2

Return to Question

Selby Corp.
General Journal

	Date 2018	Description	F	Debit	Credit
		<u>Adjusting Entries</u>			
a.	Dec. 31	Supplies Expense		40	
		Unused Office Supplies			40
		To record additional accounts payable at year-end.			
b.	31	Interest Expense		100	
		Interest Payable			100
		To adjust interest payable for the year.			
c.	31	Unearned Rent Revenue		500	
		Rent Earned			500
		To adjust rent revenue at year-end.			

CP 9–3

Return to Question

1.

2018			
Dec. 31	Salaries Expense	2,000	
	Employment Insurance Expense	56[1]	
	Government Pension Expense	80[2]	
	Employee Income Taxes Payable		500
	Employment Insurance Payable		96[3]
	Government Pension Payable		160[4]
	Salaries Payable		1,380
	To record unpaid salary and benefits re. J. Smith at December 31.		

[1] $2,000 x 2% = 40 x 1.4 times = $56
[2] $2,000 x 4% = $80
[3] $40 + 56 = $96
[4] $80 + 80 = $160

2.

2019	(1)		
Jan. 5	Salaries Payable	1,380	
	Cash		1,380
	To record payment of Dec. 31 salary payable to J. Smith.		
	(2)		
Jan. 5	Employee Income Taxes Payable	500	
	Employment Insurance Payable		96
	Government Pension Payable		160
	Cash		756
	To record payment of amounts owing at Dec. 31 to Government of Canada re. J. Smith.		

CP 9–4

Return to Question

1.

2018			
Jun. 20	Merchandize Inventory	4,000	
	GST Payable	200	
	Accounts Payable		4,200
	($4,000 x 5% = $200)		

2.

2018			
Jul. 5	Accounts Receivable	5,250	
	Sales		5,000
	GST Payable		250
	Cost of Goods Sold	4,000	
	Merchandize Inventory		4,000
	($50,000 x 5% = $250)		

CP 9–4 continued

3. 2018

Jul. 31	GST Payable	50	
	Cash		50

4. No expense is recorded on the income statement. The company merely passes on the GST collected from the final consumer to the government.

CP 9–5

Return to Question

1. 2018

Feb. 15	Corporate Income Taxes Payable	500	
	Cash		500

2. 2018

Dec. 31	Corporate Income Taxes Expense	6,000	
	Corporate Income Taxes Payable		6,000
	($15,000 x 40% = $6,000)		

3. 2019

Jan. 31	Corporate Income Taxes Payable	500	
	Cash		500
	To record payment of 2018 corporate income taxes owing:		

2018 expense	$ 6,000
Instalments paid (11 x $500)	(5,500)
Owing	$ 500

CP 9–6

Return to Question

1. 2018

Nov. 1	Accounts Payable	10,000	
	Note Payable		10,000
	To record conversion of account payable owing to Tree Corp. to a 10% note payable due January 31, 2019.		

2. 2018

Dec. 31	Interest Expense	167	
	Interest Payable		167
	To record interest on note payable to Dec. 31 [$10,000 x 10% x 2/12 mos. = $167 (rounded)]		

3. 2019

Jan. 31	Interest Expense	83	
	Interest Payable	167	
	Note Payable	10,000	
	Cash		10,250
	To record payment of note payable and interest Jan. 1-31 [$10,000 x 10% x 1/12 mos. = $83 (rounded)].		

CP 9–6 continued

4. a. 2018			
Nov. 1	Note Receivable	10,000	
	Accounts Receivable		10,000
	To record conversion of account receivable due from Branch Corporation to a 10% note receivable due January 31, 2019.		
b. 2018			
Dec. 31	Interest Receivable	167	
	Interest Earned		167
	To record interest earned to December 31 (see 2 above).		
c. 2019			
Jan. 31	Cash	10,250	
	Interest Earned		83
	Interest Receivable		167
	Note Receivable		10,000
	To record collection of Branch note receivable and interest (see calculations above).		

CP 9–7

Return to Question

1. 2018			
June 30	Estimated Warranty Liability	2,500	
	Parts Inventory		2,000
	Cash		500
2. 2018			
Dec. 31	Warranty Expense	20,000	
	Estimated Warranty Liability		20,000
	($2M x 1% = $20,000)		

3.

Estimated warranty expense	$20,000	
2018 warranty claims	(22,000)	
Balance in Estimated Warr. Liab. account at Dec. 31	$ (2,000)	Debit

Claims have exceeded the estimated provision. Zebra management should monitor this to determine if the 1% estimate should be increased in the future. It is difficult to determine if a change is needed immediately, as this is only the first year of operation.

CP 9–8

Return to Question

Claim 1 would be neither recorded nor disclosed.

Claim 2 requires note disclosure.

Claim 3 needs to be recorded in the accounting records (Dr. Lawsuit Damages Expense; Cr. Estimated Current Liabilities)

CP 9–9

Return to Question

1. a. 2021			
Jan.1	Cash	50,000	
	Loan Payable		50,000
	To record loan from Second Capital Bank.		
b. Jan. 1	Equipment	48,000	
	Cash		48,000
	To record purchase of equipment.		

2.

Rosedale Corp.
Loan Repayment Schedule

	A	B	C	D	E
			(D – B)		*(A – C)*
Year ended Dec. 31	*Beginning loan balance*	*(A x 6%) Interest expense*	*Reduction of loan payable*	*Total loan payment*	*Ending loan balance*
2021	$50,000	$3,000	$15,705	$18,705	$34,295
2022	34,295	2,058	16,647	18,705	17,648
2023	17,648	1,057	17,648	18,705	-0-

3. 2021			
Dec. 31	Interest Expense	3,000	
	Loan Payable	15,705	
	Cash		18,705
	To record loan payment to Second Capital Bank.		

CP 9–10

Return to Question

1. 2018			
Jan. 1	Vehicle	80,000	
	Finance Lease		80,000
	To record assumption of lease with Night Leasing Ltd.		

2.

Day Corp.
Lease Repayment Schedule

	A	B	C	D	E
			(D – B)		*(A – C)*
Year ended Dec. 31	*Beginning lease balance*	*(A x 8%) Interest expense*	*Reduction of finance lease*	*Total lease payment*	*Ending lease balance*
2018	$80,000	$6,400	$17,754	$24,154	$62,246
2019	62,246	4,980	19,174	24,154	43,072
2020	43,072	3,446	20,708	24,154	22,364
2021	22,364	1,790	22,364	24,154	-0-

CP 9–10 continued

3. Day Corp.
Partial Statement of Financial Position
At December 31, 2018

Liabilities

Current	
Current portion of finance lease	$19,174
Non-current	
Finance lease (Note X)	43,072

Note X would disclose pertinent information including details of the lease repayment agreement (for example, interest rate, repayment terms, security) if just the carry amount is shown on the statement of financial position as above.

P 9–1

Return to Question

1.a.	2018			
	Jan. 1	Cash	20,000	
		Share Capital		20,000
b.	Jan. 1	Cash	30,000	
		Bank Loan		30,000
c.	Jan. 2	Merchandize Inventory	20,000	
		GST Payable	1,000	
		Accounts Payable		21,000
d.	Jan. 8	Accounts Receivable	8,400	
		Sales		8,000
		GST Payable		400
		Cost of Goods Sold	3,000	
		Merchandize Inventory		3,000
e.	Jan. 15	Salaries Expense	2,000	
		Employment Insurance Expense	56[1]	
		Government Pension Expense	100	
		Employee Income Taxes Payable		300
		Employment Insurance Payable		96
		Government Pension Payable		200
		Cash		1,560
		[1] ($40 x 1.4 = $56)		
2.f.	2018			
	Jan. 31	Interest Expense	100	
		Interest Payable		100
		($30,000 x 4% x 1/12 mos. =- $100)		

P 9–1 continued

g.	Jan. 31	Salaries Expense	2,000	
		Employment Insurance Expense	56	
		Government Pension Expense	100	
		Employee Income Taxes Payable		300
		Employment Insurance Payable		96
		Government Pension Payable		200
		Salaries Payable		1,560
h.	Jan. 31	Corporate Income Taxes Expense	118	
		Corporate Income Taxes Payable		118

Sales		$8,000	
COGS	$3,000		
Salaries	4,000		
Emp. Ins.	112		
Pension	200		
Interest	100	7,412	
Income before inc. taxes		$ 588	x 20% = $118 (rounded)

3. Current liabilities at January 31:

Bank loan	$30,000
Accounts payable	21,000
Interest payable	100
Salaries payable	1,560
Employee income taxes payable	600
Employment insurance payable	192
Government pension payable	400
Corporate income taxes payable	118
	$53,970

GST refundable is $600 ($1,000 – 400). This would be reported as a current asset.

P 9–2

1.

Return to Question

ASSETS

Cash			
a.	20,000	1,560	e.
b.	30,000		
Bal.	48,440		

Accounts Receivable			
d.	8,400		

Merchandize Inventory			
c.	20,000	3,000	d.
Ba.	17,000		

LIABILITIES

Bank Loan			
		30,000	b.

Corp. Inc. Tax. Pay.			
		118	h.

Accounts Payable			
		21,000	c.

Interest Payable			
		100	f.

Salaries Payable			
		1,560	g.

Emp'ee Inc. Tax Pay.			
		300	e.
		300	g.
		600	Bal.

Employ. Ins. Pay.			
		96	e.
		96	g.
		192	Bal.

Gov't Pension Pay.			
		200	e.
		200	g.
		400	Bal.

GST Payable			
c.	1,000	400	d.
Bal.	600		

SHAREHOLDERS' EQUITY

Share Capital			
		20,000	a.

Sales			
		8,000	d.

Cost of Goods Sold			
d.	3,000		

Salaries Expense			
e.	2,000		
g.	2,000		
Bal.	4,000		

Employ. Ins. Exp.			
e.	56		
g.	56		
Bal.	112		

Gov't Pension Exp.			
e.	100		
g.	100		
Bal.	200		

Interest Expense			
f.	100		

Corp. Inc. Taxes Exp.			
h.	118		

P 9–2 continued

2.

Latex Paint Corporation
Income Statement
For the Month Ended January 31, 2018

Sales	$8,000
Cost of goods sold	3,000
Gross profit	5,000
Operating Expenses	
Selling expenses	
Salaries and benefits	4,312
Income before interest and income taxes expense	688
Interest expense	100
Income before income taxes	588
Income taxes	118
Net income	$ 470

Latex Paint Corporation
Statement of Changes in Equity
For the Month Ended January 31, 2018

	Share capital	*Retained earnings*	*Total equity*
Balance at Jan. 1, 2018	$ -0-	$ -0-	$ -0-
Shares issued	20,000		20,000
Net income		470	470
Balance at Jan. 31, 2018	$20,000	$ 470	$20,470

P 9–2 continued

Latex Paint Corporation
Statement of Financial Position
At January 31, 2018

Assets	
Current	
Cash	$48,440
Accounts receivable	8,400
GST receivable	600
Merchandize inventory	17,000
Total assets	$74,440
Liabilities	
Current	
Borrowings (or Bank loan)	$30,000
Accounts payable	21,000
Interest payable	100
Salary and benefits payable	2,752
Corporate income taxes payable	118
Total liabilities	53,970
Shareholders' Equity	
Share capital	20,000
Retained earnings	470
Total equity	20,470
Total liabilities and shareholders' equity	$74,440

Other reasonable presentation formats are acceptable.

P 9–3

1.a.	2018				
	Dec. 31	Rent Earned	440	1,000	
		Unearned Rent Revenue	248		1,000
		To adjust rent earned to yearly amount ($12,000).			
b.	Dec. 31	Estimated Warranty Liability	213	600	
		Cost of Goods Sold	570		500
		Salaries Expense	65		100
		To reallocate warranty claim expenditures recorded in wrong accounts.			
c.	Dec. 31	Parts Inventory	151	4,000	
		GST Payable	238	200	
		Accounts Payable	210		4,200
		To record additional parts inventory.			

Return to Question

P 9–3 continued

d.	Dec. 31	Warranty Expense	678	7,919	4,000
		Estimated Warranty Liability	213	4,000	7,919
		To record estimated warranty expense ($791,900 x 1% = $7,919) Alternately, two entries could be made or just the net adjustment of $3,919.			
e.	Dec. 31	Salaries Expense	656	5,000	
		Employment Insurance Expense	658	100	
		Government Pension Expense	659	250	
		Company Health Insurance Expense	660	150	
		Salaries Payable	226		3,750
		Employee Income Taxes Payable	227		750
		Employment Insurance Payable	228		200
		Government Pension Payable	229		500
		Company Health Insurance Pay.	230		300
		To record salaries payable as follows:			

	Gross pay	*Deductions*					*Net pay*
		Income taxes (15%)	*Employ. insur. (2%)*	*Gov't pension (5%)*	*Comp. health (3%)*	*Total. deduct.*	
Employee	5,000	750	100	250	150	1,250	3,750
Employer		-0-	100	250	150		
		750	200	500	300		

f.	Dec. 31	Professional Fees	653	8,000	
		Estimated Liabilities	212		8,000
		To record estimated audit fees.			
g.	Dec. 31	Corporate Income Taxes Expense	830	19,895	16,500
		Corporate Income Taxes Payable	260	16,500	19,895
		To reallocate 2018 income tax instalments and record corporate income tax expense ($79,581 x 25% = $19,895).			

P 9–3 continued

2.

No.	*Account*	*Unadjusted TB*		*Adjustments*		*Adjusted TB*	
		Debit	*Credit*	*Debit*	*Credit*	*Debit*	*Credit*
101	Cash	12,000				12,000	
110	Accounts receivable	30,000				30,000	
150	Merch. inventory	70,000				70,000	
151	Parts inventory	10,000		c. 4,000		14,000	
210	Accounts payable		40,000		4,200 c.		44,200
212	Est. current liab.		-0-		8,000 f.		8,000
213	Est. warranty liab.	3,000		d. 4,000	7,919 d.		319
				b. 600			
226	Salaries payable		-0-		3,750 e.		3,750
227	Emp'ee inc. tax pay.		-0-		750 e.		750
228	Emp. insur. pay.		-0-		200 e.		200
229	Gov't pension pay.		-0-		500 e.		500
230	Co. health ins. pay.		-0-		300 e.		300
238	GST payable		1,000	c. 200			800
248	Unearn. rent rev.		-0-		1,000 a.		1,000
260	Corp. inc. tax pay.		-0-	g. 16,500	19,895 g.		3,395
320	Share capital		100				100
340	Retained earnings		3,000				3,000
440	Rent earned		13,000	a. 1,000			12,000
500	Sales		791,900				791,900
570	Cost of goods sold	263,500			500 b.	263,000	
653	Professional fees	-0-		f. 8,000		8,000	
656	Salaries expense	400,000		e. 5,000	100 b.	404,900	
658	Gov't emp. insur. ex.	8,000		e. 100		8,100	
659	Gov't pension exp.	20,000		e. 250		20,250	
660	Co. health insur. exp.	12,000		e. 150		12,150	
678	Warranty exp.	4,000		d. 7,919	4,000 d.	7,919	
830	Corp. inc. tax exp.	16,500		g. 19,895		19,895	
		849,000	849,000	67,614	67,614	870,214	870,214

P 9–3 continued

Mudryk Wholesalers Corporation
Income Statement
For the Year Ended December 31, 2018

Sales		$791,900
Cost of goods sold		263,000
Gross profit		528,900
Operating expenses		
Selling expenses		
Salaries	$404,900	
Employment insurance	8,100	
Government pension	20,250	
Company health insurance	12,150	
Warranty	7,919	
Total selling expenses	453,319	
General and administrative expenses		
Professional fees	8,000	
Total operating expenses		461,319
Income from operations		67,581
Other income		
Rent earned		12,000
Income before income taxes		79,581
Income taxes		19,895
Net income		$59,686

Mudryk Wholesalers Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total equity*
Balance, Jan. 1, 2018	$ 100	$ 3,000	$ 3,100
Net income		59,686	59,686
Balance, Dec. 31, 2018	$ 100	$ 62,686	$ 62,786

P 9–3 continued

Mudryk Wholesalers Corporation
Statement of Financial Position
At December 31, 2018

Assets	
Current	
Cash	$ 12,000
Accounts receivable	30,000
Merchandize inventory	70,000
Parts inventory	14,000
Total assets	$126,000
Liabilities	
Current	
Accounts payable	$ 44,200
Estimated liabilities	8,000
Estimated warranty liabilities	319
Salaries payable	3,750
Employee income taxes payable	750
Employment insurance payable	200
Government pension payable	500
Company health insurance payable	300
GST payable	800
Unearned rent revenue	1,000
Corporate income taxes payable	3,395
Total liabilities	63,214
Shareholders' Equity	
Share capital	100
Retained earnings	62,686
Total equity	62,786
Total liabilities and shareholders' equity	$126,000

Other reasonable presentation formats are acceptable.

P 9–4

Return to Question

1.a. 2018

Dec. 31	Cash	100,000	
	Loan Payable		100,000
	To record loan from First National Bank.		

b. 2019

Jan. 2	Equipment	95,000	
	Cash		95,000
	To record purchase of equipment.		

2.

Zinc Corp.
Loan Repayment Schedule

	A	*B*	*C*	*D*	*E*
			(D – B)		*(A – C)*
Year ended Dec. 31	*Beginning loan balance*	*(A x 8%) Interest expense*	*Reduction of loan payable*	*Total loan payment*	*Ending loan balance*
2019	$100,000	$8,000	$22,192	$30,192	$77,808
2020	77,808	6,225	23,967	30,192	53,841
2021	53,841	4,307	25,885	30,192	27,956
2022	27,956	2,236	27,956	30,192	-0-

3. 2022

Dec. 31	Interest Expense	2,236	
	Loan Payable	27,956	
	Cash		30,192
	To record final loan payment to First National Bank.		

4.

Zinc Corp.
Partial Statement of Financial Position
At December 31, 2020

Liabilities

Current	
Current Portion of First National Bank Loan (Note X)	$25,885
Non-current	
First National Bank Loan (Note X)	27,956

Note X would disclose pertinent information including details of the loan repayment agreement (for example, interest rate, repayment terms, security) if just the carry amount is shown on the statement of financial position as above.

P 9–5

Return to Question

1\. 2018

Apr. 1	Equipment	200,000	
	Finance Lease		190,000
	Cash		
	To record purchase of equipment from West Leasing Ltd. via lease and cash payment		

2\.

East Corp.
Lease Repayment Schedule

	A	*B*	*C*	*D*	*E*
			(D – B)		*(A – C)*
Year ended Dec. 31	*Beginning lease balance*	*(A x 6%) Interest expense*	*Reduction of finance lease*	*Total lease payment*	*Ending lease balance*
2019	$190,000	$11,400	$59,681	$71,081	$130,319
2020	130,319	7,819	63,262	71,081	67,057
2021	67,057	4,024	67,057	71,081	-0-

3\.

East Corp.
Partial Statement of Financial Position
At December 31, 2020

Liabilities

Current	
Lease Interest Payable	$1,006[1]
Finance Lease (Note X)	67,057

[1] Estimated accrued interest = $4,024 x 3/12 mos. = $1,006

Note X would disclose pertinent information including details of the lease repayment agreement (for example, interest rate, repayment terms, security) if just the carry amount is shown on the statement of financial position as above.

CHAPTER TEN
Debt Financing: Bonds

Concept Self-check

Return to Question

1. A bond is a debt security that requires periodic interest payments during its life as well as a future repayment of the borrowed amount. A bond indenture is the contract that binds the corporation to the bondholders; it specifies the terms with which the corporation must comply and may restrict further borrowing by the corporation. A trustee may be used to serve as an impartial intermediary between the corporation and the bondholders, and so better balance the rights and needs of these two groups.

2. A bondholder has the following rights:

    a. The right to receive the face value of the bond at a specified maturity date in the future, that is, the right to receive the amount of money that was invested;

    b. The right to receive periodic interest payments at a specified per cent of the bond's face value; this interest represents the bondholder's return on investment; and

    c. In some cases, the right to have the corporation pledge some assets to protect the bondholder's investment; this safeguard restricts excess borrowing and, in the event that interest or the face amount of the bonds cannot be paid, allows for the sale of these assets to generate the funds necessary for repayment.

3. Since bondholders claims on the net assets of a corporation take precedence over those of shareholders if liquidation occurs, shareholders must approve bond issues. Also, interest payments must be made to bondholders; these may affect cash flow, so that future dividends may be impaired during the life of the bond.

4. Bond issues with different characteristics are disclosed separately in the financial statements, or more usually, in a note. The interest rate, maturity date, and any restrictions imposed on the corporation in the bond indenture, together with any assets pledged, also must be disclosed.

5. Three main types of bond terminology can be identified:

    a. Terms relating to different types of bonds (secured, unsecured, registered, bearer).

Concept Self-check continued

b. Terms relating to other special features of corporate bonds (serial, callable, convertible, sinking).

c. The amount printed on the bond certificate (face or par value).

6. The different possibilities in the redemption of bonds before their maturity follow:

    a. The bonds can be repurchased on the open market if this option is financially advantageous to the issuer.

    b. The issuer may exercise a call provision if it is financially advantageous. A call provision, sometimes included in a bond indenture, permits early redemption at a specified price, usually higher than the face value.

    c. The bondholder or issuer may exercise a conversion feature if provided for in the bond indenture, whereby the bonds can be converted into corporate shares.

7. If the bond contract interest rate is the same as the prevailing market interest rate, the bond will sell “at par”. If the bond contract interest rate is higher than the prevailing market interest rate, the bond will sell at a premium. Prospective bondholders will bid up the price of the bonds because the bonds pay a rate of interest higher than other securities with similar features and risks. This creates a premium over the face value of the bonds. If the bond contract interest rate is lower than the prevailing market interest rate, the bond will sell at a discount because prospective bondholders will not be willing to pay the face value of the bonds. The issuer will have to accept a lower price so the effective interest rate will equal that of other securities with similar features and risks.

8. Under GAAP, an unamortized premium (discount) is added to (deducted from) the face value of the bond so that the liability is recorded at its carrying amount on the statement of financial position.

9. If the bond contract interest rate is greater than that required in the market, then the bonds are sold at a premium. If the investment market operates efficiently, investor should earn only the market rate of interest. By paying a premium over the face value, the overall return to the investor is reduced from the bond contract rate to the market rate in effect at the issue date.

Concept Self-check continued

10. There are two different methods to amortize a premium or a discount. The *straight–line method* allocates an equal amount of amortization to each interest period. The *effective interest method* of amortization calculates different amounts of amortization from one period to another. This method uses an amortization table, in which the interest expense on the carrying amount of the bond is calculated using the market rate of interest at the date of bond issue. The difference between this amount and the actual bond contract interest paid is the amortization amount applicable to the current period. Under this method, interest expense recorded in the accounts varies, but the effective interest rate is constant.

11. Interest accumulates from the previous interest payment date and is paid semi–annually, regardless of when the bond is actually sold. Interest paid is always calculated on the face value of the bond, regardless of premium or discount. Whenever a bond is issued, a six–month interest payment is made to the bondholder. Therefore, if a bond is sold between interest payment dates, it is sold for a price that includes accrued interest. The purchaser pays the seller for the interest from the previous interest payment date to the date of sale. When the purchaser receives the six–month interest payment, the net amount is what is earned while the bond was held by the investor.

12. The amortization of a bond premium is achieved through credits to the Interest Expense general ledger account and offsetting debits to the Bond Premium account, a statement of financial position contra account. A discount is amortized by periodic debits to the Interest Expense account and credits to the Bond Discount account.

13. If money is borrowed today for one year, at the end of that year the money to be repaid is increased by the amount of interest charged. The future value is therefore the principal plus interest. If a certain sum must be repaid in one year, the value in today's money would exclude the interest to be earned in the future. This is its present value. The time value of money is represented by interest. Interest is added to the principal to obtain the future value, and it is removed from a future sum to arrive at the present value.

14. The price of a bond is determined by combining the present value of the following future cash flows associated with the bond: (a) a single amount, the face value, to be paid at maturity, and (b) semi–annual interest payments made during the bond's life.

    Assume a $50,000 12–per cent bond is issued when the prevailing market interest rate is 8 per cent. Interest is payable semi–annually on June 30 and December 31 and the bond matures in three years. We need to compute

Concept Self-check continued

a. The present value of the face value of $50,000 in 3 years at 8 per cent. The present value factor is based on 6, six-month interest payment periods or 4 per cent. The PV factor is 0.79032 (see Table A in Appendix 1 of text).

b. The present value of 6 interest payments of ½ of 12% = 6% x$50,000 = $3,000. The present value factor is based on 6 interest payment periods using 4 per cent, that is 5.242137 (see Table B in Appendix 1).

The present value of the bond is $55,242, the total of (a) and (b):

i.	$50,000 x 0.79032	= $39,516
ii.	$3,000 x 5.242137	= 15,726
		$55,242

15. Amortization under the effective interest method is calculated by applying the market rate of interest to the carrying amount of the bonds. The difference between this interest and the actual bond contract interest paid is the amortization applicable to the current period.

For example, assume a bond with a face value of $50,000 and a contract rate of 12 per cent is issued on January 1, 2018 at $55,242 (see above) when the market rate of interest is 8 per cent. The bond earns interest semi-annually on June 30 and December 31 and will mature in 3 years.

Issue of $50,000 Bonds Payable for $55,242
Amortization Table
Using Market Interest Rate of 8 Per Cent

		A	*B*	*C*	*D*	*E*
Year	*Six month period ending*	*Beginning bond carrying amount*	*(½ x 8%) = 4% x A Using 8% market rate to calculate 6-month interest expense*	*Actual cash interest paid*	*(B – C) Periodic premium amort.*	*(A – D) Ending bond carrying amount*
2018	Jun. 30	$55,242	4% x $55,242 = $2,210	$3,000	$790	$54,452
	Dec. 31	54,452	4% x 54,452 = 2,178	3,000	822	53,630
2019	Jun. 30	53,360	4% x 53,360 = 2,145	3,000	855	52,775
	Dec. 31	52,775	4% x 52,775 = 2,111	3,000	889	51,886
2020	Jun. 30	51,886	4% x 51,886 = 2,075	3,000	925	50,961
	Dec. 31	50,961	4% x 50,961 = 2,039	3,000	961	50,000

16. The effective interest method produces a constant interest rate equal to the market rate of interest on the date the bonds were issued. From a theoretical perspective, this is more appropriate, since it reflects market reality. The simpler straight-line amortization method may be preferred when the amounts of premiums or discounts are immaterial, due to cost/benefit considerations.

CP 10–1

Return to Question

1. discount
2. premium
3. discount
4. premium
5. premium
6. discount

CP 10–2

Return to Question

1. a. The issuance of bonds:

Cash = $100,000 x 94% = $94,000
Discount = $100,000 – $94,000 = $6,000

2017			
Jan. 1	Cash	94,000	
	Discount on Bonds	6,000	
	Bonds Payable		100,000

b. The interest payment:

Jun. 30	Interest Expense	6,000	
	Cash		6,000

c. The amortization of the discount:
Discount = $6,000/3 years x 6/12= $1,000

Jun. 30	Interest Expense	1,000	
	Discount on Bonds		1,000

2. Interest paid in cash = $100,000 x 12% = $12,000
Interest expense for 2017 = Interest + amortization for the year
= $12,000 + $2,000 = $14,000

3. Nevada Inc.
Partial Statement of Financial Position
At December 31, 2017

Liabilities

*Non-current**	
Bonds payable (Note X)	$100,000
Discount on bonds	(4,000)
Carrying amount	$ 96,000

Note X would disclose pertinent information of the bond indenture including details of the face value and unamortized bond discount if (as here) just the carry amount is shown on the statement of financial position.

* If it was likely that the bonds would be called on January 1, 2018, they would be classified as current liabilities. If so, details of the redemption should be disclosed in a note to the December 31, 2017 financial statements.

CP 10–2 continued

4. Retirement of the bonds:

2019			
Dec. 31	Bonds Payable	100,000	
	Cash		100,000

5. Calling of the bonds:

2019			
Jan. 1	Bonds Payable	100,000	
	Discount on Bonds		4,000
	Cash		102,000
	Loss on Bond Retirement	6,000	
	To record retirement of bonds at 102 as follows:		

Face value	$100,000
Unamortized discount	(4,000)
Carrying amount	96,000
Cash paid	102,000
Loss on retirement	($6,000)

CP 10–3

Return to Question

1. a. The issuance of the bonds:
   Cash = $200,000 x 112% = $224,000

2019			
Jan. 1	Cash	224,000	
	Premium on Bonds		24,000
	Bonds Payable		200,000

   b. The interest payment:
   Interest = $200,000 x 12% x 6/12 = $12,000

Jun. 30	Interest Expense	12,000	
	Cash		12,000

   c. The amortization of the premium:
   Premium = ($24,000/3 years) x 6/12 = $4,000

Jun. 30	Premium on Bonds	4,000	
	Interest Expense		4,000

2. Interest paid in cash = $200,000 x 12% = $24,000
   Interest expense for 2019 = Interest – amortization for the year
   = $24,000 – ($24,000/3 years)
   = $24,000 – $8,000
   = $16,000

   These amounts are different because the amortization of the premium, which reduces Interest Expense, does not require cash.

CP 10–3 continued

3. Sydney Corp.
Partial Statement of Financial Position
At December 31, 2019

Liabilities

Non-current	
Bonds payable	$200,000
Premium on bonds	16,000
Carrying amount	$216,000

4. Calling of the bonds:
Cash paid = $200,000 x 106% = $212,000

2022			
Jan. 1	Bonds Payable	200,000	
	Premium on Bonds	8,000	
	Cash		212,000
	Loss on Bond Retirement	4,000	
	To record retirement of bonds at 106 as follows:		

Face value	$200,000
Unamortized premium	(8,000)
Carrying amount	208,000
Cash paid	212,000
Loss on retirement	($4,000)

CP 10–4

Discount = $500 x 12/6 x 3 years = $3,000
Bonds payable = ($16,500 x 12/6 months)/12% = $275,000

Return to Question

2020			
Jan. 1	Discount on Bonds	3,000	
	Cash	272,000	
	Bonds Payable		275,000

CP 10–5

Premium = $100 x 12/6 x 3 years = $600
Bonds payable = ($18,000 x 12/6 months)/12% = $300,000

Return to Question

2018			
Jan. 1	Cash	300,600	
	Premium on Bonds		600
	Bonds Payable		300,000

CP 10–6 Return to Question

	CASE A	CASE B	CASE C
	A. Investors purchase the bonds at par	*B. Investors purchase the bonds at a premium*	*C. Investors purchase the bonds at a discount*
1.	The corporation receives $100,000 cash for the bonds.	The corporation receives $112,000 cash for the bonds.	The corporation receives $88,000 cash for the bonds.
2.	The corporation pays $12,000 annual interest on the $100,000 face value of the bonds.	The corporation pays $12,000 annual interest on the $100,000 face value of the bonds.	The corporation pays $12,000 annual interest on the $100,000 face value of the bonds.
3.	The following journal entry records the sale of the bonds. Cash 100,000 Bonds Payable 100,000	The following journal entry records the sale of the bonds. Cash 112,000 Premium on Bonds 12,000 Bonds Payable 100,000	The following journal entry records the sale of the bonds. Cash 88,000 Discount on Bonds 12,000 Bonds Payable 100,000
4.	June 30, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000	June 30, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000 Amortization is recorded as follows: Premium on Bonds 2,000 Interest Expense 2,000	June 30, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000 Amortization is recorded as follows: Interest Expense 2,000 Discount on Bonds 2,000
	December 31, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000	December 31, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000 Amortization is recorded as follows: Premium on Bonds 2,000 Interest Expense 2,000	December 31, 2017 The interest payment is recorded as follows: Interest Expense 6,000 Cash 6,000 Amortization is recorded as follows: Interest Expense 2,000 Discount on Bonds 2,000

CP 10–7

Return to Question

1. The amount of cash interest paid to investors each period is constant, and based on the face value of the bond and the stated interest rate in the bond indenture. When the bond is issued at a premium, the premium must be amortized so that the carrying amount of the bond at maturity is equal to its face value. The amortization of the premium reduces this interest expense of the corporation. When the bond is issued at a discount, the amortization of the discount increases the interest expense recorded on the corporation's income statement.

2. The diagram shows a bond for which the straight-line method of amortization is used, since the premium and discount are amortized by same amount as time passes (hence the term "straight-line").

CP 10–8 (Appendix)

Return to Question

1. Interest payment every 6 months = $200,000 x 12% x 1/2 = $12,000

2. Issue of $200,000 Bonds Payable for $210,152
Amortization Table
Using Market Interest Rate of 10 Per Cent

Year	Six month period ending	A Beginning bond carrying amount	B (½ x 10%) = 5% x A Using 10% market rate to calculate 6-month interest expense	C Actual cash interest paid	D (B – C) Periodic premium amort.	E (A – D) Ending bond carrying amount
2017	Jun. 30	$210,152	5% x $210,152 = $10,507	$12,000	$(1,493)	$208,659
	Dec. 31	208,659	5% x 208,659 = 10,433	12,000	(1,567)	207,092
2018	Jun. 30	207,092	5% x 207,092 = 10,355	12,000	(1,645)	205,447
	Dec. 31	205,447	5% x 205,447 = 10,272	12,000	(1,728)	203,719
2019	Jun. 30	203,719	5% x 203,719 = 10,186	12,000	(1,814)	201,905
	Dec. 31	201,905	5% x 201,905 = 10,095	12,000	(1,905)	200,000

3.

Calculation of Effective Interest Rate

Year	Six month period ending	A Bond carrying amount	B (½ x 10%) = 5% x A Using 10% market rate to calculate periodic interest expense	(B/A)
2017	Jun. 30	$210,152	5% x $210,152 = $10,507	5%
	Dec. 31	208,659	5% x 208,659 = 10,433	5%
				10%
2018	Jun. 30	207,092	5% x 207,092 = 10,355	5%
	Dec. 31	205,447	5% x 205,447 = 10,272	5%
				10%
2019	Jun. 30	203,719	5% x 203,719 = 10,186	5%
	Dec. 31	201,905	5% x 201,905 = 10,095	5%
				10%

4. The financing charge remains constant from period to period under the market interest method. It would vary slightly under the straight–line method. Some may argue that the interest rate should remain constant to be theoretically correct. From a practical point of view, there may be no material difference from period to period when using the straight–line method, and the effective interest method may not be worth the calculation effort. The straight–line method is simpler to use.

P 10–1

Return to Question

1. a. Amount of interest paid every 6 months = \$150,000 x 12% x 1/2 = \$9,000

   b.

Face value	\$150,000
Issue price	147,000
Discount	\$ 3,000

   Amortization every 6 months = \$3,000 over 6 periods = \$500

2. Actual interest expense = Cash paid + discount amortization
   = \$9,000 + 500
   = 9,500

3. 2017

June 30	Interest Expense	9,000	
	Cash		9,000
	To record payment of interest.		
June 30	Interest Expense	500	
	Bond Discount		500
	To record amortization of bond discount.		

4. Round Corporation
   Partial Statement of Financial Position
   At December 31, 2018

	2018	*2017*
Liabilities		
Current		
Bonds payable (Note X)	\$150,000	\$ -0-
Discount on bonds	(1,000)	-0-
Carrying amount	149,000	-0-
Non-current		
Bonds payable (Note X)	-0-	150,000
Discount on bonds	-0-	(2,000)
Carrying amount	-0-	148,000

Note X would disclose relevant details about the bonds, including interest rate, maturity date, and fair value of the bonds at December 31 each year. Alternately, just carrying amounts could be shown on the statement of financial position. Face value and unamortized discount amounts could be disclosed in a note to the financial statements.

P 10–2

Return to Question

1. 2017

Jun. 1	Cash	4,142,800	
	Bonds Payable		4,000,000
	Premium on Bonds		142,800
	To record bond issue.		

P 10–2 continued

2.	2017			
	Dec. 1	Interest Expense	216,200	
		Premium on Bonds	23,800	
		Cash		240,000
		To record interest payment and premium amortization as follows: Premium = $142,800/3 years x 6/12 = $23,800 Cash = $4,000,000 x 12% x 6/12 = $240,000		
3.	2017			
	Dec. 31	Interest Expense	36,033	
		Premium on Bonds	3,967	
		Bond Interest Payable		40,000
		To accrue interest expense and premium amortization at year-end as follows: Premium = $142,800/3 years x 1/12 = $3,967 Interest payable = $4,000,000 x 12% x 1/12 = $40,000		

If no bond premium was amortized on December 1 (see entry 2), the entry would be:

	Dec. 31	Interest Expense	12,233	
		Premium on Bonds	27,767	
		Bond Interest Payable		40,000
		To accrue interest expense and premium amortization at year-end ($142,800/3 years x 7/12 = $27,767)		
4.	2018			
	Jun. 1	Interest Expense	180,167	
		Premium on Bonds	19,833	
		Bond Interest Payable	40,000	
		Cash		240,000
		To record interest payment and premium amortization. Premium = $142,800/3 years x 5/12 = $19,833 (rounded)		
5.a.	2018			
	Sept. 1	Cash	3,910,400	
		Discount on Bonds	89,600	
		Bonds Payable		4,000,000
		To record issue of bonds at 97.76. ($4,000,000 x .9776 = $3,910,400)		
b.	Sept. 1	Cash	120,000	
		Bond Interest Payable		120,000
		To record accrued interest paid by purchaser. ($4,000,000 x 12% x 3/12 mos.)		

P 10–2 continued

6.a. 2020			
Jun.1	Interest Expense	180,167	
	Bond Interest Payable	40,000	
	Premium on Bonds	19,833	
	Cash		240,000
	To record final interest payment and premium amortization on first bond issue.		
b. Jun.1	Interest Expense	221,333	
	Bond Interest Payable	40,000	
	Discount on Bonds		21,333
	Cash		240,000
	To record final interest payment and discount amortization on second bond issue.		
c. Jun. 1	Bonds Payable	8,000,000	
	Cash		8,000,000
	To record repayment of bonds at maturity.		

P 10–3

Return to Question

1.a. Amount of interest paid every 6 months:

	Case A	*Case B*	*Case C*
Face value ($100,000 at 12% x 1/2)	$6,000	$6,000	$6,000

b. Amount of amortization every 6 months:

Issue price	$100,000	$103,000	$ 94,000
Face value	100,000	100,000	100,000
Premium (discount)	$ -0-	$ 3,000	$(6,000)
Amortization semi–annually over 3 years		$ 500	$(1,000)

2.

			Case A		*Case B*		*Case C*	
a.	Issue of the bonds:							
	2017							
	Jan.1	Cash	100,000		103,000		94,000	
		Bond Discount	—		—		6,000	
		Bond Payable		100,000		100,000		100,000
		Bond Premium		—		3,000		—
b.	Payment of interest:							
	2017							
	Jun. 30	Interest Expense	6,000		6,000		6,000	
		Cash		6,000		6,000		6,000
c.	Amortization:							
	2017							
	Jun. 30	Interest Expense	—		—		1,000	
		Bond Discount		—		—		1,000
		Bond Premium	—		500		—	
		Interest Expense		—		500		—

P 10–3 continued

			Case A		*Case B*		*Case C*	
d.	Payment of interest:							
	2017							
	Dec. 31	Interest Expense	6,000		6,000		6,000	
		Cash		6,000		6,000		6,000
e.	Amortization:							
	2017							
	Dec. 31	Interest Expense	—		—		1,000	
		Bond Discount		—		—		1,000
		Bond Premium	—		500		—	
		Interest Expense		—		500		—
f.	Payment of interest:							
	2019							
	Dec. 31	Interest Expense	6,000		6,000		6,000	
		Cash		6,000		6,000		6,000
g.	Amortization:							
	2019							
	Dec. 31	Interest Expense	—		—		1,000	
		Bond Discount		—		—		1,000
		Bond Premium	—		500		—	
		Interest Expense		—		500		—
h.	Redemption of bonds:							
	2020							
	Jan. 1	Bonds Payable	100,000		100,000		100,000	
		Cash		100,000		100,000		100,000

3. Calculation of interest expense:

	Case A	*Case B*	*Case* C
Cash interest paid	$12,000	$12,000	$12,000
Amortization of discount (premium)	-0-	(1,000)	2,000
Interest in income statement	$12,000	$11,000	$14,000

The amount of cash interest paid by Esther differs from the amount shown on the income statement where a premium or a discount exists because the amortization of a premium is credited to interest expense, while the amortization of a discount is debited to interest expense.

P 10–3 continued

4. Exercise of a call option at Dec. 31, 2018:

	Case A		*Case B*		*Case C*	
Bond Payable	50,000		50,000		50,000	
Bond Premium	—		2,000		—	
Loss on Bond Redemption	1,500		—		5,500	
Bond Discount		—		—		4,000
Gain on Bond Redemption		—		500		—
Cash		51,500		51,500		51,500

To record retirement of $50,000 of 12% bonds at 102 as follows:

	Case A	*Case B*	*Case C*
Face value	$50,000	$50,000	$50,000
Unamortized premium (discount)	—	2,000	(4,000)
Carrying amount	50,000	52,000	46,000
Cash paid ($50,000 @ 102)	51,500	51,500	51,500
Gain (loss) on retirement	$ 1,500	$ 500	($5,500)

P 10–4

1. a. Amount of interest paid every 6 months
   = $300,000 x 12% x 1/2 = $18,000

Return to Question

   b.

Face value	$300,000
Issue price	272,263
Discount	$ 27,737

   Amortization every 6 months
   = $27,737 over 3 years x 1/2
   = $4,623 (rounded)

2.

Issue of $300,000 Bonds Payable for $272,263
Amortization Table
(straight-line)

		A	B	C	D	E
Year	*Six month period ending*	*Beginning bond carrying amount*	*(C + D) Periodic interest expense*	*Actual cash interest paid*	*Periodic discount amort.*	*(A + D) Ending bond carrying amount*
2017	Jun. 30	$272,263	$22,263	$18,000	$4,623	$276,886
	Dec. 31	276,886	22,263	18,000	4,623	281,509
2018	Jun. 30	281,509	22,263	18,000	4,623	286,132
	Dec. 31	286,132	22,263	18,000	4,623	290,755
2019	Jun. 30	290,755	22,263	18,000	4,623	295,378
	Dec. 31	295,378	22,262	18,000	4,622	300,000

P 10–4 continued

3.

Calculation of Effective Interest Rate

		A	B	
Year	*Six month period ending*	*Bond carrying amount*	*Six-month interest expense*	*% (B/A)*
2017	Jun. 30	$272,263	$22,623	8.3%
	Dec. 31	276,886	22,623	8.2%
2018	Jun. 30	281,509	22,623	8.0%
	Dec. 31	286,132	22,623	7.9%
2019	Jun. 30	290,755	22,623	7.8%
	Dec. 31	295,378	22,622	7.7%

4. The bonds were issued at a discount. Actual cash received was lower than the face value of the bonds. This indicates that the market rate of interest at the date of bond issue was higher than the stated interest rate of the bonds. The difference represents unamortized discount, which is amortized over the life of the bonds and acts to increase interest expense. As a result, the average interest expense is significantly higher than the interest rate on the face of the bonds each year (more than 15% per year actual vs. 12% per year stated). The interest expense also varies from period to period under the straight–line amortization method. Some may argue that such variation is not theoretically correct and therefore prefer the effective interest method, which provides a constant, market-based interest expense. From a practical point of view, there may be no material difference from period to period. The effective interest method may not be worth the calculation effort. The straight–line method is usually simpler to use.

P 10–4 continued

5.

Otter Products Inc.
Partial Statement of Financial Position
At December 31, 2018

	2018	2017
Liabilities		
Current		
Bonds payable (Note X)	$300,000	$ -0-
Discount on bonds	(9,245)	-0-
Carrying amount	290,755	-0-
Non-current		
Bonds payable (Note X)	-0-	300,000
Discount on bonds	-0-	(18,491)
Carrying amount	-0-	281,509

Note X would disclose relevant details about the bonds, including interest rate, maturity date, and fair value of the bonds at December 31 each year. Alternately, just carrying amounts could be shown on the statement of financial position. Face value and unamortized discount amounts could be disclosed in a note to the financial statements.

P 10–5

Return to Question

1. a. Difference between the premiums from 2017 to 2018: ($23,600 – 21,200) =$2,400
   Amortization per month = $2,400/12 = $200
   Premium at date of issue, Nov. 1, 2017 = (2 x $200) + $23,600 = $24,000
   Original issue price = $500,000 + $24,000 = $524,000

   b. Total premium/yearly amortization = $24,000/2,400 = 10 years.
   The maturity date is 10 years after Nov. 1, 2017, or 10 years and four months after date of authorization on July 1, 2017.

2.

2017			
Nov. 1	Cash	539,000	
	Bonds Payable		500,000
	Premium on Bonds		24,000
	Bond Interest Payable		15,000
	To record the bond issue and accrued interest payable ($500,000 x 9% x 4/12 mos. = $15,000)		

P 10–5 continued

3. 2019 unadjusted interest expense = $43,800

   Comprised of:

Cash interest paid ($500,000 x 9%)	$45,000
Amortization of premium from January 1 to June 30	(1,200)
	$43,800

   The following journal entry is needed:

2019			
Dec. 31	Premium on Bonds	1,200	
	Interest Expense		1,200
	To record amortization of bond premium from July 1 to December 31 ($200 x 6 mos.)		

4. Carrying value at December 31, 2019

   = $500,000 + 20,000 – 1,200

   = $518,800

P 10–6

Return to Question

1.

2017			
Apr. 1	Discount on Bonds	30,000	
	Cash	970,000	
	Bonds Payable		1,000,000
	To record issue of bonds at 97.		
Sept. 30	Interest Expense	55,000	
	Discount on Bonds		5,000
	Cash		50,000
	To record payment of interest and amortization of bond discount.		
	Amortization = $30,000/3 x 6/12 = $5,000		
	Interest = $1,000,000 x 10% x 6/12 = $50,000		
Dec. 31	Interest Expense	27,500	
	Discount on Bonds		2,500
	Bond Interest Payable		25,000
	To record accrual of bond interest and amortization of bond discount to year-end		
	Interest = $1,000,000 x 10% x 3/12 = $25,000		
	Amortization = $30,000/3 x 3/12 mos. = $2,500		

P 10–6 continued

2.

2017			
Apr. 1	Cash	1,060,000	
	Premium on Bonds		60,000
	Bonds Payable		1,000,000
	To record bonds issued at 106.		
Sept. 30	Premium on Bonds	10,000	
	Interest Expense	40,000	
	Cash		50,000
	To record payment of interest and amortization of bond premium.		
	Interest = $1,000,000 x 10% x 6/12 = $50,000		
	Amortization = $60,000/3 x 6/12 = $10,000		
Dec. 31	Premium on Bonds	5,000	
	Interest Expense	20,000	
	Bond Interest Payable		25,000
	To record accrual of bond interest and amortization of bond premium to year-end		
	Interest = $1,000,000 x 10% x 3/12 = $25,000		
	Amortization = $60,000/3 x 3/12 mos. = $5,000		

3.

2018			
Dec.1	Cash	1,030,000	
	Premium on Bonds		30,000
	Bonds Payable		1,000,000
	To record bonds issued at 103.		
Dec. 1	Cash	16,667	
	Bond Interest Payable		16,667
	To record accrued interest on bonds issued November 30. ($1,000,000 x 10% x 2/12 mos. = $16,667)		
2018			
Dec. 31	Interest Expense	8,333	
	Bond Interest Payable		8,333
	To record additional accrued interest from December 1 to December 31 ($1,000,000 x 10% x 1/12 mos. = $8,333).		
Dec. 31	Premium on Bonds	1,875	
	Interest Expense		1,875
	To record amortization of bond premium to December 31. Bonds will be outstanding 16 months, Dec. 1, 2018 to April 1, 2020 ($30,000 x 1/16 mos. = $1,875)		

P 10–7 (Appendices) Return to Question

			CASE A	CASE B	CASE C
1.	a.	Interest payment every 6 months:			
		\$500,000 x 12% x ½ yrs.	\$30,000	\$30,000	\$30,000
	b.	Issue price computation:			
		Present value \$500,000 at the end of 10 periods at			
		6% use 0.558395	\$279,197		
		8% use 0.463193		\$231,597	
		4% use 0.675564			\$337,782
		Present value \$30,000, payments for 10 periods at			
		6% use 7.360087	\$220,803		
		8% use 6.710081		\$201,302	
		4% use 8.110896			\$243,327
		Issue price	\$500,000	\$432,899	\$581,109

c. i. Bonds issued when market rate is 12%: no amortization needed

ii. Bonds issued when market rate is 16%: the amortization table is as follows:

		A	B	C	D	E
Year	*Six month period ending*	*Beginning bond carrying amount*	*1/2 x 16% = 8% x A*	*Actual cash interest paid*	*(B – C) Periodic premium amort.*	*(A + D) Ending bond carrying amount*
2017	Jun. 30	432,899	34,632	30,000	4,632	437,531
	Dec. 31	437,531	35,002	30,000	5,002	442,533
2018	Jun. 30	442,533	35,403	30,000	5,403	447,936
	Dec. 31	447,936	35,835	30,000	5,835	453,771
2019	Jun. 30	453,771	36,302	30,000	6,302	460,073
	Dec. 31	460,073	36,806	30,000	6,806	466,878

iii. Bonds issued when market rate is 8%; the amortization table is as follows:

		A	B	C	D	E
Year	*Six month period ending*	*Beginning bond carrying amount*	*1/2 x 8% = 4% x A*	*Actual cash interest paid*	*(B – C) Periodic premium amort.*	*(A + D) Ending bond carrying amount*
2017	Jun. 30	581,109	232,44	30,000	6,756	574,353
	Dec. 31	574,353	229,74	30,000	7,026	567,327
2018	Jun. 30	567,327	226,93	30,000	7,307	560,021
	Dec. 31	560,021	224,01	30,000	7,599	552,421
2019	Jun. 30	552,421	220,97	30,000	7,903	544,518
	Dec. 31	544,518	217,81	30,000	8,219	536,299

P 10–7 continued

d. The carrying value of the bonds at December 31, 2019:

Case A: $500,000
Case B: $466,878
Case C: $536,299

2.

		CASE A		*CASE B*		*CASE C*	
2019							
Jan. 1	Cash	500,000		432,899		581,109	
	Bond Discount	—		67,101		—	
	Bond Payable		500,000		500,000		500,000
	Bond Premium		—		—		81,109
Jun. 30	Interest Expense	30,000		30,000		30,000	
	Cash		30,000		30,000		30,000
30	Interest Expense	—		6,302		—	
	Bond Discount		—		6,302		—
30	Bond Premium	—		—		7,903	
	Interest Expense		—		—		7,903
Dec. 31	Interest Expense	30,000		30,000		30,000	
	Cash		30,000		30,000		30,000
31	Interest Expense	—		6,806		—	
	Bond Discount		—		6,806		—
31	Bond Premium	—		—		8,219	
	Bond Interest Expense		—		—		8,219

P 10–8 (Appendices)

Return to Question

1. Issue price computation:

Present value of $300,000 at the end of 6 periods at 8%: use 0.630170	$189,051
Present value of $18,000 payments for 6 periods at 8%: use 4.622880	83,212
Issue price	$272,263

2.

Issue of $300,000 Bonds Payable for $272,263
Amortization Table
Using Market Interest Rate of 16 Per Cent

		A	*B*	*C*	*D*	*E*
Year	*Six month period ending*	*Beginning bond carrying amount*	*(1/2 x 16% = 8% x A) Using 16% market rate to calculate periodic interest expense*	*Actual cash interest paid*	*(B – C) Periodic premium amort.*	*(A + D) Ending bond carrying amount*
2017	Jun. 30	$272,263	(8% x $272,263) = $21,781	$18,000	$3,781	$276,044
	Dec. 31	276,044	(8% x 276,044) = 22,084	18,000	4,084	280,128
2018	Jun. 30	280,128	(8% x 280,128) = 22,410	18,000	4,410	284,538
	Dec. 31	284,538	(8% x 284,538) = 22,763	18,000	4,763	289,301
2019	Jun. 30	289,301	(8% x 289,301) = 23,144	18,000	3,144	294,445
	Dec. 31	294,445	(8% x 294,445) = 23,555	18,000	5,555	300,000

3. Calculation of financing percentage

		A	*B*	
Year	*Six month period ending*	*Bond carrying amount*	*Six-month interest expense*	*(B/A)*
2017	Jun. 30	$272,263	$21,781	8.0%
	Dec. 31	276,044	22,084	8.0%
				16.0%
2018	Jun. 30	280,128	22,410	8.0%
	Dec. 31	284,538	22,763	8.0%
				16.0%
2019	Jun. 30	289,301	23,144	8.0%
	Dec. 31	294,445	23,555	8.0%
				16.0%

4. The interest rate expense remains constant from period to period under the effective interest amortization method, though the amortization amount varies each period. The effective interest rate would vary slightly under the straight–line method. The former method is theoretically superior. From a practical point of view, there is often no material difference from period to period when using the straight–line method; therefore, the effective interest method may not be worth the effort.

CHAPTER ELEVEN
Equity Financing

Concept Self-check

Return to Question

1. The corporate form of organization offers the following advantages:
    a. It is a legal entity with unlimited life; its existence is separate from its owners; and it has many of the rights and responsibilities of an individual.
    b. It has limited liability; the owners are liable only for the amount they invest in the corporation.
    c. Acquiring capital is facilitated by being able to issue shares (ownership units) with different risk and reward structures to many owners.
    d. Corporations may pay income taxes at rates that may be lower than rates for individuals.

2. The owners of the corporation are liable for only the amount they have each invested. If the corporation fails, its assets are used to pay the creditors. If assets are not sufficient to pay all creditors, the shareholders have no further liability. Creditors are protected to some degree by disclosure of the corporation's limited liability.

3. Some of the rights of common shareholders are as follows:
    a. The right to participate in the management of the corporation by voting at shareholders' meetings (1 share generally equals 1 vote)
    b. The right to participate in dividends when they are declared by the corporation's board of directors
    c. The right to participate in a distribution of assets on liquidation
    d. The right to appoint auditors.

    The rights may be printed on the share certificate itself; they are detailed in the articles of incorporation.

Concept Self-check continued

4. One or more interested parties prepare and file an application for incorporation with the appropriate governmental agency. The forms describe the name, head office address, classes and maximum number of shares that the corporation requesting to issue, and the number of directors, among other information. A certificate of incorporation or similar document is issued by the state on approval of the application. The incorporators hold the initial shareholders' meeting to issue share certificates, and the shareholders elect a board of directors and approve the by–laws (set of corporate rules and regulations). The directors hold a directors' meeting to appoint the officers to execute the policies approved by the board of directors.

5. The shareholders elect a board of directors, which appoints the officers of the corporation. The officers execute the policies approved by the board of directors. The directors are not involved in the daily management of the corporation.

6. a. The two main classes of shares are:

    i. *Preferred Shares*—a class of shares that has a preference over common shares. Holders of preferred shares are entitled to payment of dividends before common shareholders and usually have prior claims on a corporation's assets on liquidation. A fixed dividend rate may be attached to the shares. Some preferred shares may have voting privileges.

    ii. *Common Shares*—the class of shares that are the basic ownership units in a corporation. Ownership of common shares carries the right to vote, to share in dividends, and to share in the assets of the corporation if it is liquidated; however, all other claims to the assets of a corporation rank ahead of the common shareholders' claims.

   b. Terms relating to the present status of a corporation's shares:

    i. *Authorized Shares*—the designated number of shares within each class of shares that a corporation may issue.

    ii. *Unissued Shares*—the shares of share capital in each class that a corporation is authorized to issue but has not yet issued.

    iii. *Issued Shares*—the total number of authorized shares that have been issued in the name of shareholders; issued shares may not actually be in the hands of shareholders (e.g., treasury shares).

    iv. *Outstanding Shares*—authorized shares that have been issued and are actually in the hands of shareholders.

    v. *Reacquired Shares*—shares that have been re-purchased from shareholders, have not been cancelled, and have not been reissued (also called treasury shares).

Concept Self-check continued

7. Shares are preferred in that their owners

    a. Generally assume less risk than common shareholders. When a corporation is dissolved, preferred shareholders have first claim on the remaining assets after the creditors have been paid; and

    b. Have a prior claim to the earnings of the corporation. Preferred shareholders must be paid specified dividends before any payments are made to common shareholders.

    Preferred shareholders are similar to common shareholders in that both

    a. Own share certificates, evidence of corporate ownership;

    b. Have the legal guarantee that all shares of the same class will be treated equally with respect to rights and privileges attached to them;

    c. Have the right to dividends declared by the board of directors; and

    d. Have the right to participate in distribution of assets on liquidation of the corporation.

    Preferred shareholders differ from common shareholders in that

    a. Common shareholders can participate in the management of the corporation by voting at shareholders' meetings (though some preferred shares may have voting privileges);

    b. Common shareholders can appoint auditors;

    c. Common shareholders assume more risk than preferred shareholders.. However, common shareholders have more potential for receiving substantial dividends and increases in the value of their shares if the corporation is successful; and

    d. Common shareholders receive the balance of assets after other claims have been satisfied—in the case of a bankruptcy or liquidation, there are usually few or no other assets to distribute to common shareholders; preferred shareholders have prior claims.

8. The shares are restored to the status of authorized but unissued. The appropriate stated capital account must be reduced by the payment. Assuming that common shares are repurchased for cash, the entry would be:

Dr.	Common Shares	XXX	
Cr.	Cash		XXXX
	To record repurchase of outstanding shares.		

    These shares can subsequently be resold.

9. When the shares of a corporation are selling at a high price on the stock market, management may opt for a share split in order to put them more easily within the reach of more investors.

Concept Self-check continued

10. a. The number of authorized and issued shares doubles.

    b. Stated value per share halves.

11. The major components of the shareholders' equity section of the statement of financial position are share capital (preferred shares and common shares) and retained earnings. These two major components are distinguished because share capital represents invested capital not available for distribution to owners, while retained earnings are available for distribution as dividends.

12. Some of the main considerations involving the declaration of dividends are

    a. Whether or not there is enough cash, or whether the dividends can be paid by distribution of some other assets;

    b. Whether the policy of the corporation precludes dividend payments; and

    c. Whether there is a legal requirement that dividends must be declared.

13. A corporation may decide not to pay cash dividends even though it has a substantial net income because financial conditions may make it impractical or impossible.

    a. There may be insufficient cash, due to a significant investment in capital assets or reduction of debt, for instance. In a growth–oriented corporation, shareholders benefit from this strategy through increased earnings, which increase market prices for the shares.

    b. The policy of the corporation may preclude dividend payments.

    c. There is no legal requirement that dividends must be paid, unless otherwise specified by the various classes of shares.

    d. Dividends may be issued in shares of the corporation rather than in cash. A share dividend helps to preserve cash or to increase the number of shares traded on the stock market.

14. *The date of dividend declaration:* the corporation is legally required to pay the dividend; a liability is established.

    The date of record: shareholders who own the shares on this date will receive the dividend.

    The date of payment: the dividend is actually paid on this date.

Concept Self-check continued

15. Dividend preferences that may be attached to preferred shares are

    a. Preferred shareholders are entitled to dividends before any dividends are distributed to common shareholders;

    b. Preferred shares may be cumulative; undeclared dividends can accumulate from one year to the next; and

    c. Preferred shareholders may participate with common shareholders in dividend distributions beyond their usual preferred dividends.

    Preferred shares have returns that are more predictable and thus attract investors with a lower tolerance for risk. These advantages do not mean that purchasing preferred shares are necessarily better than purchasing common shares. Holding common shares has its own advantages. Common shareholders generally have legal control of the corporation. Ownership of commons shares carries the right to vote, to earn potentially unlimited dividends, and to have share values increase on stock markets.

16. If preferred shares are cumulative, undeclared dividends from previous years are accumulated and must be paid along with the current dividend. The unpaid dividends are called dividends in arrears. They are not a liability of the corporation unless dividends have been declared by the board of directors.

17. Book value is the amount of net assets represented by one share. With respect to common shares, book value represents the amount of net assets not claimed by creditors and preferred shareholders. With respect to preferred shares, it represents the amount that preferred shareholders would receive if the corporation were liquidated. This would include any dividends in arrears.

18. When only one class of shares exists, book value is calculated by dividing shareholders' equity by the number of shares outstanding. If both preferred and common shares exist, preferred shares are allocated the amount they would receive if the corporation were liquidated. The common shares receive any remaining balance. The liquidating value of preferred shares is printed on the share certificate. Some preferred shares have a cumulative dividend feature — they are entitled to dividends that are in arrears. This is included when calculating the book value of preferred shares.

Concept Self-check continued

19. The balance in shareholders' equity changes from period to period; thus the book value changes also, since it is based on the shareholders' equity balance. The reader of the financial statements can compare book value with market value to get an insight into the perceived value of the corporation by investors. Since the market price of shares are related to factors such as company earnings, dividend payments, and perceived future potential to generate earnings, a book value higher than a market price may be interpreted by an investor as indicating that the corporation's shares are a poor investment. Comparing the ratio of market value per share to book value per share among different corporations can indicate the stock market's expectations of relative profitability for each company.

20. Since the market price of shares are related to such factors as company earnings, dividend payments, and future earnings potential, a book value higher than a market price could be interpreted by an investor as indicating that the corporation's shares are a poor investment rather than a bargain.

21. A cash dividend reduces both the asset Cash and the shareholders' equity account Retained Earnings. A share dividend does not affect Cash; the Retained Earnings account is still reduced, but the account Common (or Preferred, if applicable) Shares is increased. A share dividend has no net effect on shareholders' equity. Example journal entries for each kind of dividend are as follows:

	Declaration Date			*Payment/Distribution Date*		
Cash Dividend	Dividends	X		Dividends Payable	X	
	Dividends Payable		X	Cash		X
Share Dividend	Share Dividend	X		Share Dividend to be Issued	X	
	Share Dividend to be issued		X	Common Shares		X

22. A share dividend is a dividend in the form of shares of the corporation. Retained earnings decrease and share capital increases. A share split is an action taken by the corporation to increase the number of shares outstanding and reduce the per-share market value. No journal entry is required to record a share split, and there is no effect on the accounting records.

Concept Self-check continued

23. A share dividend increases the number of shares held by each shareholder but the ownership percentage remains the same. If a 10 per cent share dividend is distributed, each shareholder holds more shares but the percentage of ownership remains the same, illustrated as follows:

	Ownership			
	Before Share Dividend		*After Share Dividend*	
Shareholders	*Shares*	*%*	*Shares*	*%*
W	250	25%	275	25%
X	250	25%	275	25%
Y	250	25%	275	25%
Z	250	25%	275	25%
	1,000	100%	1,100	100%

24. Unrestricted retained earnings are those that are available for the payment of dividends. The board of directors passes a resolution for a specific purpose to restrict retained earnings: for example, to accommodate a plant expansion. The journal entry required to place a restriction on retained earnings would be

Dr.	Retained Earnings	XXX	
Cr.	Retained Earnings—Restricted for . . .		XXX
	To place a restriction on retained earnings.		

25. Retained earnings represent net assets that are earned by a corporation over its life that have not been distributed as dividends to shareholders. As such, they can be used to invest in productive activities of the business.

CP 11–1

Return to Question

		Total share capital	*Retained earnings*
1.	Company is incorporated	x	x
2.	Issued shares with a stated value of $1	↑	x
3.	Split the common shares 2 for 1	x	x
4.	Recorded net income for the year	x	↑
5.	Reacquired common shares previously outstanding	↓	x
6.	Declared a cash dividend	x	↓
7.	Paid a cash dividend (retained earnings effect recorded when dividend declared)	x	x
8.	Declared a share dividend	↑	↓
9.	Created a restriction on retained earnings	x	x

CP 11–2 Return to Question

1.

	12% bonds	*Preferred shares*	*Common shares*
Income before interest and income taxes	$12,000,000	$12,000,000	$12,000,000
Less: Interest expense	4,800,000 [1]	-0-	-0-
Income before income taxes	7,200,000	12,000,000	12,000,000
Less: Income taxes at 50%	3,600,000	6,000,000	6,000,000
	3,600,000	6,000,000	6,000,000
Less: Preferred dividends	-0-	4,000,000 [2]	-0-
Net available to common shareholders (a)	$3,600,000	$2,000,000	$6,000,000
Number of common shares outstanding (b)	200,000	200,000	400,000
Earnings per common share (a/b)	$18	$10	$15

[1] $40,000,000 x 12% = $4,800,000
[2] 400,000 x $100 x 10% = $4,000,000

2. Issuing bonds is the financing option that is most advantageous to the common shareholders, all other factors being considered equal. It results in higher earnings per common share. A second advantage is that bondholders normally do not have any control over the company. Issuing shares will distribute control over a larger number of shareholders and the present shareholders' control would be diluted. A third advantage is that interest expense is deductible for tax purposes, while dividends are paid out of after–tax dollars. One disadvantage, which may make one of the other options more advantageous, is that interest expense is fixed. The company may not earn enough income to cover the interest expense in any given year if bonds are issued.

CP 11–3

Return to Question

1. Authorization of share issue:

   Memorandum

   The company is authorized under the [name of legislation] to issue an unlimited number of common shares and 10,000, 4% preferred shares.

2. Issue of 10,000 common shares:

2018			
Jan. 2	Intangible Assets	10,000	
	Common Shares		10,000

3. Issue of 1,000 preferred shares:

2018			
Jan. 2	Cash	3,000	
	Preferred Shares		3,000

CP 11–4

Return to Question

1.

2018			
Jan. 2	Land	500,000	
	Preferred Shares		500,000
	To record the purchase of a tract of land in exchange for preferred shares.		

2. The credit part of the transaction would be classified on the statement of financial position in the shareholders' equity section as part of share capital. The debit part of the transaction would be recorded as an asset in the property, plant, and equipment section.

CP 11–5

Return to Question

1. The average price received for each issued preferred share is $54 ($3,456/64).
2. The average price received for each issued common share is $2.10 ($1,680/800).
3. The total stated capital is $5,136 ($3,456 + 1,680).

CP 11–6

Return to Question

2018			
Dec.	Cash	30,000	
	Common Shares		30,000
	To record issue of common shares for cash.		
	Common Shares	5,000	
	Cash		5,000
	To record redemption of common shares.		
	Cash	15,000	
	Preferred Shares		15,000
	To record issue of preferred shares for cash.		
	Building	8,000	
	Cash		8,000
	To record purchase of a building for cash.		
	Land	10,000	
	Building	12,000	
	Common Shares		22,000
	To record purchase of land and building through issue of common shares.		
	Cash	7,000	
	Common Shares		7,000
	To record issue of common shares for cash.		
	Cash	4,000	
	Land		4,000
	To record sale of land for cash.		
	Preferred Shares	6,000	
	Cash		6,000
	To record redemption of preferred shares for cash.		
	Incorporation Costs	14,000	
	Preferred Shares		14,000
	To record issue of preferred shares in exchange for incorporation costs. (If incorporation costs amounts are judged material, this would be recorded as an asset; otherwise, it would be expensed.)		

CP 11–7

Return to Question

1. 2018

May 25	Dividends Declared	100,000	
	Dividends Payable		100,000
	To record the declaration of the dividend.		

2. 2018

June 26	Dividends Payable	100,000	
	Cash		100,000
	To record payment of the dividend.		

CP 11–8

Return to Question

1. Since the preferred shareholders have cumulative shares, they must receive all dividends in arrears and the current dividend before the common shareholders receive any dividends.

   Dividends received by preferred shareholders
   = Dividends in arrears for one year + Dividends for current year
   = $5,000 + 5,000 = $10,000

2. Common shareholders receive the balance, or $4,000.

   Dividends received by common shareholders
   = Total dividends – Dividends received by preferred shareholders
   = $14,000 – $10,000 = $4,000

CP 11–9

Return to Question

Dividends in arrears	$ 2,000
Liquidation value	25,000
Preferred shares	$27,000

Book value of preferred shares = Preferred shares/Number of preferred shares
= $27,000/5,000
= $5.40 per preferred share

Book value of common shares = $\frac{\text{(Total shareholders' equity—Preferred shares)}}{\text{Number of common shares}}$
= ($210,000 – 27,000)/20,000
= $9.15 per common share

CP 11–10

Return to Question

1. a. Book value per preferred share = ($300 + 30)/300 shares = $1.10 per share

   b. Book value per common share = ($992 – 330)/20 shares = $33.10 per share

2. Book value per common share after split = $662/40 shares = $16.55 per share

CP 11–11

Return to Question

1. The amount of cumulative preferred dividends in arrears at December 31, 2018 does not appear as a liability. Although the dividends pertain to cumulative shares, no liability exists until such time as the board of directors *declares* a dividend. Disclosure of dividends in arrears would be made in a note to the financial statements as shown here, however.

2. The company may have sufficient retained earnings but may not have sufficient cash to pay the dividends, taking into consideration other needs of the company. Perhaps working capital is being conserved for an important investment project, for instance. The retained earnings balance may be restricted and consequently not available at present for shareholder dividends.

3.

Amount available for all dividends (1/2 x $35,000)	$17,500
Priority given to cumulative preferred shareholders	
Arrears to December, 2018	(15,000)
Preferred dividends for 2019	(5,000)
Deficiency	$(2,500)

The $2,500 deficiency in 2019 preferred dividends has to be paid in the future before any dividends are paid to common shareholders. There will be no dividends available for common shareholders at December 31, 2019 based on the projections.

CP 11–12

Return to Question

Common share dividend to be issued = (5,000 shares x 10%) x $10
= $5,000

2018			
Jan. 15	Retained Earnings	5,000	
	Common Share Dividend to be Issued		5,000
Feb. 15	Common Share Dividend to be Issued	5,000	
	Common Shares		5,000

CP 11–13

Return to Question

2018			
Apr. 1	Share Dividend Declared	15,000	
	Common Share Dividend To Be Issued		15,000
	To record the declaration of the share dividend. (10,000 x 10% x $15)		
Apr. 15	Common Share Dividend To Be Issued	15,000	
	Common Shares		15,000
	To record the distribution of the dividend.		
Jun. 1	Cash Dividends Declared	22,000	
	Dividends Payable		22,000
	To record the declaration of the cash dividend. [(10,000 + 1,000) x $2]		
Jun. 30	Dividends Payable	22,000	
	Cash		22,000
	To record the cash dividend payment.		
Dec. 31	Retained Earnings	37,000	
	Share Dividend Declared		15,000
	Cash Dividend Declared		22,000
	To close the Dividends Declared general ledger account to the Retained Earnings account.		

CP 11–14

Return to Question

1.

2018			
Jan. 5	Cash	150	
	Common Shares		150
	To record issue of 10 common shares for cash.		
12	Land	50	
	Buildings	100	
	Machinery	100	
	Common Shares		250
	To record issue of 50 common shares in exchange for assets.		
Feb. 28	Share Dividend Declared	42	
	Common Share Dividend to be Issued		42
	To record the share dividend [(10 + 50) x 10% = 6 shares x $7]. (An entry to record net income to date could be made, but is not necessary.)		
Mar. 15	Common Share Dividend to be Issued	42	
	Common Shares		42
	To record issue of dividend on common shares.		

CP 11–14 continued

	Dec. 31	Income Summary	200	
		Retained Earnings		200
		To close the income summary account.		
	Dec. 31	Cash Dividend Declared	66	
		Dividends Payable		66
		To record the cash dividend declared [(10 + 50 + 6) x $1]		
	Dec. 31	Retained Earnings	108	
		Share Dividend Declared		42
		Cash Dividend Declared		66
		To close 2018 dividends to retained earnings.		

2\. a.

Blitz Power Tongs Inc.
Partial Statement of Financial Position
At January 31, 2018

Shareholders' Equity

Common shares, stated value $6.67 per share		
Authorized—unlimited shares		
Issued and outstanding—60 shares	$400	

b.

Blitz Power Tongs Inc.
Partial Statement of Financial Position
At February 28, 2018

Shareholders' Equity

Common shares, stated value $6.70 per share		
Authorized—unlimited shares		
Issued and outstanding—60 shares	$400	
Common share dividend to be issued – 6 shares	42	$442
Retained earnings		
Net income	60	
Common share dividend declared	(42)	18*
Total shareholders' equity		$460

*alternately, these amounts could be shown on the statement of changes in equity and just the total retained earnings ($18) shown on the statement of financial position. Other reasonable presentation formats are acceptable.

CP 11–14 continued

c. Blitz Power Tongs Inc.
Partial Statement of Financial Position
At December 31, 2018

Shareholders' Equity

Common shares, stated value $7.37 per share		
Authorized—unlimited shares		
Issued and outstanding—60 shares		$442
Retained earnings		
Net income	$200	
Cash dividends declared	(66)	
Common share dividend declared	(42)	92
Total shareholders' equity		$534

Other presentation formats and disclosure are acceptable; for instance, information other than the ending share capital and retained earnings balances at each of the three statement of financial position dates could be disclosed in a note to the financial statements.

CP 11–15

Return to Question

1.

2018			
Dec. 31	Retained Earnings	80,000	
	Retained Earnings – Restriction for Plant Expansion		80,000
	To record restriction per board of directors' resolution.		

2.

Shareholders' Equity

	2018
Share capital	$ 100,000
Retained earnings (Note X)	200,000
Total shareholders' equity	$300,000

Note X: On December 31, 2018 the board of directors authorized a $80,000 restriction on the retained earnings for plant expansion.

3.

2019			
Jun. 30	Plant	90,000	
	Cash		90,000
	To record construction of building.		

4.

2019			
Jul. 31	Retained Earnings – Restriction for Plant Expansion	80,000	
	Retained Earnings		80,000
	To record removal of restriction.		

CP 11–16

Return to Question

Stetson Auto Inc.
Partial Statement of Financial Position
As at December 31, 2018

Share Capital		
Common shares, stated value $1		
Issued and outstanding — 10,000 shares		$ 10,000
Retained Earnings		
Restricted for plant addition	$150,000	
Unrestricted	400,000[1]	
Total retained earnings		550,000
Total shareholders' equity		$560,000

Alternately, these ending balances could be disclosed in a note to the financial statements. The partial statement of financial position would just show:

Share capital (Note X)	$ 10,000
Retained earnings (Note Y)	550,000
Total shareholders' equity	$560,000

Stetson Auto Inc.
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*		*Total equity*
		Unrestricted	*Restricted*	
Balance at Jan. 1, 2018	$ -0-	$ -0-	$ -0-	$ -0-
Common shares issued (Note X)	8,000			8,000
Net income		575,000		575,000
Cash dividends declared		(23,000)		(23,000)
Common share dividend declared	2,000	(2,000)		
Restriction for plant addition (Note Y)		(150,000)	150,000	
Balance at Dec. 31, 2018	$10,000	$400,000	$150,000	$560,000

P 11–1

1. Return to Question

	12% bonds	*Preferred shares*	*Common shares*
Income before interest and income taxes	$1,000,000	$1,000,000	$1,000,000
Less: Interest expense	240,000 [1]	-0-	-0-
Income before income taxes	760,000	1,000,000	1,000,000
Less: Income taxes at 50%	380,000	500,000	500,000
	380,000	500,000	500,000
Less: Preferred dividends	-0-	160,000 [2]	-0-
Net Available to common shareholders (a)	$380,000	$340,000	$500,000
Number of common shares outstanding (b)	40,000	40,000	90,000
Earnings per common share (a/b)	$9.50	$8.50	$5.56

[1] $2,000,000 x 12% = $240,000
[2] 20,000 x $8 = $160,000

2. As representatives of common shareholders results based on earnings per share are important. On this basis, issuing bonds is the best option, since it results in higher earnings per share.

3. Other factors to be considered by board of directors:

   a. Bondholders do not normally have control over managerial decisions. By issuing shares, the present shareholders' control would be spread over a larger number of shareholders.

   b. The company may not be profitable enough to be able to cover a fixed annual interest charge.

P 11–2

Return to Question

1. a. 2018

a.	Jan. 2	Cash	18,000	
		Preferred Shares		18,000
		To record issue of 3,000 preferred shares for cash.		
b.	Jan. 2	Cash	4,000	
		Common Shares		4,000
		To record issue of 2,000 common shares for cash.		
c.	Jan. 12	Cash	25,000	
		Preferred Shares		25,000
		To record issue of 5,000 preferred shares for cash.		
d.	Aug. 1	Cash	1,000	
		Common Shares		1,000
		To record issue of 1,000 common shares for cash.		
e.	Dec. 15	Land	15,000	
		Preferred Shares		15,000
		To record issue of 500 preferred shares for land.		

2.

Crystal Clear Electronics Inc.
Partial Statement of Financial Position
At December 31, 2018

Shareholders' Equity

Share capital (Note X)	$63,000

Note X (reasonable alternate wording is acceptable)

The share capital of Crystal Clear Electronics Inc. consists of an unlimited number of no-par value common shares and 20,000, 5%, no-par value, non-cumulative, non-voting preferred shares. Preferred shares take precedence when dividends are declared and upon repayment of capital. Common shares represent one vote each at shareholders' meetings of Crystal Clear Electronics Inc.

During the year, 3,000 common shares with an average stated value of $1.67[1] per share were issued. This represented 100% of total common shares issued. 8,000 preferred shares with an average stated value of $5.38[2] per share were issued for cash. This represented 95% of total preferred shares issued. 500 preferred shares with a stated value of $30 per share were issued to acquire land for future operations. This represented 5% of total preferred shares issued.

At December 31, 2018 dividends on preferred shares were in arrears by $2,150[3].

[1] [($4,000 + 1,000)/(2,000 + 1,000)] = $1.67 (rounded)
[2.] [($18,000 + 25,000)/(3,000 + 5,000)] = $5.38 (rounded)
[3] ($18,000 + 25,000) x 5% = $2,150

P 11–2 continued

3. Crystal Clear Electronics Inc.
Statement of Changes in Equity
For the Years Ended December 31, 2018 and 2019

	Share Capital		
	Common	*Preferred*	*Total*
Balance at January 1, 2018	$ -0-	$ -0-	$ -0-
Shares issued during 2018			
Common – 3,000	5,000		5,000
Preferred – 8,500		58,000	58,000
Balance at December 31, 2018	5,000	58,000	63,000
2:1 Common share split at Dec. 15, 2019	-0-	-0-	-0-
Balance at December 31, 2019			
Common – 6,000	$5,000		
Preferred – 8,500		$58,000	
Total			$63,000

Alternate presentation formats are acceptable. For example, the share split and ending shares issued could be disclosed in a note.

P 11–3 Return to Question

1.

Before Split *Shareholders' Equity*		After Split *Shareholders' Equity*	
Common Shares		Common Shares	
Authorized—5,000 Shares		Authorized—5,000 Shares	
Issued and Outstanding — 1,000 shares	$100,000	Issued and Outstanding — 5,000 shares	$100,000

2.

Common Shares No. XXX

Date	*Description*	*F*	*Debit*	*Credit*
2019				
April 15	Memorandum The outstanding shares were increased from 1,000 to 5,000 by a 5–for–1 share split.			

3. The market price per share would be $8 ($40/5). The share split should not have any effect on the overall value of the firm to investors. Therefore, if five times as many shares are now outstanding, each share should be worth 1/5 as much.

P 11–4

Return to Question

Gearing Gravel Limited
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Common	*Preferred*	*Ret. earnings*	*Treas. shares*	*Total equity*
Balance at January 1, 2018	$10,000	$50,000	$100,000	$ -0-	$160,000
Shares issued	5,000				5,000
Net income			20,000		20,000
Share reacquired and held as treasury shares				(1,000)	(1,000)
Cash dividends declared					
Common shares			(500)		(500)
Preferred shares ($50,000 x 5%)			(2,500)		(2,500)
Balance at December 31, 2018	$15,000	$50,000	$117,000	$(1,000)	$181,000

Note X

The authorized share capital of Gearing Gravel Limited consists of an unlimited number of voting common shares with a stated value of $50 per share, and 1,000 5%, non-voting, non-cumulative preferred shares with a stated value of $50 per share. Preferred shares take precedence when dividends are declared and upon repayment of capital. Common shares represent one vote at shareholders' meetings of Gearing Gravel Limited.

During the year, 100 common shares were issued for a stated value of $50 per share. This represents 33%[1] of total common shares issued as of December 31, 2018. 20 common shares were reacquired during the year and held as treasury shares. This represents 7%[2] of total common shares issued as of December 31, 2018.

[1] 100/300 = 33% (rounded)
[2] 20/300 = 7% (rounded)

(Alternate presentation and disclosure formats are acceptable, providing that information contained in the note and statement of changes in equity shown here are disclosed in some fashion.)

P 11–5

Return to Question

		Assets	*Liabilities*	*Shareholders' Equity*
1.	Common shares issued for cash	↑	x	↑
2.	Declared a cash dividend	x	↑	↓
3.	Common shares split 3:1	x	x	x
4.	Calculated book value of common shares	x	x	x
5.	Paid cash dividend related to item 2 above	↓	↑	x
6.	Recorded restriction of retained earnings	x	x	x

P 11–6

Return to Question

1\. a.

Common Shares	4,000	
Cash		4,000
To record reacquisition of 400 common shares at $10.		

b. Memorandum

Split common shares 2–for–1; issued shares increased from 4,400 to 8,800 shares

c.

Cash	600	
Common Shares		600
To record issue of 200 common shares for cash.		

d.

Income Summary	19,500	
Retained Earnings		19,500
To close income summary.		

e.

Retained Earnings	5,000	
Retained Earnings—Restricted for Plant Expansion		5,000

To record restriction of retained earnings for plant expansion. (Complete only if Appendix 2 is covered.)

P 11–6 continued

2.

River Valley Produce Limited
Statement of Changes in Equity
For the Year Ended December 31, 2019

	Share capital		*Retained earnings*			*Other*	*Total equity*
	Common shares	*Preferred shares*	*Restricted for plant expansion*	*Un-restricted*	*Total*	*Treas. shares*	
Balance at Jan. 1, 2019	$24,000	$15,000	$ -0-	$40,000	$40,000	$ -0-	$79,000
Shares reacquired and held as treasury shares						(4,000)	(4,000)
Common shares Issued	600						600
Restriction for plant expansion			5,000	(5,000)			
Net income				19,500	19,500		19,500
Balance at Dec. 31, 2019	$24,600	$15,000	$5,000	**$54,500**	$59,500*	(4,000)	$95,100

*If appendix 2 is not covered, only the "Total" column of retained earnings applies. Also, there would be no row entitled, "Restriction for plant expansion".

3. $54,500 is available for distribution, the amount of unrestricted retained earnings at December 31, 2019 (see bolded amount above). If Appendix 2 is not covered, $59,500 is available.

P 11–7

Return to Question

1. Stated value per common share = $\dfrac{\text{Dollar amount of shares issued}}{\text{Number of shares outstanding}}$
   = $3,070/300 = $10.23 (rounded)

   Book value per common share = $\dfrac{\text{Total equity}}{\text{Number of shares outstanding}}$
   = $3,570/300 = $11.90

2. There is little relationship between market price and the book value of a share. Book value provides only a basis on which to compare two or more companies, or to compare a company's market price per share. Market value is affected by investors' perceptions of future earnings expectations of the company. Also some assets recorded at historical cost, such as land, may have appreciated in value. This appreciation would be reflected in the market value of the common shares, but not in the book value.

P 11–8

Return to Question

1\.

Date	Account	Debit	Credit
2020			
Feb. 15	Cash Dividends Declared	112	
	Dividends Payable—Preferred Shares		12
	Dividends Payable—Common Shares		100
Apr. 1	Dividends Payable—Preferred Shares	12	
	Dividends Payable—Common Shares	100	
	Cash		112
May 1	Share Dividends Declared	400	
	Share Dividends to be Issued		400
	(2,000 x 10% = 200 shares @ $2 FMV)		
Jun. 15	Share Dividends to be Issued	400	
	Common Shares		400
Aug. 15	Cash Dividends Declared	122	
	Dividends Payable—Preferred Shares		12
	Dividends Payable—Common Shares (2,200 x $.05)		110
Oct. 1	Dividends Payable—Preferred Shares	12	
	Dividends Payable—Common Shares	110	
	Cash		122
Dec. 15	Share Dividends Declared	660	
	Share Dividends to be Issued		660
	(2,200 x 10% x $3 = $660)		
31	Income Summary	1,400	
	Retained Earnings		1,400
31	Retained Earnings	1,294	
	Share Dividends Declared		1,060
	Cash Dividends Declared		234

2\.

TWR Contracting Inc.
Statement of Changes in Equity
For the Year Ended December 31, 2020

	Common shares	*Preferred shares*	*Retained earnings*	*Total equity*
Balance at Jan. 1, 2020	$ 400	$2,000	$ 900	$ 3,300
Net income			1,400	1,400
Dividends declared				
Cash			(234)	(234)
Common shares	1,060		(1,060)	
Balance at Dec. 31, 2020	$1,460	$2,000	$ 1,006	$ 4,466

P 11–9

Return to Question

1.

Cash dividends paid on December 31, 2019	$25,000
Cumulative and unpaid balance of dividends on preferred shares that was not declared per March 20 entry (50,000 x $.20)	(10,000)
Cash dividends paid on common shares	$15,000

2.

2019			
Mar. 20	Cash Dividends Declared	10,000	
	Dividends Payable—Preferred Shares		10,000
Apr. 1	Dividends Payable—Preferred Shares	10,000	
	Cash		10,000
Jun. 15	Cash Dividends Declared	20,000	
	Dividends Payable—Common Shares		20,000
Jul. 10	Dividends Payable—Common Shares	20,000	
	Cash		20,000
Aug. 1	Cash	200,000	
	Common Shares		200,000
Dec. 15	Retained Earnings	20,000	
	Dividends Payable—Common Shares		20,000
Dec. 31	Cash Dividends Declared[1]	10,000	
	Dividends Payable – Common Shares	15,000	
	Cash		25,000

Remaining cumulative dividends on preferred shares = 50,000 x $.20 = $10,000

[1] No preferred share dividends were declared, but these are cumulative. $10,000 remains to be paid per part 1 above. Therefore, the debit to record the preferred shares dividend goes directly against the Cash Dividends Declared general ledger account.

P 11–9 continued

3.

Apex Auto Corporation
Statement of Changes in Equity
For the Year Ended December 31, 2019
('000s)

	Common shares	*Preferred shares*	*Retained earnings* *Restricted for plant expansion*	*Un-restricted*	*Total*	*Total equity*
Balance at Jan. 1, 2019	$ 750	$ 500	$ 150	$ 600	$ 750	$2,000
Common shares Issued	200					200
Restriction for plant extension			75	(75)		
Net income				165	165	165
Dividends						
Preferred[1]				(20)[1]	(20)	(20)
Common[2]				(40)[2]	(40)	(40)
Balance at Dec. 31, 2019	$ 950	$ 500	$ 225	$ 630	$ 855*	$2,305

[1] March 20 dividends	$10,000
Dec. 31 cumulative dividends deemed paid	10,000
Total	$20,000

[2] June 15 dividends	$20,000
Dec. 15 dividends	20,000
Total	$40,000

*If appendix 2 is not covered, only the "Total" column of retained earnings applies. Also, there would be no row entitled, "Restriction for plant extension".

CHAPTER TWELVE
Proprietorships and Partnerships

Concept Self-check

Return to Question

1. A proprietorship differs from a corporation because:
   a. it is not a separate legal entity from the owner;
   b. it is not taxed separately on its earnings; proprietorship earnings are included in income reported on a proprietor's personal income tax return.; and
   c. it does not have limited liability; if an unincorporated business cannot pay its debts, creditors have claims on the personal assets of the owner.

2. | | | | |
   |---|---|---|---|
   | Dr. | Cash | XXX | |
   | Cr. | Proprietor's Capital | | XXX |

3. The closing entries of a proprietorship do not require net income to be closed to Retained Earnings general ledger account. Rather, net income is closed to the Proprietor's Capital general ledger account. . There are no dividend payments in a proprietorship. Withdrawals by the proprietor are closed to the Proprietor's Capital account. All profits are credited to the Proprietor's Capital account.

4. A corporation's statement of financial position distinguishes between investments in the corporation (shares) and net income generated by the company less its dividends distributions (retained earnings). A proprietorship makes no such distinction. Since there is only one owner and no separate legal entity, there is no distinction made between contributions, earnings, and distributions of profit in a proprietorship.

5. A partnership is an unincorporated form of business organization in which the entity is owned by two or more persons. Five characteristics of a partnership are:
   a. Limited life — if a partner is admitted, withdraws, or dies, the existing partnership is dissolved and the business continues under a new partnership agreement.
   b. Unlimited liability — in general, each partner is personally liable for the debts that the partnership cannot pay. In the event that a partner cannot pay his/her share of partnership debts, the other partners can be called on to pay personally for such debts.
   c. Mutual agency — each partner can make binding agreements not only on the partnership, but also on the other partners.

Concept Self-check continued

d. Co-ownership of assets — all assets contributed to the partnership by individual partners are jointly owned by all partners.

e. Sharing of profits and losses — if the partnership agreement does not stipulate how profits and losses will be shared, all profits and losses are shared equally.

6. The advantages of a partnership are:

   a. The knowledge, skills, and financial resources of two or more persons can be combined.

   b. Partnerships can be formed relatively easily and quickly.

   c. A partnership can act promptly as a business enterprise in all matters. A corporation may be restricted in its actions on certain matters by its charter, by laws, or by statute.

   d. Many of the formal government reports required of a corporation are not required of the partnership.

   e. Income taxes are not levied against partnerships. The partners, however, report on their individual tax returns their share of partnership income.

   The disadvantages of partnerships are:

   a. Liability is usually unlimited. Partners are liable for all debts of the partnership.

   b. The life of the partnership is limited. Death, withdrawal, or admission of a partner; agreement to terminate; bankruptcy; and incapacity of a partner are all terminate a partnership.

   c. The partnership is a mutual agency; that is, each partner may act in business matters as the agent of the partnership.

   d. The ability of a partnership to raise funds may be limited.

7. To account for a partnership, two types of accounts are used. One is the capital account, where contributions and withdrawals by each partner are recorded, along with the share of profits and losses. The withdrawals account records distributions and is closed to the capital account at the end of each fiscal period. Each partner has his/her own capital and withdrawals account.

   In a corporation, a general ledger account called Share Capital or Common Shares is used to record the amount of shares issued. A separate account called Retained Earnings records all net income, losses and distributions to shareholders.

Concept Self-check continued

8. Profits and losses are divided equally among partners if no agreement exists. Otherwise, several methods may be followed to allocate profits or losses Formulas often consider three factors — a return to each partner based on relative levels of services rendered, a return on capital invested, and a further division of remaining profits and losses according to a fixed ratio.

9. Salary and interest allocations are included in the division of profits and losses because the time and effort contributed by individual partners to the business and the amount of contributed capital may differ among partners.

10. The statement of financial position of a partnership merely shows the ending capital balance of each partner. If many partners exist, a total capital amount is shown and the details of each partner's capital account appear in a statement of partners' capital.

11. A partner may be admitted to replace an existing partner. In this case, there is no change in the capital account balances. A new partner may be admitted by new contributions to the partnership. If the amount invested exceeds the amount of credit that the partner receives in the partnership, the excess is credited to the other partners as a bonus on the basis of the profit sharing agreement. The bonus may be paid in order to gain admission to the partnership.

12. An existing partner may withdraw by either selling his/her interest to a new partner or selling to the remaining partners. If the partner sells to a new partner, there is no change in the assets or capital of the partnership. Payment is a private transaction. If the partner sells to existing partners, the assets and equity of the partnership may change if the value of the partnership interest as agreed is different from the partnership interest as recorded in the accounting records. Also, an entry must be made to record the change and transfer the capital of the withdrawing partner to the remaining partners.

13. A deficiency is allocated to the other partners on the basis of the profit sharing agreement.

CP 12–1

Return to Question

1. An adjusting entry is needed to reallocate personal income taxes:

Proprietor's Withdrawals	5,000	
Income Taxes Expense		5,000

The income statement would then appear as follows:

R. Black Proprietorship
Income Statement
For the Year Ended December 31, 2018

Sales	$166,000
Cost of goods sold	100,000
Gross profit	66,000
Operating expenses	
Rent	24,000
Net income	$42,000

2.

R. Black Proprietorship
Statement of Proprietor's Capital
For the Year Ended December 31, 2018

Balance at Jan. 1, 2018 (derived)	$ -0-
Contributions	5,000
Net income	42,000
Withdrawals	(12,000)
Balance at Dec. 31, 2018	$ 35,000

CP 12–1 continued

3.

R. Black Proprietorship
Statement of Financial Position
At December 31, 2018

Assets	
Current	
Cash	$10,000
Accounts receivable	20,000
Inventory	30,000
Total assets	$60,000
Liabilities	
Current	
Accounts payable	$25,000
Proprietor's Capital	
R. Black, capital	35,000
Total liabilities and proprietor's capital	$60,000

4.

Sales	166,000	
Cost of Goods Sold		100,000
Rent Expense		24,000
Income Summary		42,000
Income Summary	42,000	
R. Black, Capital		42,000
R. Black, Capital	12,000	
R. Black, Withdrawals		12,000

CP 12–2

Return to Question

1.

R. Black Ltd.
Income Statement
For the Year Ended December 31, 2018

Sales	$166,000
Cost of goods sold	100,000
Gross profit	66,000
Operating expenses	
Rent	24,000
Income before income taxes	42,000
Income taxes	5,000
Net income	$37,000

2.

R. Black Ltd.
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total*
Balance at Jan. 1, 2018	$5,000	$ -0-	$ 5,000
Net income		37,000	37,000
Dividends		(7,000)	(7,000)
Balance at Dec. 31, 2018	$5,000	$30,000	$35,000

3.

R. Black Ltd.
Statement of Financial Position
At December 31, 2018

	Assets	
Current		
Cash		$10,000
Accounts receivable		20,000
Inventory		30,000
Total assets		$60,000
	Liabilities	
Current		
Accounts payable		$25,000
	Shareholders' Equity	
Share capital	$ 5,000	
Retained earnings	30,000	35,000
Total liabilities and shareholders' equity		$60,000

CP 12–2 continued

4.	Sales	166,000	
	Cost of Goods Sold		100,000
	Rent Expense		24,000
	Income Taxes Expense		5,000
	Income Summary		37,000
	Income Summary	37,000	
	Retained Earnings		37,000
	Income Summary	7,000	
	Dividends		7,000

CP 12–3

Return to Question

1.	G, Capital	30,000	
	I, Capital		30,000
	To record transfer of G's partnership interest to new partner I.		

2.	G, Capital ($30,000 – 17,100)	12,900	
	H, Capital ($10,000 – 17,100)		7,100
	I, Capital		3,800
	Cash		2,000

To record payment of bonus to new partner I and reallocation of partnership interest as follows:

G, Capital	$30,000
H, Capital	10,000
Bonus payment	(2,000)
Capital of new partnership	$38,000

Allocated as:

G (45%)	$17,100
H (45%)	17,100
I (10%)	3,800
	$38,000

CP 12–3 continued

3. Land 100,000
G, Capital ($30,000 – 28,000) 2,000
H, Capital ($10,000 – 7,000) 3,000
I, Capital 105,000
To record contribution of assets by new partner I and reallocation of partnership interest as follows:

G, Capital	$30,000
H, Capital	10,000
I, Investment	100,000
Capital of new partnership	$140,000

Allocated as:	
G (20%)	$28,000
H (5%)	7,000
I (75%)	105,000
	$140,000

CP 12–4

Return to Question

		Debit	Credit
1.	X, Capital	10,000	
	T, Capital		10,000
	To record transfer of X's partnership interest to new partner T.		
2.	X, Capital	10,000	
	Y, Capital		10,000
	To record transfer of X's partnership interest to existing partner Y.		
3.	X, Capital	10,000	
	Accounts Payable	2,000	
	Y, Capital		1,200
	Z, Capital		800
	Cash		5,000
	Inventory		5,000
	To record dispersal of partnership net assets to withdrawing partner X and transfer of X's partnership interest to existing partners Y and Z.		

CP 12–5

Return to Question

1.

Able, Brown, and Crown
Statement of Partnership Liquidation
For the Month Ending November 30, 2018

	Cash	Other assets	Liabilities	Partners' capital		
				Able	Brown	Crown
Balance, November 1, 2018	$ 20,000	$180,000	$50,000	$37,000	$65,000	$48,000
Sale of other assets and	100,000	(180,000)				
allocation of loss ($80,000)				(32,000)	(32,000)	(16,000)
	120,000	$ -0-	50,000	5,000	33,000	32,000
Payment of liabilities	(50,000)		(50,000)			
	70,000		$ -0-			
Distribution of cash	(70,000)			(5,000)	(33,000)	(32,000)
Balance, November 30, 2018	$ -0-			$ -0-	$ -0-	$ -0-

2.

a. Loss on Sale of Other Assets	80,000	
Cash	100,000	
Other Assets		180,000
To record sale of other assets for cash.		
b. Able, Capital	32,000	
Brown, Capital	32,000	
Crown, Capital	16,000	
Loss on Sale of Other Assets		80,000
To allocate loss on sale of other assets.		
c. Accounts Payable	50,000	
Cash		50,000
To record the payment of liabilities.		
d. Able, Capital	5,000	
Brown, Capital	33,000	
Crown, Capital	32,000	
Cash		70,000
To record payment of capital accounts.		

P 12–1

Return to Question

1.

B. White and C. Green Partnership
Income Statement
For the Year Ended December 31, 2018

Sales		$322,000
Cost of goods sold		160,500
Gross profit		161,500
Operating expenses		
Rent	36,000	
Advertizing	27,200	
Delivery	9,600	
Office	12,800	
Utilities	23,300	108,900
Net income		$ 52,600

2.

B. White and C. Green Partnership
Statement of Partners' Capital
For the Year Ended December 31, 2018

	White	*Green*	*Total*
Balance at Jan. 1, 2018	$20,000	$10,000	$ 30,000
Contributions	10,000	10,000	20,000
Net income	26,300	26,300	52,600
Withdrawals	(7,000)	(5,000)	(12,000)
Balance at Dec. 31, 2018	$49,300	$41,300	$ 90,600

P 12–1 continued

3. B. White and C. Green Partnership
Statement of Financial Position
At December 31, 2018

Assets		
Current		
Cash		$41,000
Accounts receivable		68,400
Inventory		27,000
Total assets		$136,400
Liabilities		
Current		
Accounts payable		$45,800
Partners' Capital		
B. White, capital	$49,300	
C. Green, capital	41,300	90,600
Total liabilities and partners' capital		$136,400

4.

Sales	322,000	
Cost of Goods Sold		160,500
Rent		36,000
Advertizing		27,200
Delivery		9,600
Office		12,800
Utilities		23,300
Income Summary		52,600
Income Summary	52,600	
B. White, Capital		26,300
C. Green, Capital		26,300
B. White, Capital	7,000	
B. White, Withdrawals		7,000
C. Green, Capital	5,000	
C. Green, Withdrawals		5,000

P 12–2

Return to Question

1.

B. White Proprietorship
Statement of Proprietor's Capital
For the Year Ended December 31, 2018

Balance at Jan. 1, 2018	$ 30,000
Contributions	20,000
Net income	52,600
Withdrawals	(12,000)
Balance at Dec. 31, 2018	$ 90,600

2.

BW and CG Ltd.
Statement of Changes in Equity
For the Year Ended December 31, 2018

	Share capital	*Retained earnings*	*Total*
Balance at Jan. 1, 2018	$200	$29,800	$ 30,000
Common shares issued	20,000		20,000
Net income		52,600	52,600
Dividends declared		(12,000)	(12,000)
Balance at Dec. 31, 2018	$20,200	$70,400	$ 90,600

P 12–3

Return to Question

1.	Income Summary	52,600	
	B. White, Capital		32,875
	C. Green, Capital		19,725

To allocate 2018 net income as follows:

White ($52,600 x 5/8)	$32,875
Green ($52,600 x 3/8)	19,725
	$52,600

P 12–3 continued

2.	Income Summary	52,600	
	B. White, Capital		37,760
	C. Green, Capital		14,840
	To allocate 2018 net income as follows:		

	White	*Green*	*Total*
Profit to be allocated			$52,600
Interest allocation:			
White: $20,000 x 10%	$ 2,000		
Green: $10,000x 10%		$ 1,000	(3,000)
Balance			49,600
Salary allocation:	30,000	10,000	(40,000)
Balance			9,600
Balance allocated in profit and loss sharing ratio:			
White: $9,600 x 3/5	5,760		
Green: $9,600 x 2/5		3,840	(9,600)
Balance			$ -0-
Total allocated to partners	$37,760	$14,840	

P 12–4

Return to Question

1.

	Bog	*Cog*	*Fog*	*Total*
Profit to be allocated				$40,000
Interest allocation:				
Bog: $60,000 x 10%	$ 6,000			
Cog: $100,000x 10%		$ 10,000		(18,000)
Fog: $20,000 x 10%			$ 2,000	
Balance				22,000
Salary allocation:	24,000	30,000	48,000	(102,000)
Balance (deficit)				(80,000)
Balance allocated in profit and loss sharing ratio:				
Bog: ($80,000) x 5/10	(40,000)			
Cog: ($80,000) x 3/10		(24,000)		80,000
Fog: ($80,000 x 2/10			(16,000)	
Balance				$ -0-
Total allocated to partners	($10,000)	$16,000	$34,000	

P 12–4 continued

2.	Income Summary	40,000	
	Bog, Capital	10,000	
	Cog, Capital		16,000
	Fog, Capital		34,000
	To record net income allocation to partners.		

P 12–5

Return to Question

1.

Profit and loss sharing plan		(a) Division with profit $60,000		(b) Division with loss $30,000	
		Bo	*Diddley*	*Bo*	*Diddley*
Plan A	Salary	$15,000	$ -0-	$ 15,000	$ -0-
	Balance	15,000 [1]	30,000 [2]	(15,000)	(30,000)
	Totals	$30,000	$30,000	$ -0-	$(30,000)
Plan B	Salary	$12,000	$ -0-	$ 12,000	$ -0-
	Interest	4,000	8,000	4,000	8,000
	Balance	18,000	18,000	(27,000)	(27,000)
	Totals	$34,000	$26,000	$(11,000)	$(19,000)

[1] ($60,000 – 15,000) x ($50,000/150,000) = $15,000
[2] ($60,000 – 15,000) x ($100,000/150,000) = $30,000

2. Plan A produces less income variability for Bo compared to plan B and more variability for Diddley. If the allocation based on salary is reasonable (that is, Bo actually works more hours than Diddley), plan B is likely more equitable.

P 12–6

Return to Question

1.

Good, capital	$30,000
Hood, capital	26,000
Food, capital	19,000
Existing capital	75,000
Investment by Mood	15,000
Capital of new partnership (a)	$90,000
Mood's capital (a x 1/4)	$22,500

The new partner's bonus is recorded as:

Cash	15,000	
Good, Capital	2,500	
Hood, Capital	2,500	
Food, Capital	2,500	
Mood, Capital		22,500

2.

Good, capital	$ 30,000
Hood, capital	26,000
Food, capital	19,000
Existing capital	75,000
Investment by Mood	45,000
Capital of new partnership (a)	$120,000
Mood's capital (a x 1/4)	$ 30,000

The bonus to existing partners is recorded as:

Cash	45,000	
Good, Capital		5,000
Hood, Capital		5,000
Food, Capital		5,000
Mood, Capital		30,000

P 12–7

Return to Question

1.

A, B, and C
Statement of Partnership Liquidation
For the Month Ending March 31, 2018

	Cash	*Other assets*	*Accounts payable*	*Partners' capital A*	*B*	*C*
Balance, March 1, 2018	$ 10,000	$125,000	$ 10,000	$ 25,000	$ 37,500	$ 62,500
Sale of other assets and	42,500	(125,000)				
Allocation of loss ($82,500)				(27,500)	(27,500)	(27,500)
	52,500	$ -0-	10,000	(2,500)	10,000	35,000
Payment of liabilities	(10,000)		(10,000)			
	42,500		$ -0-			
Allocation of A's debit balance				2,500	(1,250)	(1,250)
				-0-	8,750	33,750
Distribution of cash	(42,500)				(8,750)	(33,750)
	$ -0-			$ -0-	$ -0-	$ -0-

2.

		Debit	Credit
a.	Loss on Sale of Other Assets	82,500	
	Cash	42,500	
	Other Assets		125,000
	To record sale of other assets.		
b.	A, Capital	27,500	
	B, Capital	27,500	
	C, Capital	27,500	
	Loss on Sale of Other Assets		82,500
	To record allocation of the loss on sale of other assets.		
c.	Accounts Payable	10,000	
	Cash		10,000
	To record payment of liabilities.		
d.	B, Capital	1,250	
	C, Capital	1,250	
	A, Capital		2,500
	To record allocation of A's debit balance.		
e.	B, Capital	8,750	
	C, Capital	33,750	
	Cash		42,500
	To record payment of capital accounts.		

CHAPTER THIRTEEN
Financial Statement Analysis

Concept Self-check

Return to Question

1. Comparisons can be made using published industry statistics, statistics of previous years, statistics of leading competitors, trade magazines, or internally-developed ratios.

2. Liquidity is a corporation's ability to pay current liabilities as they become due. Being less liquid means creditors that have provided the corporation with goods and services on account, or with other forms of short-term borrowing, cannot be paid. Implications of being less liquid:

   Creditors:
   a. Can refuse to provide further goods or services on account
   b. Can sue for payment
   c. Can put the corporation into receivership or bankruptcy
   d. Can refuse to lend additional cash
   e. Can demand repayment of all debts, including long-term debt.

   Shareholders:
   a. May be unwilling to invest in additional share capital of the corporation
   b. Risk the loss of their investments if the company becomes bankrupt

3. A corporation is becoming less liquid if it cannot pay current liabilities as they become due. The corporation may have large sums of capital tied up in inventory and therefore not enough cash available to pay liabilities as needed, for instance.

4. Current ratio: Indicates how many current asset dollars exist to pay current liabilities

   Acid–test ratio: Indicates whether or not the corporation is able to meet the immediate demands of creditors, without considering current assets tied up in inventory or prepaid expenses.

   Accounts receivable collection period: Indicates the average time needed to collect receivables

   Number of days of sales in inventory: Indicates how many days of sales can be made with inventory on hand

   Revenue operating cycle: Indicates how long it is between the purchase of inventory and the subsequent collection of cash from sales of inventory.

Concept Self-check continued

5. a. Working capital is the difference between current assets and current liabilities.

   The current ratio is computed by dividing current assets by current liabilities. It is one measure of whether or not the corporation is able to repay short–term creditors. The acid–test ratio, on the other hand, is a more severe test of liquidity. It is computed by dividing quick assets (cash, short-term investments, accounts receivable) by current liabilities.

   b. The current ratio is only a rough indication of how able an entity is to pay its current liabilities as they become due. The relative liquidity of components of current assets is not considered in the calculation of this ratio. The acid-test ratio is often used as a more severe test of liquidity.

6. The ability to pay short-term creditors as amounts become due depends on the liquidity of the current assets. If, for example, company X's current assets consist of cash and company Y's current assets consist of inventory, company Y will not be able to pay its creditors easily because of a lack of cash.

7. Taking too long to collect accounts receivable will reduce the amount of cash available to pay liabilities as they become due. The same is true if there is an over–investment in inventory.

8. An acceptable number of days to collect accounts receivable and to convert inventory to sales depends on several factors, including the industry in which the corporation does business and the state of the economy. Management judgement and experience are crucial. If accounts receivable are collected too slowly, or if credit is extended to liberally, debts may not be collected in a timely manner, or at all. If accounts receivable collections are too short, potential credit sales may be lost. Similarly, higher number of days of sales in inventory indicates that more cash is tied up in inventory. On the other hand, a lower number of days of sales in inventory may indicate that inventory levels are too low. Potential sales may be lost.

9. Advantages of decreasing number of days of sales in inventory might be that
   a. The amount of assets tied up in inventory is reduced
   b. The dangers of obsolescence or deterioration are reduced
   c. Less storage space is used for inventory, so that warehousing expenses are reduced.
   d. Borrowings to purchase inventory and related interest expense can be reduced.

   A disadvantage of decreasing number of days of sales in inventory is that merchandize can be reduced to the point where sales are lost.

Concept Self-check continued

10. The revenue operating cycle indicates the number of days that elapse between the purchase of inventory and the subsequent collection of cash after a sale is made. It is computed by adding the average number of days needed to turn over inventory and the average number of days needed to collect receivables. It is useful in evaluating liquidity because a comparison can be made of the number of days needed to complete the cycle and the number of days within which the payables are due. Management can determine how long it will take the corporation to reinvest in inventory with cash generated by the revenue operating cycle.

11. a. Ratios that measure margins on sales:
    i. Gross profit ratio: indicates the amount of revenue left to cover other expenses after deducting cost of goods sold. It is calculated by dividing gross profit by net sales.
    ii. Operating profit ratio: indicates the amount of revenue left to cover interest and income taxes expenses after deducting cost of goods sold and operating expenses. It is calculated by dividing income from operations by net sales.
    iii. Net profit ratio: Indicates the percentage of sales revenue left in the business after payment of operating expenses, interest, and income taxes. It is calculated by dividing net income by net sales.

    b. Ratios that measure returns on statement of financial position items:
    i. Sales to total assets ratio: Indicates the adequacy of sales in relation to the investment in capital assets. It is calculated by dividing net sales by average capital assets.
    ii. Return on total assets ratio: Indicates how efficiently a company uses all of its statement of financial position assets to earn income from operations. It is calculated by dividing income from operations by average total assets.
    iii. Return on shareholders' equity ratio: Indicates the amount of income that is generated by shareholders' proportion of total assets. It is calculated by dividing net income by average shareholders' equity.

12. Analysts and investors are concerned with the financial structure of a corporation because the higher the reliance on debt, the more substantial claim the creditors have against the assets of the corporation. The corporation is also more vulnerable to rises in interest rates and economic downturns, which in turn affects future earnings expectations.

Concept Self-check continued

13. Reliance on creditor financing can be positive, since financing a corporation by issuing additional shares results in a dilution of existing shareholders' control of the corporation. Also, creditor financing is beneficial to shareholders when the return is greater than the interest paid on the debt. However, interest has to be paid on the debt and, ultimately, the debt itself has to be repaid. Interest reduces the income of the corporation. If interest rates paid on debt are higher than the returns generated from the borrowed funds, net income is reduced. The corporation is more susceptible to economic downturns and interest rate increases as its reliance on debt grows.

14. *Short–term financing*
    Advantages:
    a. Usually does not require interest payment to the creditors
    b. Easily obtained

    Disadvantages:
    a. Payment is required within a short time
    b. More risky, because it has to be renewed more frequently

    Long–term financing
    Advantages:
    a. More secure, because renewal is infrequent
    b. Principal repayment not required for a long time

    Disadvantages:
    a. Must pay interest, and legal documents are often signed to enforce this.
    b. More work to acquire (must present financial statements, may have to be audited)

15. a. Earnings per share: Indicates the amount of net income that has been earned on each common share. It is calculated by dividing (net income less preferred share dividends) by number of common shares outstanding.

    b. Price-earnings ratio: Indicates the reasonableness of the market price in relation to per-share earnings. It is calculated by dividing market price per share by earnings per share.

    c. Dividend yield: Indicates the short-term cash return that could be expected from an investment in a company's shares. It is calculated by dividing dividends declared by outstanding common shares.

Concept Self-check continued

16. Horizontal analysis is the comparison of the change in one item on financial statements (such as merchandize inventory) during two or more accounting periods. Vertical analysis is the analysis of the composition of a financial statement by restating all items in that statement as percentages of a total. Generally sales is used as the income statement base and total assets (or total liabilities and shareholders' equity) is used as the statement of financial position base. Comparing the percentages of a particular item between two or more years shows the change in composition of the statement components.

17. The Scott formula is calculated as follows:

$$\underbrace{\left[\overset{(1)}{\frac{\text{Income from operations (after tax)}}{\text{Net sales}}} \times \overset{(2)}{\frac{\text{Net sales}}{\text{Operating capital}}}\right]}_{\textit{Return on operating capital}} + \underbrace{\left[\overset{(3)}{(\text{ROC} - \text{Interest rate})} \times \overset{(4)}{\frac{\text{Net financial debt}}{\text{Shareholders' equity}}}\right]}_{\textit{Return on leveraging}} = \underbrace{\overset{(5)}{\frac{\text{Net income}}{\text{Shareholders' equity}}}}_{\textit{Return on shareholders' equity}}$$

The formula separates ROSE into two components: return on operating capital (ROC) and return on leveraging (ROL). ROC can be further analysed as the product of the after-tax return on operating income x sales to operating capital ratio. ROL can be further analysed as (ROC – after-tax interest rate) x debt to shareholders' equity ratio. The after-tax interest rate is calculated as [interest expense x (1- income tax rate)]/net financial debt.

CP 13–1

Return to Question

l	Acid–test ratio
f	Current ratio
k	Return on shareholders' equity
a	Times interest earned
c	Earnings per share
m	Accounts receivable collection period
d	Sales to total assets
j	Dividend yield
e	Price–to–earnings ratio
g	Number of days of sales in inventory
b	Debt to shareholders' equity ratio
h	Net profit ratio
m	Accounts receivable collection period
i	Return on total assets

CP 13–2

Return to Question

1. Current ratio = $\frac{\text{Current assets}}{\text{Current liabilities}}$

   The current ratio indicates how many dollars of current assets exist to pay a dollar of current liabilities. A ratio of 2 to 1 is often appropriate but this depends on the type of industry.

   2018: ($10 +35 + 200 + 600)/745 = $1.13 to 1
   2017: ($15 +35 + 150 + 400)/580 = $1.03 to 1

2. Acid–test ratio = $\frac{\text{Quick assets}}{\text{Current liabilities}}$

   The acid–test ratio indicates how many dollars of current assets excluding inventory and prepaid expenses exist to pay a dollar of current liabilities. A ratio of at least 1 to 1 is often appropriate but this depends on the type of industry.

   2018: ($10 + 35 + 200)/745 = $.33 to 1
   2017: ($15 + 35 + 150)/580 = $.34 to 1

3. Both the current and acid-test ratios are below the suggested guidelines. The company's continuing low acid-test ratio in particular suggests that it will likely have problems meeting its liabilities as they become due, and that the company may be at risk of bankruptcy.

4.

	2018	*2017*
Working capital from operations		
Accounts receivable	$200	$150
Inventory	600	400
Less: Accounts payable	(500)	(400)
	$300	$150
Net financial debt		
Borrowings	$245	$180
Less: Cash	(10)	(15)
Short-term investments	(35)	(35)
	$200	$130

CP 13–3

Return to Question

Gross profit ratio = $\frac{\text{Gross profit}}{\text{Net sales}}$

2019: $63/252 = 25%
2018: $48/141 = 34%
2017: $54/120 = 45%

Net profit ratio = $\frac{\text{Net income}}{\text{Net sales}}$

2019: $12/252 = 4.7%
2018: $5/141 = 3.6%
2017: $15/120 = 12.5%

This company has a decreasing gross profit ratio. This significantly affects net income and the net profit ratio. Net income and the net profit ratio dipped significantly in 2018, but both have rebounded somewhat in 2019. The company may be facing significant competition in recent years; hence the overall decline in the gross profit and net profit ratios.

CP 13–4

Return to Question

Price-earnings ratio = $\frac{\text{Market price per share}}{\text{Earnings per share}}$

This ratio indicates the stock market's expectations of profitability for the company. A higher P/E ratio indicates that the market expects the company to be profitable despite relatively lower net income at present. On this basis, company C is preferred.

A: $35/11 = 3.2
B: $40/5 = 8
C: $90/10 = 9

Dividend yield = $\frac{\text{Dividends per share}}{\text{Market price per share}}$

This ratio indicates what short-term cash return shareholders might expect on their investment in common shares of the company.

A: 0
B: $4/40 = 10
C: $6/90 = 6.7

The stock market indicates that company C is expected to be relatively more profitable than A or B in the future. However, if dividend yield is important to the shareholder, then company B should be chosen. On either basis, company A does not appear to be a good investment.

CP 13–5

Return to Question

	2018 (a)	2017 (b)	Change Amount (a – b)	Change Percentage (a – b)/b
Sales	$2,520	$1,440	$ +1,080	+75%
Cost of goods sold	1,890	960	+930	+96.9%
Gross profit	$630	$480	+150	+31.3%
Operating expenses	510	430	+80	+18.6%
Net income	$ 120	$ 50	+70	+140%

Although sales have increased, cost of goods sold has increased at a faster pace. However, operating expenses have increased at a slower pace, resulting in a substantially higher net income.

CP 13–6

Return to Question

Transaction	Ratio	Effect on ratio: Inc.	Dec.	No change
Declared a cash dividend	Current ratio		X	
Wrote-off an uncollectible account receivable	Accounts receivable collection period	X		
Purchased inventory on account	Acid–test ratio		X	
Issued 10–year bonds to acquire capital assets	Return on total assets		X	
Issued additional shares for cash	Debt to shareholders' equity ratio		X	
Declared a share dividend on common shares	Earnings per share			X
Restricted part of retained earnings	Return on shareholders' equity			X
Purchased supplies on account	Current ratio		X	
Paid a short–term creditor in full	Acid–test ratio	X		
Paid an account payable, taking the cash discount	Number of days sales in inventory			X

CP 13–7

Return to Question

1.a. Return on total assets

$= \frac{\text{Income from operations}}{\text{Average total assets}}$

= ($36/220)

= 16.4%

b. Return on shareholders' equity

$= \frac{\text{Net income}}{\text{Average shareholders' equity}}$

= $20/(80 + 60)

= 14.3%

c. Times interest earned ratio

$= \frac{\text{Income from operations}}{\text{Interest expense}}$

= $36/6

= 6 times

d. Earnings per share

$= \frac{\text{Net income}}{\text{Number of common shares outstanding}}$

= $20/8 shares

= $2.50

e. Number of days of sales in inventory

$= \frac{\text{Average inventory}}{\text{Cost of goods sold}} \times 365 \text{ days}$

= $40/50 x 365 days

= 292 days

f. Accounts receivable collection period

$= \frac{\text{Accounts receivable}}{\text{Net credit sales}} \times 365 \text{ days}$

= $20/100 x 365 days

= 73 days

g. Sales to total assets ratio

$= \frac{\text{Net sales}}{\text{Average total assets}}$

= $100/220

= 45%

h. Current ratio

$= \frac{\text{Current assets}}{\text{Current liabilities}}$

= ($20 + 20 + 40)/20

= 4:1

CP 13–7 continued

i. Acid-test ratio

$= \dfrac{\text{Quick assets}}{\text{Current liabilities}}$

= ($20 + 20)/20

= 2:1

j. Debt to shareholders' equity ratio

$= \dfrac{\text{Total liabilities}}{\text{Shareholders' equity}}$

= $(20 + 60)/140)

= .57:1

2. The following ratios are measures of liquidity:
   - e. Number of days of sales in inventory
   - f. Accounts receivable collection period
   - h. Current ratio
   - i. Acid–test ratio

3.

Statement of Financial Position

Operating Capital

Working capital from operations		
Accounts receivable		$ 20
Merchandize inventory		40
Less: Accounts payable		(20)
		40
Plant, at carrying amount		140
Operating capital		$180
Net Financial Debt		
Borrowings	$ 60	
Less: Cash	(20)	40
Shareholders' Equity		
Share capital	80	
Retained earnings	60	140
Financial capital		$180

CP 13–7 continued

Income Statement		
Sales		$100
Cost of goods sold		50
Gross profit		50
Operating expenses		14
Income from operations		36
Less: Income taxes		(12)
Income from operations, after-tax		24
Interest	6	
Less: Income tax savings	(2)	
Net interest expense		4
Net income		$20

4. Scott formula

$$\underbrace{\left[\frac{\$24}{100} \times \frac{\$100}{180}\right]}_{\text{Return on operating capital: (1), (2)}} + \underbrace{\left[\left\{\frac{\$24}{180} - \frac{\$4}{40}\right\} \times \frac{\$40}{140}\right]}_{\text{Return on leveraging: (3), (4)}} = \underbrace{\frac{\$20}{140}}_{\text{Return on shareholders' equity (5)}}$$

$$= [\,24\% \times .6\,] + [\,3.3\% \times .3\,] = 14.3\%$$

$$= \mathbf{13.3\%} + \mathbf{1.0\%} = \mathbf{14.3\%}$$

CP 13–8

Return to Question

1. Current ratio

$$= \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$= \frac{\text{Cash + accounts receivable + inventory + prepaid expenses}}{\text{Current liabilities}}$$

= ($72 + 88 + 100 + 40)/60

= $300/60

= 5:1

2. Return on total assets

$$= \frac{\text{Income from operations}}{\text{Average total assets}}$$

= $46/620

= 7.4%

1. Sales to total assets ratio

$$= \frac{\text{Net sales}}{\text{Average total assets}}$$

= $240/620

= 38.7%

4. Acid-test ratio

$$= \frac{\text{Quick assets}}{\text{Current liabilities}}$$

$$= \frac{\text{Cash + accounts receivable}}{\text{Current liabilities}}$$

= ($72 + 88)/60

= 2.7:1

5. Times interest earned ratio

$$= \frac{\text{Income from operations}}{\text{Interest expense}}$$

= $46/8

= 5.75:1

6. Earnings per common share

$$= \frac{\text{Net income – preferred share dividends}}{\text{Number of common shares outstanding}}$$

= [$20 – ($60 x 10%)]/10 shares

= $1.40 per share

CP 13–8 continued

7. Accounts receivable collection period

$$= \frac{\text{Average accounts receivable}}{\text{Net credit sales}} \times 365 \text{ days}$$

= \$88/(80% x \$240) x 365 days

= 167 days

8. Return on shareholders' equity

$$= \frac{\text{Net income}}{\text{Shareholders' equity}}$$

$$= \frac{\text{Net income}}{\text{Preferred shares + common shares + retained earnings}}$$

= \$20/(60 + 250 + 100)

= 4.9%

9. Scott formula

$$\underbrace{\left[\frac{24^{1}}{240} \times \frac{\$240}{488^{2}}\right]}_{\text{Return on operating capital: (1), (2)}} + \underbrace{\left[\left(\frac{\$24}{488} - \frac{\$4^{3}}{78^{4}}\right) \times \frac{\$78}{410^{5}}\right]}_{\text{Return on leveraging: (3), (4)}} = \underbrace{\frac{\$20}{410}}_{\text{Return on shareholders' equity (5)}}$$

$$= [\ 10\% \times .49\ ] + [\ (0\%) \times .2\ ] = 4.9\%$$

$$= \mathbf{4.9\%} + \mathbf{0\%} = \mathbf{4.9\%}$$

[1] \$46 x (1 – .473*) = \$24   [2] \$620 – 72 – 60 = \$488

[3] \$8 x (1 –.473) = \$4   [4] \$150 – 72 = \$78

[5] \$60 + 250 + 100 = \$410

*income tax rate: \$18/38 = 47.3%

CP 13–9

Return to Question

1. Current assets + capital assets = Total liabilities + shareholders' equity
   Current assets + $90 =$40 + 140
   Current assets = $90
   Current ratio= $\frac{\text{Current assets}}{\text{Current liabilities}}$
   2.5 = $90/Current liabilities
   Current liabilities = $36

2. Per above: Current assets = $90; current liabilities = $36
   Acid-test Ratio = $\frac{\text{Quick current assets}}{\text{Current liabilities}}$
   Since the Acid-test Ratio is 1:1,

   Inventory = $\frac{\$90 – \text{inventory} + 0}{\$36}$
   Inventory = $90 – 36
   Inventory = $54

3. Accounts receivable =Quick current assets – (cash + short-term investments)
   $36 – 6 = 30
   Accounts rec. collection period = $\frac{\text{Average accounts receivable}}{\text{Net credit sales}}$ x 365 days
   = $30/300 x 365 days
   = 37 days

4. If gross profit is 30 per cent of sales, the cost of goods sold is 70 per cent of sales (70% x $420 = $294). Per above, inventory = $54
   Number of days of sales in inventory = $\frac{\text{Average inventory}}{\text{Net credit sales}}$ x 365 days
   = $54/294 x 365 days
   = 12 days

5. Revenue operating cycle = Accounts receivable collection period + number of days of sales in inventory

   = 77 + 12 = 49 days

6. Net financial debt = Bank loan (current liabilities) – (cash and short-term investments)

   = $36 (see above) – 6

   = $30

CP 13–10

Return to Question 1.

	Transaction	Inc.	Dec.	No change
			Effect on current ratio	
a.	Bought $20,000 of merchandize on account (the company uses a perpetual inventory system)		X	
b.	Sold for $10,000 cash, merchandize that cost $5,000	X		
c.	Collected a $2,500 account receivable			X
d.	Paid a $10,000 account payable	X		
e.	Wrote off a $1,500 bad debt against the allowance for doubtful accounts			X*
f.	Declared a $1 per–share cash dividend on the 10,000 outstanding common shares		X	
g.	Paid the dividend declared above	X		
h.	Borrowed $10,000 from a bank by assuming a 60–day, 10 per cent loan		X	
i.	Borrowed $25,000 from a bank by placing a 10–year mortgage on the plant	X		
j.	Used the $25,000 proceeds of the mortgage to buy additional machinery		X	

* the journal entry is Dr. Allowance for Doubtful Accounts; Cr. Accounts Receivable

2. At the end of May,

a. The current ratio was 2.15 to 1, calculated as follows:

		May 1 Bal.	*(a)*	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*	*(j)*	*May 31 Bal.*
Current assets (given)	x	$200	+20	+10 –5	+2.5 –2.5	–10	+1.5 –1.5	–	–10	+10	+25	–25	215
Current liabilities (derived)	y	$80	+20	–	–	–10	–	+10	–10	+10	–	–	100
Current ratio	x/y	2.5											**2.15**

CP 13–10 continued

b. The acid–test ratio was 1 to 1 calculated as follows:

		May 1 Bal.	*(a)*	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*	*(j)*	*May 31 Bal.*
Quick assets (derived)	x	$100	–	+10	+2.5 −2.5	−10	+1.5 −1.5	–	−10	+10	+25	−25	100
Current liabilities (see above)	y	$80	+20	–	–	−10	–	+10	−10	+10	–	–	100
Acid-test ratio	x/y	1.25											**1.0**

P 13–1

Return to Question

1. a. Current ratio

$= \frac{\text{Current assets}}{\text{Current liabilities}}$

= $850/400

= 2.13:1

b. Acid-test ratio

$= \frac{\text{Quick assets}}{\text{Current liabilities}}$

= $300/400

= .75:1

c. Debt to shareholders' equity ratio

$= \frac{\text{Total liabilities}}{\text{Shareholders' equity}}$

= $1,200/(500 + 50)

= 1.85:1

2. Mammoth Corporation could be considered a poor risk for a potential lender. While the current ratio is acceptable, the acid–test ratio is less than 1. There do not appear to be enough liquid assets ($100) to cover short–term liabilities ($400).

   The total debt is high in relation to total shareholders' equity, which means that outside creditors are providing most of the financing of Mammoth; it may be difficult to obtain further debt financing.

3. A full set of financial statements including notes would help, as well as past years' ratios and industry averages. Stock market information and investors' analyses would also be useful, as well as other qualitative information like management discussion and analysis often contained in the companies' annual reports.

P 13–2

Return to Question

1. a. Current ratio

$$= \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$= \frac{\text{Cash + accounts receivable + inventory + prepaid expenses}}{\text{Accounts payable + notes payable + current portion of borrowings}}$$

= ($60 + 140 + 250 + 10)/(100 + 20 + 60)
= $460/180
= 2.6:1

b. Acid-test ratio

$$= \frac{\text{Quick assets}}{\text{Current liabilities}}$$

$$= \frac{\text{Cash + accounts receivable}}{\text{Accounts payable + notes payable + current portion of borrowings}}$$

= ($60 + 140)/180
= $200/180
= 1.1:1

c. Accounts receivable collection period

$$= \frac{\text{Average accounts receivable}}{\text{Net credit sales}} \text{ x 365 days}$$

Average accounts receivable
= ($140 + 180)/2
= $160

Accounts receivable collection period
= $160/800 x 365 days
= 73 days

d. Number of days of sales in inventory

$$= \frac{\text{Average inventory}}{\text{Cost of goods sold}} \text{ x 365 days}$$

= [($200 + 250)/2]/600 x 365 days
= $24 days

e. Debt to shareholders' equity ratio

$$= \frac{\text{Total liabilities}}{\text{Shareholders' equity}}$$

$$= \frac{\text{Current liabilities + borrowings}}{\text{Common shares + preferred shares + retained earnings}}$$

-

= ($180 + 140)/(250 + 120 + 100)
= $320/470
= .68:1

P 13–2 continued

f. Return on shareholders' equity

$$= \frac{\text{Net income}}{\text{Average shareholders' equity}}$$

Average shareholders' equity
= [($120 + 250 + 100) + (120 + 250 + 80)]/2
= $460

Return on shareholders' equity
= $50/460
= 10.9%

g. Earnings per share

$$= \frac{\text{Net income – preferred share dividends}}{\text{Number of common shares outstanding}}$$

Preferred share dividends
= $120 x 10%
= $12

Earnings per share
= ($50 – 12)/50
= $.76 per share

2. Dividends paid on common shares = $18, calculated as follows:

Retained Earnings

Debit	Credit	
	80	Opening balance (Jan. 1, 2018, given)
	50	Net income 2018
12		Preferred share dividend (1g above)
18		Common share dividend (to balance)
	100	Closing balance (Dec. 31, 2018, given)

3. The debt to shareholders' equity ratio shows that Epicentre has $.68 of debt financing for each $1 of shareholders' equity. Creditors may prefer this greater emphasis on shareholders' equity financing. Both the current ratio and the acid–test ratio tell us that Epicentre is not threatened with insolvency, given the high ratios. Again, creditors may like this. Epicentre takes 73 days to collect the average account receivable. This rate seems a little slow, but it depends on the credit terms offered to customers. The number of days sales in inventory is 24, which seems very low. However, the company may operate in an unusual industry. Epicentre's return on shareholders' equity seems adequate at 10.9 per cent. Earnings per share and dividends need to be evaluated in conjunction with the market price of common shares, but overall Epicentre seems to be a good investment for creditors and shareholders. As always, more information would be useful, particularly prior years' ratios and industry averages.

P 13–2 continued

4.

Epicentre Corporation
Statement of Financial Position
At December 31, 2018

Operating Capital		
Working capital from operations		
Accounts receivable		$140
Merchandize inventory		250
Prepaid expenses		10
Less: Accounts payable		(100)
		300
Capital Assets, net		330
Operating capital		$630
Net Financial Debt		
Notes payable	$ 20	
Borrowings ($140 + 60)	200	
Less: Cash	(60)	160
Shareholders' Equity		
Preferred shares	120	
Share capital	250	
Retained earnings	100	470
Financial capital		$630

Epicentre Corporation
Income Statement
For the Year Ended December 31, 2018

Sales		$800
Cost of goods sold		600
Gross profit		200
Selling and administrative expenses		100
Income from operations		100
Less: Income taxes*		(38)
Income from operations, after-tax		62
Interest	$20	
Less: Income tax savings	(8)	
Net interest expense		12
Net income		$50

*$30/80 = 37.5%; $100 x 37.5% = $38 (rounded)

P 13–2 continued

5. Scott Formula

Return on operating capital		+	*Return on leveraging*		=	*Return on shareholders' equity*
(1)	(2)		(3)	(4)		(5)

$$\left[\frac{\$62}{800} \times \frac{\$800}{630}\right] + \left[\left[\frac{\$62}{630} - \frac{\$12}{160}\right] \times \frac{\$160}{470}\right] = \frac{\$50}{470}$$

$$= [\,7.8\% \times 1.3\,] + [\,2.3\% \times .34\,] = 10.6\%$$

$$= \mathbf{9.8\%} + \mathbf{.8\%} = \mathbf{10.6\%}$$

Epicentre earns almost its entire ROSE from ROC (9.8/10.6). ROL is only .8%. Since the difference between ROC and the cost of borrowing is relatively healthy (2.3%), the company could consider borrowing more funds and paying off preferred shares if their dividend rate is higher than the after-tax interest rate ($12/160 or 7.5%). As always, prior years' information and other indicators (e.g., P/E ratio) would help the analysis.

P 13–3

Return to Question

Belafonte Corporation
Statement of Financial Position
At April 30, 2018

Assets			*Liabilities and Shareholders' Equity*		
Cash	$ 2,000	(c)	Accounts payable	$ 8,000	(f)
Accounts receivable	8,000	(a)	Bonds payable	20,000	(b)
Merchandize inventories	20,000	(b)	Common shares	15,000	(g)
Total current assets	30,000	(d)	Retained earnings	7,000	(i)
Capital assets, net	20,000	(b)			
Total assets	$50,000	(e)	Total liabilities and shareholders' equity	$50,000	(h)

Information:

(1) Current assets = 3.75 x Current liabilities (accounts payable)
(2) Sales for year = $73,000
(3) Merchandize inventories = $20,000 = Capital assets = bonds payable
(4) Accounts receivable collection period = 40 days

$$\frac{\text{Average accounts receivable} \times 365 \text{ days}}{\text{Net credit sales}}$$

(5) Bonds payable = 10 x cash
(6) Total current assets = 2 x common shares.

P 13–3 continued

Calculations:

(a) Average accounts receivable x 365 days = 40 days
$73,000
Average accounts receivable = $8,000

(b) Merchandize inventory, capital assets (net), and bonds payable each equal $20,000

(c) Cash = bonds payable/10 = $20,000/10 = $2,000

(d) Total current assets = $2,000 + 8,000 + 20,000 = $30,000

(e) Total assets = $20,000 + 30,000 = $50,000

(f) Accounts payable = Current assets/3.75 = $30,000/3.75 = $8,000

(g) Common shares = Current assets/2 = $30,000/2 = $15,000

(h) Total liabilities and shareholders' equity must equal total assets

(i) Retained earnings = Total liabilities and shareholders' equity – accounts payable – bonds payable – common shares
= $50,000 – 8,000 – 20,000 – $15,000 = $7,000

P 13–4

Return to Question

1. Escalade Corporation
Vertical Analysis of the Income Statement
For the Years Ending December 31, 2018–2020

	Common–size percentages		
	2020	*2019*	*2018*
Sales	100.0	100.0	100.0
Cost of goods sold	76.0	66.7	50.0
Gross profit	24.0	33.3	50.0
Other expenses	14.0	22.7	29.2
Net income	10.0	10.6	20.8

2. Escalade's gross profit ratio has significantly declined over the past three years. This could be owing to the initial inefficiency of a larger plant or because of selling an increased number of units at a greatly reduced price to obtain a larger share of the market. At any rate, the reasons for this decline should be investigated further. Since other expenses have not increased proportionately, perhaps more money could be put into sales promotion to increase the number of units sold.

P 13–5

Return to Question

Hook Limited
Statement of Financial Position
At December 31, 2018

Assets

Current				
Cash			$ 30,000	
Accounts receivable			150,000	(3)
Merchandize inventories			90,000	(4)
Total current assets			270,000	(2)
Property, plant, and equipment	442,500	(10)		
Less: Accumulated depreciation	100,000		342,500	(9)
Total assets			$612,500	(8)

Liabilities

Current				
Accounts payable	$ 50,000			
Accrued liabilities	70,000	(1)		
Total current liabilities			120,000	
Non-current				
8% Bonds payable			125,000	(6)
			245,000	

Shareholders' Equity

Common shares	80,000	(5)		
Retained earnings	287,500	(12)	367,500	
Total liabilities and shareholders' equity			$612,500	(11)

Calculations:

(1) Accrued liabilities = $120,000 – 50,000 = $70,000
(Total current liabilities – accounts payable)

(2) Total current assets = $120,000 + 150,000 = $270,000
(Total current liabilities + working capital)

(3) Accounts receivable = ($120,000 x 1.5) – 30,000 = $150,000
[(Total current liabilities x acid–test ratio) – cash]

(4) Inventories = $270,000 – 150,000 – 30,000 = $90,000
(Total current assets – accounts receivable – cash)

(5) Net income = [$80,000 – (80,000/8)] – $30,000 = $40,000
[Income before interest and income taxes – (income before interest and income taxes/Times interest earned) – income taxes

Therefore, common shares = $40,000/5 x $10 = $80,000
(Net income/Earnings per share) x issued value

P 13–5 continued

(6) Bonds payable = \$80,000/8 divided by 0.08% = \$125,000
[Income before interest and income taxes/Times interest earned)/Interest rate]

(7) If the ratio of shareholders' equity to total assets is 0.60 to 1, then the ratio of liabilities to total assets is 0.40 to 1.

(8) Total assets = (\$120,000 + 125,000)/0.4 = \$612,500
[(Total current liabilities + total non–current liabilities)/Total debt to total assets ratio]

(9) Net PPE = \$612,500 – 270,000 = \$342,500
(Total assets – current assets)

(10) PPE = \$342,500 + 100,000 = \$442,500
(Net PPE + accumulated depreciation)

(11) Total liabilities and shareholders' equity = Total assets = \$612,500.

(12) Retained earnings = \$612,500 – 245,000 – 80,000 = \$287,500
(Total liabilities and shareholders' equity – total liabilities – common shares)

CHAPTER FOURTEEN
The Statement of Cash Flows

Concept Self-check

Return to Question

1. A statement of cash flows (SCF) provides external readers of a corporation's financial statements with a summary of the cash transactions that took place in the company in a particular period. For example, a reader could determine the amount of proceeds from the sale of capital assets, or whether capital assets were acquired. It communicates how the company is financing its activities (internally from operations or externally from other sources), and why cash increased or decreased.

   Its advantage over the statement of financial position is that the statement of financial position reports the financial position of the company at a particular point in time, while the SCF reports the changes in cash that occurred from one statement of financial position date to another.

   An income statement reports earnings on an accrual basis, which is important. However, investors and creditors are also interested in determining how a corporation has generated and used cash during a fiscal period, because cash is an important determinant of liquidity. The SCF provides this information succinctly to readers.

2. These activities are important to readers who wish to evaluate the financial position and the results of operations of a particular company in order to make certain decisions, such as whether or not to invest in it. The extent of cash flows resulting from financing and investing decisions can help readers identify the underlying, longer-range activities of the firm that may affect future earnings, such as whether capital assets are being acquired, or debt is being retired. The SCF makes these activities explicit.

3. An increase in accounts receivable during a fiscal year is recorded by a debit. The offsetting credit to the Cash account denotes a use of cash. In effect, cash has been diminished because amounts owing by customers has increased, instead of being collected at the same rate as the prior year.

4. This is only partially correct. While the SCF information does disclose cash receipts and disbursements in a fiscal period, it also classifies these as operating, investing, and financing activities. This classification is additionally useful to readers

Concept Self-check continued

5. The declaration of cash dividends has no effect on cash flow, since it does not involve the use of cash; it merely sets up a dividend payable in the books of the company. The payment of a dividend declared decreases cash flow, since it involves the outlay of cash. Whether the dividend was declared in prior years or in the current year has no effect; only the payment reduces cash. Changes in dividends payable amounts from one year to the next also affect cash flows. A net reduction in dividends payable (a debit) increases cash outflow from financing activities (a credit). A net increase in dividends payable decreases cash outflow.

6. Buying or selling short-term investments may decrease or increase the amount of cash available to the company if they are not considered part of cash and cash equivalents. If they are considered part of C&CE, transactions involving short-term investments have no effect on cash flow from operating activities, since they are considered the same as cash.

7. Net income for a period usually consists of sales less cost of sales, operating expenses, and other expenses like interest and income taxes. If there are a large number of credit sales and the amount of accounts receivable over the last year has increased, then there is less cash inflow compared to sales revenue recorded on the income statement. If many expenses are prepaid, then cash has been used but the expenses have not decreased net income. Similarly, if inventory levels have increased from one year-end to the next, cash has decreased but cost of goods sold is unaffected on the income statement.

   Depreciation of property, plant, and equipment decreases net income but not cash. Losses and gains on sale of long-lived assets affect net income, but do not affect cash flows. Cash may also be used to purchase property, plant, and equipment, pay off borrowings, pay dividends, and repurchase outstanding shares, as examples. These investing and financing activities affect cash, but are not reflected on the income statement.

8. Main statement of financial position account transactions that use cash are (a) operations of the company (net cash outflow from operating activities during the period), (b) purchase of capital assets, (c) retirement of debt and share capital, and (d) payment of dividends. The statement of financial position accounts are analysed by looking at the opening and ending balances of the account, determining the reasons for the change in the account, and recording the effects as a cash inflow or outflow from operating, financing, or investing activities.

Concept Self-check continued

9. Steps in using the cash flow table method to prepare the SCF:

   Step 1 Set up a cash flow table.

   Step 2 Calculate the net debit and net credit change for every non-cash account on the statement of financial position.

   Step 3 Record the opposite change as a cash inflow or outflow in the appropriate cash effect column. A debit change in a non-cash statement of financial position account creates a credit change in the Cash account. A credit change corresponds to a cash outflow. A credit change in a non-cash statement of financial position account creates a debit change in the Cash account. A debit change corresponds to a cash inflow. Each change is labelled as a change resulting from an operating, investing, or financing activity depending on the underlying nature of the transaction.

   Step 4 Prepare the cash flow from operating activities section of the SCF. Adjust this section to disclose income taxes paid in cash.

   Step 5 Prepare the remainder of the statement of cash flows.

10. A model format of the SCF lists separate sections for operating, investing, and financing activities involving cash flows, as follows:

Operating activities		
Income before income taxes		
Income taxes paid		
Items not affecting cash flow		
Net changes in non-cash working capital		
Depreciation expense		
Net gains (losses) on disposal		________
Cash flow from (used by) operating activities		
Investing activities		
Proceeds from sale of capital assets		
Purchase of capital assets	________	
Cash flow from (used by) investing activities		
Financing activities		
Loan proceeds (repayments)		
Shares issued (redeemed)		
Payment of dividends	________	
Cash flow from (used by) financing activities		________
Net increase (decrease) in cash		
Cash at beginning of year		________
Cash at end of year		========

CP 14–1

Return to Question

F	A payment of $5,000 was made on a non-current bank loan.
O	Depreciation expense for equipment was $1,000.
F	$10,000 of share capital was issued for cash.
F	Cash dividends of $2,500 were declared and paid to shareholders.
F & I	A long-term bank loan was assumed in exchange for equipment costing $7,000.
I	Land was purchased for $25,000 cash.
O	$750 of accrued salaries was paid.
F*	A $5,000 short-term demand loan was obtained.
O	$10,000 of accounts receivable was collected.
I & F	A building was purchased for $80,000. $30,000 was paid in cash and the rest was borrowed.
I	Land was sold for $50,000 cash.
O & I	Equipment was sold for $6,000. The original cost was $10,000. The accumulated depreciation was $3,000.
O	$1,200 was paid for a 14–month insurance policy to take effect next year.
O	A patent was amortized for $500.
F	Shares were redeemed for $50,000 cash, their original issue price.

*The short-term loan would be considered “negative” cash, so the transaction has no cash effect and would not be reported on the statement of cash flows.

CP 14–2

Return to Question

		Operating activities In (out)	Financing activities In (out)	Investing activities In (out)
1.	Retired $100 of non-current debt with cash		(100)	
2.	Purchased a building for $90; $60 was loaned by a bank and the rest was paid in cash		60	(90)
3.	Declared and paid cash dividends of $12 during the year		(12)	
4.	Purchased equipment by issuing $20 of common shares with the proceeds		20	(20)
5.	Paid $50 in cash to pay off a non-current bank loan		(50)	
6.	Sold land for $30 cash			30
7.	Earned net income of $75	75		
8.	Purchased equipment costing $15; of this, $5 was paid in cash and the rest with a 90–day note payable		10[1]	(15)
9.	Amortized a patent by $2	2[2]		
10.	Assumed $100 of non-current debt and repurchased common shares		100 (100)	
11.	Purchased short-term investments for $5 cash			(5)[3]
12.	Sold a machine that cost $20 for $7 cash; the accumulated depreciation on it was $10	3[4]		7
13.	Depreciation expense for building and equipment amounted to $8	8[2]		
14.	Paid in cash the note payable from transaction 8 above.		(10)[1]	
15.	Issued $20 of preferred shares for cash		20	
16.	Purchased a patent for $25 cash			(25)
17.	Prepaid $20 for the next two months of advertizing	(2)		
18.	Purchased land for $60 cash.			(60)

[1] If the note payable is considered a cash equivalent, the $10 portion of the transaction has no cash effect and would not be reported as a financing activity.

[2] This would be added back to net income to arrive at cash flow from operating activities.

[3] If the short-term investments are low-risk and will be cashed with three months of the date of acquisition, they would be considered cash equivalents. This transaction would have no effect on the statement of cash flows.

CP 14–2 continued

[4] The loss on sale would be $3, calculated as:

Cost of machine	$ 20
Accumulated depreciation	(10)
Carrying amount	10
Cash proceeds	(7)
Loss on sale	$ 3

The journal entry to record the sale would be:

Dr.	Cash	7	
Dr.	Accumulated Depreciation – Machine	10	
Dr.	Loss on Sale	3	
Cr.	Machine		20

On the SCF, a $7 debit would be recorded as an inflow when calculating cash flow from investing activities. The $3 loss (also a debit) would be added back to net income to arrive at cash flow from operating activities.

CP 14–3

Return to Question

Cash Flow ↑	*Cash Flow* ↓	*Cash Flow* No Effect	
X			1. Earning net income for the year
	X		2. Redemption of preferred shares at face value
	X		3. Purchase of inventory
X	X		4. Issuing common shares for equipment
X			5. Assuming non-current debt
		X	6. Declaring a cash dividend
X			7. Collection of an account receivable
	X		8. Payment of an account payable
	X		9. Purchase of land for cash
X			10. Issuing common shares for cash
		X	11. Reclassifying non-current liabilities as current liabilities equal to the amount to be repaid in cash next year
	X		12. Payment of a cash dividend declared last year
		X	13. Decrease in market value of short-term investments
		X	14. Calculation of amount owing for income taxes.

CP 14–4

Return to Question

The answer depends on your definition of cash equivalents. If the short-term investments will be converted into a known amount of cash within three months of acquisition and are not subject to significant risk of changes in value, cash and cash equivalents are the same at the beginning and end of the year: $100.

If the short-term investments are not considered to be cash equivalents, cash has decreased by $100 during the year. More information is needed about the nature of the short-term investments.

CP 14–5

Return to Question

There has been no change in cash and cash equivalents during the year. The bank loan would be considered "negative cash" since it is due on demand by the creditor.

Opening cash and cash equivalents ($50 – 50)	$ -0-
Change in cash and cash equivalents during the year	-0-
Ending cash and cash equivalents ($100 – 100)	$ -0-

CP 14–6 Return to Question

Cash Flow Table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019 *Dr. (Cr.)*	*2018* *Dr. (Cr.)*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	100	86	14		To be explained		C&CE
Accounts receivable	60	40	20			20	Operating
Inventory	36	30	6			6	Operating
Prepaid rent	10	-0-	10			10	Operating
Retained earnings	(206)	(156)		50	50		Operating
	-0-	-0-	50	50	50	36	

$14 net cash inflow

Cash flow from operating activities would be calculated as:

Net income		$ 50
Add (deduct) changes in non-cash working capital		
Increase in accounts receivable	(20)	
Increase in inventory	(6)	
Increase in prepaid rent	(10)	(36)
Cash flow from operating activities		$ 14

CP 14–7

Return to Question

1. The equipment's carrying amount at the start of the year was $400 ($1,000 – 600). No depreciation was claimed during the year according to the income statement. A $500 gain was realized when the equipment was sold per the income statement. The equipment therefore must have sold for $900 cash ($400 + 500).

2. The journal entry to record the sale of the equipment would have been:

Dr Cash	900	
Dr. Accumulated Depreciation	600	
Cr. Equipment		1,000
Cr. Gain on Sale of Equipment		500

The only cash effect of this transaction is the receipt of $900 from the sale of the equipment. The gain on sale needs to be deducted from net income to arrive at cash flow from operating activities (which will be $0), since it (a) is not related to an operating activity, and (b) does not represent actual cash flow.

3.

Operating activities	
Net income	$ 500
Item not affecting cash flow	
Gain on sale of equipment	(500)
	$ -0-
Investing activities	
Proceeds from sale of equipment	$ 900

CP 14–8

Return to Question

1. Cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*					
	Dr. (Cr.)	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	1,250	1,600		*350	To be explained		C&CE
S/T investments	100	200		*100	To be explained		C&CE
Borrowings	(600)	(1,000)	400			400	Financing
Common shares	(200)	(300)	100			100	Financing
Ret. earnings	(550)	(500)		50	90		Operating
						40	Financing
	-0-	-0-	500	500	90	540	

*$450 net cash outflow

CP 14–8 continued

Cash flow from operating activities equals net income of $90. All revenue was received in cash and all expenses were paid in cash, and there were no changes to any other statement of financial position accounts that affect cash flow from operating activities.

2. Dividends declared must have been $40, calculated as follows:

Opening retained earnings (given)	$500
Add: Net income (given)	90
Less: Dividends paid (derived)	**(40)**
Ending retained earnings (given)	$550

3. Cash used by financing activities

Repayment of borrowings	($400)
Redemption of common shares	(100)
Payment of dividends	(40)
	($540)

CP 14–9

Return to Question

1. Cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	10	8	2		To be explained		C&CE
Accounts receivable	18	10	8			8	Operating
Merchandize inventory	24	20	4			4	Operating
Land	10	24		14	(a) 10		Investing
					(a) 4		Operating
Plant and equipment	94	60	41			41	Investing
			~~34~~	(b) 7	(b) 6		Investing
Accum. dep'n	(14)	(10)	(b) 2			(b) 1	Operating
				6	6		Operating
				~~4~~			
Accounts payable	(16)	(12)		4	4		Operating
Non-current borrowings	(40)	(32)		8	8		Financing
Common shares	(60)	(50)		10	10		Financing
Retained earnings	(26)	(18)		8	14		Operating
						6	Financing
	-0-	-0-	57	57	62	60	

$2 net cash inflow

(a) The journal entry to record the sale of the land would be:

Dr. Cash	10	
Dr. Loss on Disposal	4	
Cr. Land		14

(b) Cost of equipment sold (given) $7
Accumulated depreciation (derived) (2)
Carrying amount (given) 5
Cash proceeds (derived) **(6)**
Gain on sale (per income statement) $1

The journal entry to record the disposal of machinery would be:

Dr. Cash	6	
Dr. Accumulated Dep'n.	2	
Cr. Equipment**		7
Cr. Gain on Disposal		1

CP 14–9 continued

2.

Glacier Corporation
Statement of Cash Flows
For the Year Ended December 31, 2019

Operating activities		
Net income		$ 14
Items not affecting cash flow		
Depreciation expense		6
Gain on sale of equipment		(1)
Loss on sale of land		4
Net changes in non-cash working capital ($4 – 8 – 4)		(8)
Cash flow from operating activities		15
Investing activities		
Proceeds from sale of equipment	$ 6	
Proceeds from sale of land	10	
Purchase of property, plant, and equipment	(41)	
Cash flow used by investing activities		(25)
Financing activities		
Proceeds from borrowings	8	
Common shares issued	10	
Payment of dividends	(6)	
Cash flow from financing activities		12
Net increase in cash		2
Cash at beginning of year		8
Cash at end of year		$ 10

3. Cash flow from operating activities is almost identical to net income ($15 vs. $14). The company appears to be embarking on a re-capitalization project, selling equipment and investing in new property, plant, and equipment. Most of this ($8 + 10) has been financed by issuing debt and common shares. Opening and ending cash balances are almost identical. ($8 vs. $10).

P 14–1

Return to Question

1\.

Dr. Accumulated Depreciation	16[1]			
Dr. Cash	12	(a)		
Cr. Equipment			20	(b)
Cr. Gain on Sale of Equipment			8	

Cost (given)	20
[1] Acc. depreciation (derived)	(16)
Carrying amount (given)	4
Cash proceeds	(12)
Gain on sale	8

Cash is increased by $12 (a), the amount of the sale proceeds, but this does not represent cash flow from an operating activity. The sale of capital assets is an investing activity, and so will not be shown in the calculation of cash flow from operating activities. It will be shown as a cash inflow in the Investing Activities section of the SCF.

However, the $8 gain on sale (b) is included in the calculation of net income on the income statement. Since it does not represent cash inflow (the $12 is the actual cash inflow) and it is not an operating activity, the gain is deducted from net income on the SCF to derive cash flow from operating activities.

2\.

Net income	$ 33
Items not affecting cash flow	
Depreciation expense	10
Gain on sale of equipment	(8)
Cash flow from operating activities	$ 35

P 14–2

Return to Question

Cash Flow Table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*					
	Dr. (Cr.)	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	135	38	97		To be explained		C&CE
Accounts payable	(15)	(6)		9	9		Operating
Income taxes payable	(20)	(12)		8	8		Operating
Retained earnings	(100)	(20)		80	80		Operating
	-0-	-0-	97	97	97	-0-	

$97 net cash inflow

Cash flow from operating activities would be calculated as:

Income before income taxes	$100
Income taxes paid ($20 – 8)	(12)
Add changes in non-cash working capital	
Increase in accounts payable	9
Cash flow from operating activities	$ 97

P 14–3

Return to Question

1. Dr. Depreciation Expense 100
   Cr. Accumulated Depreciation—Machinery 100

   There is no cash effect. However, the depreciation expense should be added back to the net loss figure when deriving cash flow from operating activities. Note, as well, that the credit to Accumulated Depreciation accounts for all the change to this account during the year.

2. Dr. Machinery 300
   Cr. Cash 300

   Since (a) the Machinery account increased $300 (500 — 200) during the year, (b) no disposals occurred, and (c) all purchases of machinery were paid in cash, $300 of cash must have been spent on machinery purchases. This cash outflow is an investing activity since it affects a non–current asset account and should be shown as such when preparing the SCF.

P 14–3 continued

3. Cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*					
	Dr. (Cr.)	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	350	650		300	To be explained		C&CE
Machinery	500	200	300			300	Investing
Acc. depn.	(250)	(150)		100	100		Operating
Ret. earn.	(600)	(700)	100			100	Operating
	-0-	-0-	400	400	100	400	

$300 net cash outflow

Statement of Cash Flows
For the Year Ended December 31, 2019

Operating activities	
Net loss	$(100)
Item not affecting cash flow	
Depreciation expense	100
Cash flow from operating activities	-0-
Investing activities	
Purchase of machinery	(300)
Net decrease in cash	(300)
Cash at beginning of year	650
Cash at end of year	$ 350

P 14–4

Return to Question

1. Partial cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*					
	Dr. (Cr.)	*Dr. (Cr.)*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash			*1,175		To be explained		C&CE
Accum. dep'n.				120(b)	120		Operating
Acc. rec.			(d)40			40	Operating
Merch. inventory				50(e)	50		Operating
Acc. am. – patents				5(f)	5		Operating
Wages payable				20(c)	20		Operating
Borrowings			(g)250			250	Financing
Common shares				500(h)	500		Financing
Retained earnings				800(a)	800		Operating
			(i)30			30	Financing
			1,495	1,495	1,495	320	

*$1,175 net cash inflow

* balancing figure for Change columns

2. Statement of cash flows:

Hubris Corporation
Statement of Cash Flows
For the Year Ended December 31, 2019

Operating activities		
Net income		$ 800
Items not affecting cash flow		
Depreciation and amortization expense ($120 + 5)		125
Net changes in non-cash working capital ($20 – 40 + 50)		30
Cash flow from operating activities		955
Financing activities		
Repayment of borrowings	$(250)	
Common shares issued	500	
Payment of dividends	(30)	
Cash flow from financing activities		220
Net increase in cash		1,175
Cash at beginning of year**		25
Cash at end of year		$1,200

**If the company had $1,200 cash on hand at the end of the year and cash increased by $1,175 during the year, cash on hand at the beginning of the year must be $25.

P 14–5

Return to Question

1. Partial cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash			37,900 [1]		To be explained		C&CE
Accounts receivable			(c) 900			900	Operating
Merchandize inventory				(d) 1,200	1,200		Operating
Equipment			(h) 10,000			10,000	Investing
				(j) 15,000	(i)6,000 [2]		Investing
					(j)1,500		Operating
Accum. dep'n. – equip.			(j) 7,500	(a) 3,000	3,000		Operating
Accum. amort – patents				(e) 100	100		Operating
Accounts payable			(k) 1,000			1,000	Operating
Wages payable				(b) 500	500		Operating
Dividends payable				(i) 5,000	5,000		Financing
Borrowings			(f) 5,000			5,000	Financing
Common shares				(g) 12,500	22,500		Financing
				(h) 10,000			
Retained earnings				20,000 [1]	20,000		Operating
			(i) 5,000			5,000	Financing
			67,300	67,300	59,800	21,900	

$37,900[1] net cash inflow

[1] Given

[2] Cost of machinery $15,000
Accumulated depreciation (1/2) (7,500)
Carrying amount 7,500
Cash proceeds (6,000)
Loss on disposal $1,500

Cost of machinery	$15,000	
Accumulated depreciation (1/2)	(7,500)	
Carrying amount	7,500	
Cash proceeds	(6,000)	
Loss on disposal	$1,500	

The journal entry to record the sale would be:

Dr.	Cash	6,000(i)	
Dr.	Accumulated Dep'n.	7,500	
Dr.	Loss on Disposal	1,500(j)	
Cr.	Machinery		15,000

The first item (i) is a cash inflow from investing activities. The second item (j) is added back to net income to arrive at cash flow from operating activities.

P 14–5 continued

2.

Wheaton Co. Ltd.
Statement of Cash Flows
For the Year Ended December 31, 2019

Operating activities		
Income before income taxes ($95,000 – 70,000)		$ 25,000
Income taxes paid		(5,000)
Items not affecting cash flow		
Depreciation and amortization ($3,000 + 100)		3,100
Loss on disposal of machinery		1,500
Net changes in non-cash working capital ($500 – 900 + 1,200 – 1,000)		(200)
Cash flow from operating activities		24,400
Investing activities		
Proceeds from sale of machinery	$ 6,000	
Purchase of machinery	(10,000)	
Cash flow used by investing activities		(4,000)
Financing activities		
Repayment of borrowings	(5,000)	
Dividends paid ($5,000 – 5,000)	-0-	
Common shares issued	22,500	
Cash flow from financing activities		17,500
Net increase in cash		37,900
Cash at beginning of year (given)		1,000
Cash at end of year (derived)		$ 38,900

3. The statement of cash flows shows that the company has financed its activities internally from operations and by issuing common shares. The sale of machinery also generated cash. It has repaid some borrowings and acquired some capital assets. Wheaton Co. Ltd. has generated substantially more cash than it has used in 2019.

P 14–6

Return to Question

1.

Sales	$225
Cost of goods sold	(92)
Selling and administrative	(39)
Depreciation	(44)
Income taxes	(7)
Gain on disposal of land	20
Net income	63
Retained earnings, beginning of year	-0-
Dividends declared	(15)
Retained earnings, end of year	$ 48

2. Cash flow table:

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	45	-0-	45		To be explained		C&CE
Accounts receivable	100	-0-	100			100	Operating
Merchandize inventory	60	-0-	60			60	Operating
Prepaid rent	10	-0-	10			10	Operating
Equipment	160	-0-	160			(a) 40	Investing
						(c) 120	Investing
Accum. dep'n	(44)	-0-		44	44		Operating
Land	-0-	-0-	30			30	Investing
				(b) 30		(b) 20	Operating
					(b) 50		Investing
Accounts payable	(50)	-0-		50	50		Operating
Dividends payable	(5)	-0-		5	5		Financing
Income taxes payable	(8)	-0-		8	8		Operating
Non-current borrowings	(80)	-0-		80		20	Financing
					(d) 100		Financing
Common shares	(140)	-0-		140	(a) 40		Financing
					(e) 100		
Retained earnings	(48)	-0-		48	63		Operating
						15	Financing
	-0-	-0-	405	405	460	415	

$45 net cash inflow

(a) $40 of equipment was purchased for $40 of common shares.
(b) The journal entry to record the sale of land would be:

Dr.	Cash	50	
Cr.	Land		30
Cr.	Gain on Sale		20

(c) Given

P 14–6 continued

(d) \$100 of non-current debt was assumed; \$20 of non-current debt was redeemed.

Obelisk Corporation
Statement of Cash Flows
For the Year Ended December 31, 2019

Operating activities		
Income from operations		\$ 52
Income taxes paid (\$9 – 8)		(1)
Items not affecting cash flow		
Depreciation expense		44
Net changes in non-cash working capital (\$50 – 100 – 60 – 10)		(120)
Cash flow used by operating activities		(25)
Investing activities		
Proceeds from sale of land	\$ 50	
Purchase of equipment	(160)	
Purchase of land	(30)	
Cash flow used by investing activities		(140)
Financing activities		
Proceeds from non-current borrowings	100 *	
Common shares issued	140	
Repayment of non-current borrowings	(20) *	
Payment of dividends (\$15 – 5)	(10)	
Cash flow from financing activities		210
Net increase in cash		45
Cash at beginning of year		-0-
Cash at end of year		\$ 45

*Theses could be netted and shown as \$80 inflow.

3. The statement of cash flows shows that the company used cash to finance its operations, purchase land and equipment, and pay dividends. It generated cash by assuming long-term debt (net), issuing common shares, and selling land. The company generated more cash than it used (\$45), but chiefly from financing activities. The cash flow used by operating activities (\$25) is a concern, but on the other hand, this may be acceptable in the first year of operations.

P 14–7

Return to Question

1. Cash flow table ($000s):

	Balance		*Change*		*Cash effect*		*Activity*
	2019	*2018*	*Dr.*	*Cr.*	*Inflow*	*Outflow*	
Cash	40	30	10		To be explained		C&CE
Accounts receivable	38	28	10			10	Operating
Merchandize inventory	102	106		4	4		Operating
Prepaid expenses	8	6	2			2	Operating
Land	-0-	20		20	24		Investing
						4	Operating
Building	240	180	60			60	Investing
Machinery	134	80	90			90	Investing
				(a) 36	(a) 2		Operating
					(a) 16		Investing
Accum. dep'n	(76)	(80)	(a) 18	14	14		Operating
Patents	8	10		2	2		Operating
Accounts payable	(40)	(44)	4			4	Operating
Income taxes payable	(8)	(6)		2	2		Operating
Borrowings	(70)	(60)		10	10		Financing
Common shares	(310)	(240)		70	70		Financing
Retained earnings	(66)	(30)		36	56		Operating
						20	Financing
	-0-	-0-	194	194	200	190	

$10 net cash inflow

a. Cash inflow of $16,000 is reported as an investing activity, representing the sale proceeds.

b. The $2,000 loss on the sale is added back to income before income taxes to arrive at cash flow from operating activities. This amount was deducted on the income statement to arrive at net income, but does not relate to an operating activity.

Transactions (d) and (e) involve the exchange of shares for machinery and non-current debt, respectively. These transactions are each recorded as two separate transactions, one recording the cash inflow and one the cash outflow.

P 14–7 continued

2.

Cormier Limited
Statement of Cash Flows
For the Year Ended December 31, 2019
($000s)

Operating activities		
Income before income taxes ($56 + 20)		$ 76
Income taxes paid ($20 – 2)		(18)
Items not affecting cash flow		
Depreciation and amortization expense ($14 + 2)		16
Net gains on disposal ($2 – 4)		(2)
Net changes in non-cash working capital ($4 – 10 – 2 – 4)		(12)
Cash flow from operating activities		60
Investing activities		
Proceeds from sale of land	$ 24	
Proceeds from sale of machinery	16	
Purchase of machinery and building	(150)	
Cash flow used by investing activities		(110)
Financing activities		
Loan proceeds	10	
Common shares issued	70	
Payment of dividends	(20)	
Cash flow from financing activities		60
Net increase in cash		10
Cash at beginning of year		30
Cash at end of year		$ 40

3. Cormier has generated cash inflow of $60,000 from operating activities, which is good. It has sold land and machinery, but overall there has been a cash outflow from investing activities because of the purchase of new machinery and the building. Much of the acquisition of capital assets have been financed through loans and issuing common shares. Overall, the company has $30,000 more cash on hand at the end of the year.

Published by Valley Educational Services Ltd.

4910C – 58 St., Athabasca AB T9S 1L5

ISBN 978-0-9953266-1-3

Printed and bound in Canada by Athabasca University

Library and Archives Canada Cataloguing in Publication

Annand, David, 1954–

Latest version available at http://business.athabascau.ca/faculty/david-annand-edd/

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Version 2.2

December 31, 2016