

Introduction to Financial Accounting I



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CHAPTER 1

*Introduction to Financial
Accounting I*

CHAPTER ONE

Introduction to Financial Accounting

Chapter 1 Learning Objectives

L01 – Define accounting.

L02 – Identify and describe the forms of business organizations.

L03 – Identify and explain generally accepted accounting principles (GAAP).

L04 – Identify and explain the uses of the four financial statements.

L05 – Analyse transactions using the accounting equation.



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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, labor 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.

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



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C. Ethics in financial reporting:

Financial reporting depends heavily on some ethical behaviour.

Ethics is the standards of conduct that judges ones actions as right or wrong, honest or dishonest and fair or unfair.

The following illustration shows the necessary steps applied when analysing various ethics cases and also in personal experiences.

<p>1. Recognize an unethical situation and the involved ethical issues This involves using your personal ethics to identify unethical situations and issues. Some business organizations utilize a written code of ethics to guide them in some business situations.</p>	<p>2. Identify and analyse the principle elements in the situation. This involves identifying individuals or participants that can be harmed or benefited by the situation and then identify their responsibilities and obligations.</p>	<p>3. Identify the alternatives and weigh the impact of each to the involved stakeholders. Consider all the consequences and then select the most ethical alternative. It involves a thorough evaluation of the alternatives because in some cases there is one right solution while in other cases there is more than one solution</p>
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D. 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 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:



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<i>Accounting convention</i>	<i>Explanation</i>
Accrual accounting	<p>Recognizes revenues when earned and expenses when incurred regardless of when cash is exchanged.</p> <p>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.</p> <p>Example: Supplies are purchased for \$700 on credit and used immediately. They are reported as expenses even though the \$700 will not be paid in cash until February.</p>
Business entity	<p>Requires that each economic entity maintain separate records.</p> <p>Example: An owner of an unincorporated business keeps one set of accounting records for business transactions and one for personal transactions.</p>
Consistency	<p>Requires that a business use the same accounting policies and procedures from period to period.</p> <p>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).</p>
Historical Cost	<p>Requires that each economic transaction be based on original cost.</p> <p>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.</p>
Full disclosure	<p>Requires that accounting information communicate sufficient information to allow users to make knowledgeable decisions.</p> <p>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.</p>
Going concern	<p>Assumes that a business has the resources needed to continue to operate indefinitely into the future.</p> <p>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.</p>

<i>Accounting convention</i>	<i>Explanation</i>
Matching	<p>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.</p> <p>Example: Merchandise purchased for resale is not recorded as an expense until it is sold and the related sales revenue is recognized.</p>
Materiality	<p>Allows another accounting principle to be violated if the effect on the financial statements is so small that users will not be misled.</p> <p>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.</p>
Stable monetary unit	<p>Requires that financial information be communicated in unchanging units of money.</p> <p>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.</p>
Revenue recognition	<p>Requires that sale of goods or provision of services should be recognized when the process is substantially complete. This is accomplished through accrual accounting.</p> <p>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.</p>



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E. 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 owners' equity, balance sheet, and statement of cash flows. Each of these is briefly introduced in the following sections using an example based on an organization called Big Dog Carworks.

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 (BDC). This business was started on January 1, 2017 by Bob "Big Dog" Baldwin in order to repair automobiles. The business owner is 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
Income Statement
For the Month Ended January 31, 2017

The heading shows the name of the company, the type of financial statement, and the period in time to date

<i>Revenues</i>		
Repairs	\$10,000	
<i>Expenses</i>		
Rent	\$1,600	
Salaries	4,000	
Supplies	1,500	
Gas	700	
Total expenses	7,800	
Net Income	\$2,200	←

The net income is transferred to the statement of owners' equity.

Statement of Owners' Equity

The **statement of owners' equity** provides information about how the equity balance change during the period.

In the statement of owner equity shown below, the owners' capital balance at January 1 is zero because the firm started the business on that date. During January, owner capital is \$9,800.

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
Statement of Owners' Equity
For the Month Ended January 31, 2017

Opening balance	\$ -0-
Investment +	9,800
Net-income +	2,200
Drawing -	
Ending balance	\$12,000

This total is transferred to the Balance Sheet at January 31, 2017.



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The Balance Sheet

The **balance sheet** shows a business's assets, liabilities, and equity at a point in time. The Balance Sheet of Big Dog Carworks. 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
Balance Sheet
At January 31, 2017

<i>Assets</i>		<i>Liabilities</i>	
Cash	\$ 6,200	Note payable	\$ 9,000
Accounts receivable	2,500	Accounts payable	700
Prepaid insurance	2,400	Unearned revenue	<u>400</u>
Equipment	3,000	Total liabilities	\$10,100
Truck	8,000		
		<i>Owners' Equity</i>	
		Owner capital	\$12,000
			0
			12,000
Total assets	<u>\$22,100</u>	Total liabilities and equity	<u>\$22,100</u>

Total assets (\$22,100) always equal total liabilities (\$10,100) plus Owners' 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 Owners' Equity?

Owners' equity The owner's claim on total assets, It represents the net assets owned by the owner. **Net assets** are assets minus liabilities. For example, in Big Dog's January 31 balance sheet, 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 owner and the balance, \$10,100, are financed by debt. Notice that net assets and total owners' equity are the same value; both are \$12,000.

In summary, the balance sheet is represented by the equation:

$$\text{Assets} = \text{Liabilities} + \text{Owners' equity}$$

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.



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F. 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:

$$\begin{array}{l} \text{ASSETS} \\ \text{(economic} \\ \text{resources} \\ \text{owned by an entity)} \end{array} = \begin{array}{l} \text{LIABILITIES} \\ \text{(creditors' claims on} \\ \text{assets)} \end{array} + \begin{array}{l} \text{OWNERS' EQUITY} \\ \text{(owners' claims on assets)} \end{array}$$

When financial transactions are recorded, combined effects on assets, liabilities, and owners' equity are always exactly offsetting. This is the reason that the balance sheet 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 balance sheet of Big Dog at January 31, 2017, as follows:

$$\begin{array}{l} \text{ASSETS} \\ \text{Cash} + \text{Accounts} + \text{Prepaid} + \text{Equipment} + \text{Truck} \\ \text{Receivable} \quad \text{Insurance} \end{array} = \begin{array}{l} \text{LIABILITIES} \\ \text{Note} + \text{Accounts} + \text{Unearned} \\ \text{Payable} \quad \text{Payable} \quad \text{Revenue} \end{array} + \begin{array}{l} \text{Owners' EQUITY} \\ \text{Owners' - Owners'} \\ \text{Capital} \quad \text{Drawing} \end{array}$$

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 owners' 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 for January 2017.


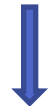
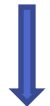

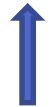
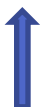

Transaction number	Date	Description of transaction	Effect on the accounting equation		
			ASSETS	= LIABILITIES	+ EQUITY
1	Jan. 1	<p>The owner invested 10,000 in his new business Big Dog Carworks.</p> <p>The asset <i>Cash</i> is increased while the equity item is also increased. The impact on the equation is:</p> <p>CASH $\xrightarrow{+10,000}$</p> <p>Owners' CAPITAL $\xrightarrow{+10,000}$</p> <p>Note that both sides of the equation are in balance.</p>	+10,000		+10,000
2	Jan. 2	<p>Big Dog Carworks borrowed on a note \$4,000 from the bank and deposited the cash into the business's bank account.</p> <p>The asset <i>Cash</i> is increased and the liability <i>note payable</i> is also increased. The impact on the equation is:</p> <p>CASH $\xrightarrow{+4,000}$</p> <p>Note Payable $\xrightarrow{+4,000}$</p>	+4,000	+4,000	
3	Jan. 2	<p>The corporation purchased \$3,000 of equipment for cash.</p> <p>There is an increase of the asset <i>Equipment</i> and a decrease to another asset, <i>Cash</i>. The impact on the equation is:</p> <p>EQUIPMENT $\xrightarrow{+3,000}$</p> <p>CASH $\xrightarrow{-3,000}$</p>	+3,000 -3,000		
4	Jan. 3	<p>The corporation purchased a truck for \$8,000, paying \$1,000 cash as a down payment and the remainder on a note</p> <p>The asset <i>Cash</i> is decreased while the asset <i>Truck</i> is increased and the liability <i>note payable</i> is also increased. The impact on the equation is:</p> <p>CASH $\xrightarrow{-1,000}$</p> <p>TRUCK $\xrightarrow{+8,000}$</p> <p>Note Payable $\xrightarrow{+7,000}$</p>	-1,000 +8,000	+7,000	








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Transaction Number	Date	Description of transaction	Effect on the accounting equation			
			ASSETS	=	LIABILITIES + S/H EQUITY	
5	Jan. 5	<p>Big Dog Carworks paid \$2,400 for a one-year insurance policy, effective January 1.</p> <p>Here the asset <i>Prepaid Insurance</i> is increased and the asset <i>Cash</i> is decreased. The impact on the equation is:</p> <p>PREPAID INSURANCE CASH</p> <p>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 owners' equity.</p>	 +2,400 -2,400	=		
6	Jan. 10	<p>The corporation paid \$2,000 cash to the bank to reduce what the business borrowed on a note.</p> <p>The asset <i>Cash</i> is decreased and there is a decrease in the liability <i>Bank Loan</i>. The impact on the equation is:</p> <p>Note payable CASH</p>	 -2,000	=	 -2,000	
7	Jan. 15	<p>The corporation received \$400 as an advance payment from a customer for services to be performed over the next two months.</p> <p>The asset <i>Cash</i> is increased by \$400 and a liability, <i>Unearned Revenue</i>, 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:</p> <p>CASH UNEARNED REVENUE</p>	 +400	=	 +400	
8	Jan. 31	<p>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.</p> <p><i>Cash</i> and <i>Accounts Receivable</i> 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 Owners' equity. The impact on the equation is:</p> <p>CASH ACCOUNTS RECEIVABLE REPAIR REVENUE</p>	 +7,500 +2,500	=		 +10,000

Transaction Number	Date	Description of transaction	Effect on the accounting equation		
			ASSETS	= LIABILITIES	+ EQUITY
9	Jan. 31	<p>The corporation incurred some 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 gas expense was incurred. This will be paid in the future.</p> <p>There is a \$7,100 decrease in the asset <i>Cash</i>. There is a \$700 increase in the liability <i>Accounts Payable</i>. Expenses cause net income to decrease. A decrease in net income causes owners' equity to decrease. The impact on the equation is:</p> <p>RENT EXPENSE SALARIES EXPENSE SUPPLIES EXPENSE GAS EXPENSE CASH ACCOUNTS PAYABLE</p>	 -7,100	 +700	 -1,600 - 4,000 - 1,500 - 700
10	Jan. 31	<p>Bob the owner withdrew \$200 for personal use. A decrease in owners' capital will decrease owners' equity. The impact on the equation is:</p> <p>DRAWING CASH</p>	 -200		 -200

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



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Trans.	ASSETS					=	LIABILITIES			+	EQUITY	
	Cash	Acc. Rec.	Ppd. Insur.	Equip.	Truck	Note Pay.	Acc. Pay.	Un. Rev.	Owners' Capital	Drawing		
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 Income Statement

Transactions in these columns are used to prepare the Statement of Owners' Equity

Column totals are used to prepare the Balance Sheet.

ASSETS = \$22,100

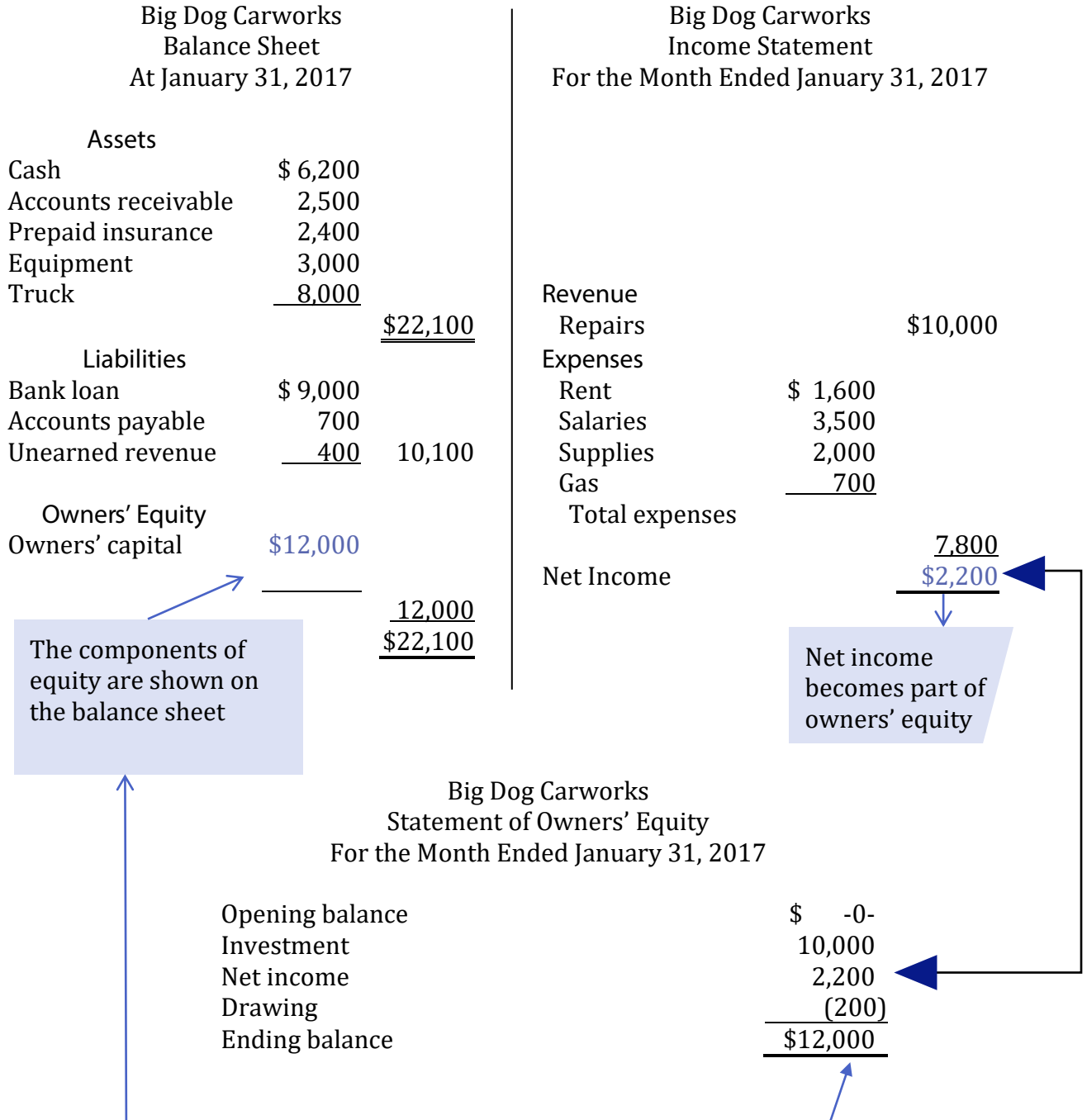
LIABILITIES + EQUITY = \$22,100

Figure 1-3a Transactions for January 31, 2017

Transactions summary:

1. Invested \$10,000 cash in a new business.
2. Borrowed \$4,000 on a note.
3. Purchased equipment for \$3,000 cash.
4. Purchased a truck for \$8,000; paid \$1,000 cash and the remainder on a note.
5. Paid \$2,400 for a comprehensive one-year insurance policy effective January 1.
6. Paid \$2,000 cash to reduce the note.
7. Received \$400 as an advance payment for repair services to be provided over the next two months.
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 expenses incurred during the month; also incurred an expense on account for \$700.
10. Withdrew \$200 by the owner for personal use.

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



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.

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

Concept Self-check

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 balance sheet? 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 owners’ equity?
 13. What are the three primary components of the balance sheet?
 14. What are assets?
 15. To what do the terms “liability” and “Owners’ equity” refer?
 16. What information is provided in the statement of cash flows?
 17. What are notes to the financial statements?
 18. Illustrate how the double-entry accounting system works.
 19. Why are financial statements prepared at regular intervals? Who are the users of these statements?
 20. What is the basic accounting equation? How does it work?
 21. Explain what is meant by the term “financial transaction”. Give an example of a financial transaction.
-



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Comprehension Problems

CP 1-1

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	+	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 owners' equity, as applicable. Use a (+) to denote an increase and a (-) to denote a decrease, if any.

$$A = L + E$$

Example:

- | | | | | |
|----|-----------|-----------|---|---|
| a. | <u> </u> | <u> </u> | 1 | Invested cash to start a firm |
| b. | <u> </u> | <u> </u> | | Purchased a truck for cash |
| c. | <u> </u> | <u> </u> | | Purchased supplies on account |
| d. | <u> </u> | <u> </u> | | Purchased equipment for cash |
| e. | <u> </u> | <u> </u> | | Paid rent for the month |
| f. | <u> </u> | <u> </u> | | Signed a new union contract that provides for increased wages in the future |
| g. | <u> </u> | <u> </u> | | Hired a messenger service to deliver letters during a mail strike |
| h. | <u> </u> | <u> </u> | | Paid the delivery service |
| i. | <u> </u> | <u> </u> | | Billed customers for services performed |
| j. | <u> </u> | <u> </u> | | Made a cash payment on account |
| k. | <u> </u> | <u> </u> | | Received a payment of cash from a customer previously billed. |

- l. ___ ___ Collected cash from a customer for services rendered the same day
m. ___ ___ Paid cash for gas expense
n. ___ ___ Withdrew cash.
-

CP 1-3

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

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
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
Owners' capital	?	4,000	3,500	?	1,500

CP 1-5

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

1. Accounts payable
2. Accounts receivable
3. Note payable
4. Cash
5. Equipment
6. Insurance expense
7. Taxes payable
8. Prepaid insurance
9. Rent expense
10. Repair revenue
11. Owner capital
12. Gas expense
13. office supplies
14. Drawing



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CP 1-6

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
Supplies	2,000
Land	25,000
Building	70,000
Equipment	30,000
Notes payable	15,000
Accounts payable	27,000
Owner capital	?

Required:

1. Calculate the amount of total assets.
 2. Calculate the amount of total liabilities.
 3. Calculate the amount of owners' capital.
-

CP 1-7

Required: A company has been in business for one month. From the financial information at January 31 shown below, complete an income statement, statement of owners' equity, and balance sheet.

Accounts receivable	\$ 4,000
Accounts payable	5,000
Cash	1,000
Owners' capital	4,000
Equipment	8,000
Insurance expense	1,500
Miscellaneous expense	2,500
Rent expense	1,000
Service revenue	20,000
Wages expense	9,000
Drawing	2,000

CP 1-8

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

<i>Revenue</i>		\$3,335
<i>Expenses</i>		
Accounts payable	\$ 300	
Land	1,000	
Drawing	500	
Miscellaneous expenses	335	
Net income	<u> </u>	<u>\$1,200</u>

Balance Sheet

<i>Assets</i>		<i>Liabilities and Owner's Equity</i>	
Cash	\$1,000	Rent expense	\$ 300
Repairs expense	500	Owners' capital	3,000
Salaries expense	1,000		
Building	<u>2,000</u>		
	<u>\$4,500</u>		<u>\$4,500</u>

Required: Prepare a revised income statement, a statement of Owners' equity, and a balance sheet.



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Problems

P 1-1

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

ASSETS				=	LIABILITY	+	EQUITY		
Cash	Accounts Receivable	Prepaid Rent	Supplies	=	Accounts Payable	+	Owners Capital	-	Drawing
1,400	3,600	1,000	150	=	2,000	+	4,350	-	

The following transactions occurred during April:

- Collected \$2,000 cash in satisfaction of an amount owed by a customer
- Billed \$3,000 to customers for chairs rented to date
- Paid the following expenses: advertising, \$300; salaries, \$2,000; telephone, \$100
- Paid half of the accounts payable
- Received a \$500 bill for April gas expense
- Collected \$2,500 in satisfaction of an amount owed by a customer
- Billed \$1,500 to customers for chairs rented to date
- Paid \$500 cash for advertising for the month
- Made an additional investment of \$1,000 cash
- Withdraw \$200 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 1-3

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

ASSETS		=	LIABILITIES		+	OWNERS' EQUITY	
Cash	\$1,500		Note payable	\$8,000		Owners' capital	\$2,000
Accounts rec.	2,400		Accounts pay.	1,000		Service revenue	7,500
Prepaid exp.	550					Advertising expense	500
Supplies	650					Commissions expense	720
Truck	9,000					Insurance expense	50
						Interest expense	80
						Rent expense	400
						Telephone expense	150
						Wages expense	2,300
						Drawing	200

Required:

1. Prepare an income statement and statement of owners' equity for the month ending January 31, 2017.
 2. Prepare the balance sheet at January 31.
-

P 1-4

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

Accounts payable	\$9,000	Rent expense	\$ 500
Accounts receivable	3,900	Fees earned	4,500
Advertising expense	300	Insurance expense	400
Cash	3,100	Interest expense	100
Owners' capital	2,000	Gas expense	700
Equipment	5,000	Wages expense	1,500

Required:

1. Prepare an income statement and statement of owners' equity for the month ended March 31, 2017.
2. Prepare the balance sheet at March 31.



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P 1-6

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

- Jun. 1 Invested \$8,000 cash in a new business
- 1 Purchased \$5,000 equipment on credit
- 2 Collected \$600 cash for services performed
- 3 Paid \$20 for Gas
- 4 Purchased \$1,000 supplies on credit
- 5 Billed customers \$2,500 for renovations completed
- 8 Collected \$500 of the amount billed June 5
- 10 Paid half of the amount owing for equipment purchased June 1
- 18 Paid \$600 to the landlord for June and July rent (record as prepaid expense)

- 20 Received a bill and paid a \$100 for electricity (record as utilities expense)
- 23 Signed a union contract
- 25 Collected \$1,000 of the amount billed June 5
- 27 Paid the following expenses: advertising, \$150; telephone, \$50; Gas and repair, \$1,000; wages, \$2,500
- 28 Paid for the supplies purchased June 4

- 30 Withdrew \$30 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		+	EQUITY					
Cash	+	Acct. Rec.	+	Ppd. Exp.	+	Supp.	+	Equip.	=	Acct. Pay.	+	Owner Capital	+	Drawing

2. Prepare an income statement and statement of owners' equity for the one-month period ended June 30, 2017 and the balance sheet at June 30.

CHAPTER 2

The Accounting Process

CHAPTER TWO

The Accounting Process

Chapter 2 looks more closely at asset, liability, and owner's equity accounts and how they are affected by double-entry accounting. The transactions introduced in Chapter 1 for Big Dog Carworks 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.

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 – Record transactions in a general journal and post them to a **general ledger**.
- LO4 – Prepare a trial balance, and explain its use.

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 owners' equity item. Accounts are maintained in a **general ledger**. We now review and expand our understanding of asset, liability, and owners' 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, 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.
- **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.
- **Merchandise 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.



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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 balance sheet.
- **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.

Owners' Equity Accounts

Chapter 1 explained that owners' equity represents the net assets owned by the owners of a corporation. There are four different types of owners' equity accounts: owner capital, drawing, revenues, and expenses. Owners' capital represents the investments made by owners into the business and causes owners' equity to increase. Revenues, cause owners' equity to increase. Expenses and drawing cause owners' equity to decrease. Figure 2-1 summarizes owners' equity accounts.

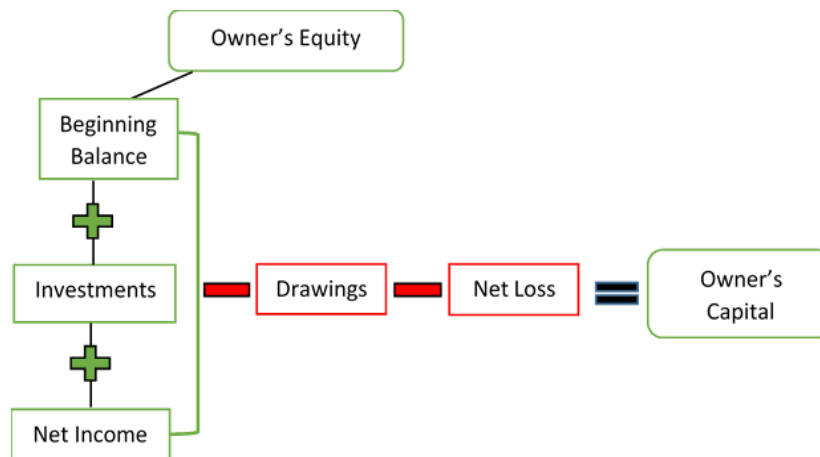
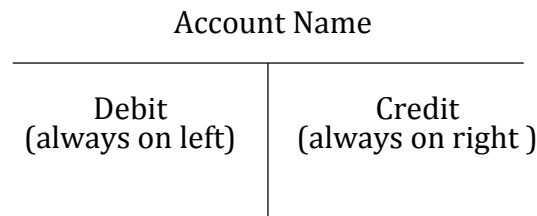


Figure 2-1 Composition of Owners' Equity

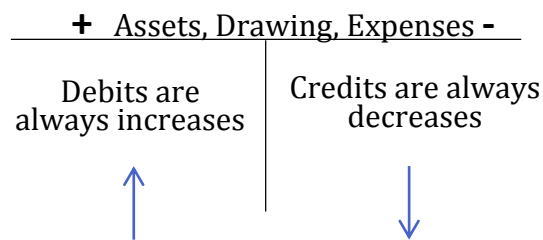
T-accounts

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.

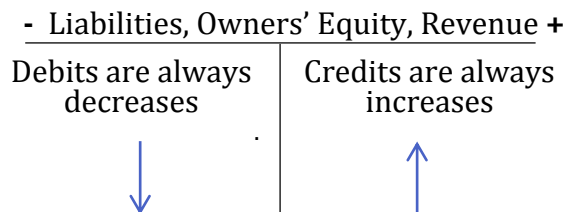


$$\text{Debit} = \text{Credit}$$

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*, *drawing*, and *expenses*, increases are recorded by debits and decreases by credits. This guideline is shown in the following T-account.



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



Increases are recorded as: $\frac{\text{Assets}}{\text{Debits}} = \frac{\text{Liabilities}}{\text{Credits}} + \frac{\text{Equity}}{\text{Credits}^*}$

Decreases are recorded as: Credits Debits Debits**

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

**Expense and drawing transactions cause owners' 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 Drawing Expenses <hr/> Increases are DEBITED Decreases are CREDITED	Liabilities Owner Equity Revenue <hr/> 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 introduced in Chapter 1.

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

Cash <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;"><i>Debit</i></th> <th style="width: 50%; text-align: center;"><i>Credit</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">10,000</td> <td style="text-align: center;">4,000</td> </tr> <tr> <td style="text-align: center;">3,000</td> <td style="text-align: center;">2,000</td> </tr> <tr> <td style="text-align: center;">400</td> <td style="text-align: center;">2,400</td> </tr> <tr> <td style="text-align: center;">Balance 5,000</td> <td></td> </tr> </tbody> </table>	<i>Debit</i>	<i>Credit</i>	10,000	4,000	3,000	2,000	400	2,400	Balance 5,000		Accounts Payable <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;"><i>Debit</i></th> <th style="width: 50%; text-align: center;"><i>Credit</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">700</td> <td style="text-align: center;">5,000</td> </tr> <tr> <td style="text-align: center;">Balance</td> <td style="text-align: center;">4,300</td> </tr> </tbody> </table>	<i>Debit</i>	<i>Credit</i>	700	5,000	Balance	4,300
<i>Debit</i>	<i>Credit</i>																
10,000	4,000																
3,000	2,000																
400	2,400																
Balance 5,000																	
<i>Debit</i>	<i>Credit</i>																
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 owners' 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 uses the following numbering system for its accounts:

100-199	Asset accounts
200-299	Liability accounts
300-399	Owner capital, and drawing accounts
400-499	Revenue accounts
600-699	Expense accounts

B. Transaction Analysis Using Accounts

LO2 – Analyse transactions using double-entry accounting.

In Chapter 1, transactions for Big Dog Carworks were analysed 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:

$$\begin{array}{rcl} \text{ASSETS} & = & \text{LIABILITIES} + \text{OWNERS' EQUITY} \\ \text{Debits} & = & \text{Credits} + \text{Credits} \end{array}$$



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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 into T-accounts.

ASSETS DRAWING EXPENSES <hr style="width: 100%;"/> Increases are DEBITED. Decreases are CREDITED.	LIABILITIES OWNER'S EQUITY REVENUE <hr style="width: 100%;"/> Increases are CREDITED. Decreases are DEBITED.
--	---

Transaction 1

Jan. 1 – Bob Baldwin invested \$10,000 cash in his new business.

	Cash <hr style="width: 100%;"/>
<i>Debit:</i> An asset account, Cash, is increased resulting in a debit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">10,000</div>
	<hr style="width: 100%;"/> Owner Capital <hr style="width: 100%;"/>
<i>Credit:</i> Owner Capital, a owners' equity account, is increased resulting in a credit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">10,000</div>

Transaction 2

Jan. 2 – Borrowed \$4,000 from the bank on a note.

	Cash <hr style="width: 100%;"/>
<i>Debit:</i> An asset account, Cash, is increased resulting in a debit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">4,000</div>
	<hr style="width: 100%;"/> Notes Payable <hr style="width: 100%;"/>
<i>Credit:</i> A liability account, Note Payable, is increased resulting in a credit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">4,000</div>

Transaction 3

Jan. 3 – Equipment was purchased for \$3,000 cash.

	Equipment <hr style="width: 100%;"/>
<i>Debit:</i> An asset account, Equipment, is increased resulting in a debit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">3,000</div>
	<hr style="width: 100%;"/> Cash <hr style="width: 100%;"/>
<i>Credit:</i> An asset account, Cash, is decreased resulting in a credit.	<div style="border-right: 1px solid black; padding-right: 5px; display: inline-block;">3,000</div>

Transaction 4

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

Debit: An asset account, Truck, is increased by a debit.	<table border="1"><tr><td colspan="2">Truck</td></tr><tr><td>8,000</td><td></td></tr></table>	Truck		8,000	
Truck					
8,000					
Credit: An asset account, Cash, is decreased by a credit.	<table border="1"><tr><td colspan="2">Cash</td></tr><tr><td></td><td>1,000</td></tr></table>	Cash			1,000
Cash					
	1,000				
Credit: A liability account, Note Payable, is increased by a credit.	<table border="1"><tr><td colspan="2">Note Payable</td></tr><tr><td></td><td>7,000</td></tr></table>	Note Payable			7,000
Note Payable					
	7,000				

Transaction 5

Jan. 5 – Big Dog Carworks 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.	<table border="1"><tr><td colspan="2">Prepaid Insurance</td></tr><tr><td>2,400</td><td></td></tr></table>	Prepaid Insurance		2,400	
Prepaid Insurance					
2,400					
Credit: An asset account, Cash, is decreased by a credit.	<table border="1"><tr><td colspan="2">Cash</td></tr><tr><td></td><td>2,400</td></tr></table>	Cash			2,400
Cash					
	2,400				

Transaction 6

Jan. 10 – Bob the owner made a payment of \$2,000 cash to reduce Note Payable.

Debit: A liability account, Account Payable, is decreased by a debit.	<table border="1"><tr><td colspan="2">Note Payable</td></tr><tr><td>2,000</td><td></td></tr></table>	Note Payable		2,000	
Note Payable					
2,000					
Credit: An asset account, Cash, is decreased by a credit.	<table border="1"><tr><td colspan="2">Cash</td></tr><tr><td></td><td>2,000</td></tr></table>	Cash			2,000
Cash					
	2,000				



Transaction 7

Jan. 15 – The business received an advance payment of \$400 for repair services to be performed in the future. Since the revenue relating to this cash receipt is not earned as of this date, a liability account, Unearned Repair Revenue, is created.

	Cash
Debit: An asset, Cash, is increased at the time the cash is received by a debit.	400
	Unearned Repair Revenue
Credit: a liability account, Unearned Repair Revenue, is credited.	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.

	Cash
Debit: An asset, Cash, is increased by a debit.	7,500
	Accounts Receivable
Debit: Another asset, Accounts Receivable, is increased by a debit.	2,500
	Repair Revenue
Credit: An Owners' equity account, Repair Revenue, is increased by a credit.	10,000

Transaction 9

Jan. 31 – Expenses of \$7,100 were paid in cash: rent expense, \$1,600; salaries expense, \$4,000; and supplies expense of \$1,500. \$700 for gas expenses were incurred on credit. This transaction increases four separate expense accounts.

Debit: An expense account, Rent Expense is increased by a debit.	<table><thead><tr><th colspan="2">Rent Expense</th></tr></thead><tbody><tr><td>1,600</td><td></td></tr></tbody></table>	Rent Expense		1,600	
Rent Expense					
1,600					
Debit: An expense account, Salaries Expense is increased by a debit.	<table><thead><tr><th colspan="2">Salaries Expense</th></tr></thead><tbody><tr><td>4,000</td><td></td></tr></tbody></table>	Salaries Expense		4,000	
Salaries Expense					
4,000					
Debit: An expense account, Supplies Expense is increased by a debit.	<table><thead><tr><th colspan="2">Supplies Expense</th></tr></thead><tbody><tr><td>1,500</td><td></td></tr></tbody></table>	Supplies Expense		1,500	
Supplies Expense					
1,500					
Debit: An expense account, Gas Expense is increased by a debit.	<table><thead><tr><th colspan="2">Gas Expense</th></tr></thead><tbody><tr><td>700</td><td></td></tr></tbody></table>	Gas Expense		700	
Gas Expense					
700					
Credit: An asset, Cash, is decreased by a credit.	<table><thead><tr><th colspan="2">Cash</th></tr></thead><tbody><tr><td></td><td>7,100</td></tr></tbody></table>	Cash			7,100
Cash					
	7,100				
Credit: A liability, Accounts Payable, is increased by a credit.	<table><thead><tr><th colspan="2">Accounts Payable</th></tr></thead><tbody><tr><td></td><td>700</td></tr></tbody></table>	Accounts Payable			700
Accounts Payable					
	700				

Transaction 10

Jan. 31 - Bob Baldwin withdrew \$200 cash for personal use. Drawings are a distribution of net income, and reduce owners' equity.

Debit: The Drawing account is increased by a debit.	<table><thead><tr><th colspan="2">Drawing</th></tr></thead><tbody><tr><td>200</td><td></td></tr></tbody></table>	Drawing		200	
Drawing					
200					
Credit: An asset, Cash, is decreased by a credit.	<table><thead><tr><th colspan="2">Cash</th></tr></thead><tbody><tr><td></td><td>200</td></tr></tbody></table>	Cash			200
Cash					
	200				



After the January transactions of Big Dog Carworks 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 owners' equity are added. Notice that total assets of \$22,100 equal the sum of total liabilities of \$10,100 plus owners' equity of \$12,000.

General Journal

Page ____

Date	Account Titles & Explanation	Ref.	Debits	Credits
Jan. 1	Cash		10,000	
	Owners' Capital			10,000
	(Initial Investment)			
2	Cash		4,000	
	Note Payable			4,000
	(Borrowed money on a note)			
3	Equipment		3,000	
	Cash			3,000
	(Purchased equipment)			
3	Truck		8,000	
	Cash			1,000
	Note Payable			7,000
	(Purchased a Truck on a note with down payment)			

5	Prepaid Insurance		2,400	
	Cash			2,400
	(Purchased insurance for one year)			
10	Notes Payable		2,000	
	Cash			2,000
	(Made a payment on note)			

Date	Account Titles & Explanation	Ref.	Debits	Credits
15	Cash		400	
	Unearned Repair Rev.			400
	(Receive money for future services)			
31	Cash		7,500	
	Account Receivable		2,500	
	Repair Revenue			10,000
	(Received some cash for performed services and the rest on account)			
31	Rent expense		1,600	
	Salaries expense		4,000	
	Supplies expense		1,500	
	Cash			7,100
	(Paid for business expenses)			



31	Gas expense		700	
	Account Payable			700
	(Incurred gas expense on account)			
31	Drawing		200	
	Cash			200
	(Withdraw cash for personal use)			

ASSETS		=	LIABILITIES		+	OWNERS' EQUITY					
Cash			Note Payable			Owner Capital		Drawing		Repair Revenue	
(1) 10,000	(3) 3,000		(6) 2,000	(2) 4,000		(1) 10,000	(10) 200			(8) 10,000	
0			0	0		0					
(2) 4,000	(4) 1,000			(4) 7,000							
				0							
(7) 400	(5) 2,400										
(8) 7,500	(6) 2,000			Bal. 9,000							
				0							
	(9) 7,100										
	(10) 200										
Bal. 6,200			Accounts Payable							Rent Expense	
				(9) 700						(9) 1,600	
			Unearned Repair Revenue							Salaries Expense	
				(7) 400						(9) 4,000	
			Equipment							Supplies Expense	
										(9) 1,500	
			Truck							Gas Expense	
(4) 8,000										(9) 700	
<u>22,100</u> ¹		=	<u>10,100</u> ²		+	<u>12,000</u> 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



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C. Using Formal Accounting Records

LO3 – 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 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 Reference 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.



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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		Description	Ref.	Debit	Credit
2017					
Jan.	1	Cash	101	10,000	
		Owner Capital	320		10,000
		To record the owner investment.			
	2	Cash	101	4,000	
		Note Payable	201		4,000
		To record receipt of note.			
	2	Equipment	183	3,000	
		Cash	101		3,000
		To record purchase of equipment for cash.			
	3	Truck	184	8,000	
		Note payable	201		7,000
		Cash	101		1,000
		To record purchase of a tow truck; paid cash and the rest on a note.			
	5	Prepaid Insurance	161	2,400	
		Cash	101		2,400
		To record payment for one-year insurance policy.			
	10	Note payable	201	2,000	
		Cash	101		2,000
		To record payment on note.			

	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	
		Gas Expense	670	700	
		Cash	101		7,100
		Accounts Payable	210		700
		To record payment of expenses for January.			
	31	Drawing	350	200	
		Cash	101		200
		To record withdrew cash by the owner.			

Figure 2-2 January General Journal Transactions for BDC

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 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 Reference 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 owner capital is then posted to the Owners' 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.

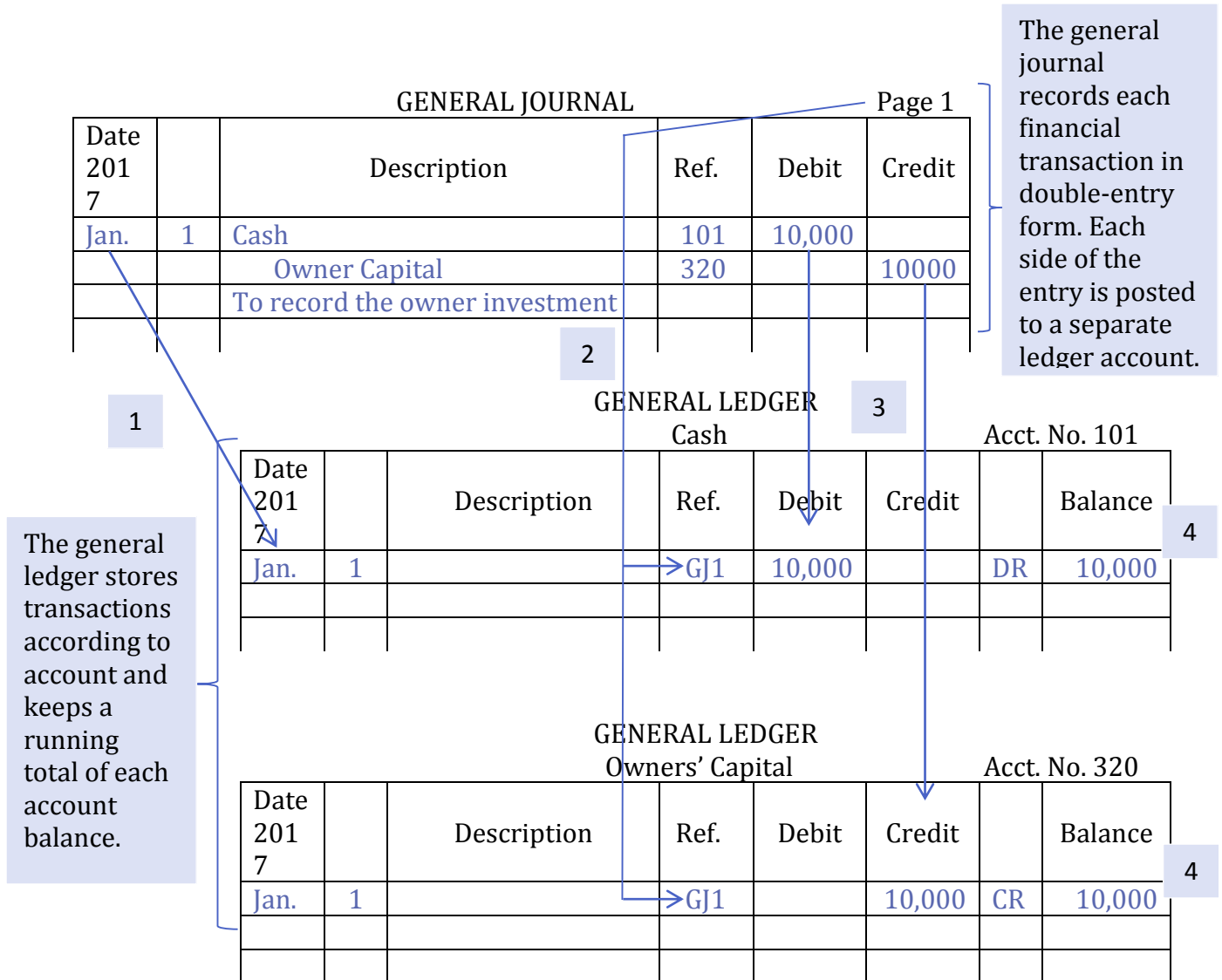


Figure 2-3 Illustration of a Transaction Posted to Two Accounts in the General Ledger

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.



D. The Trial Balance

LO4 – Prepare a trial balance, explain its use, and prepare financial statements from

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 at January 31, 2017. Assume that the account numbers are those assigned by the business.

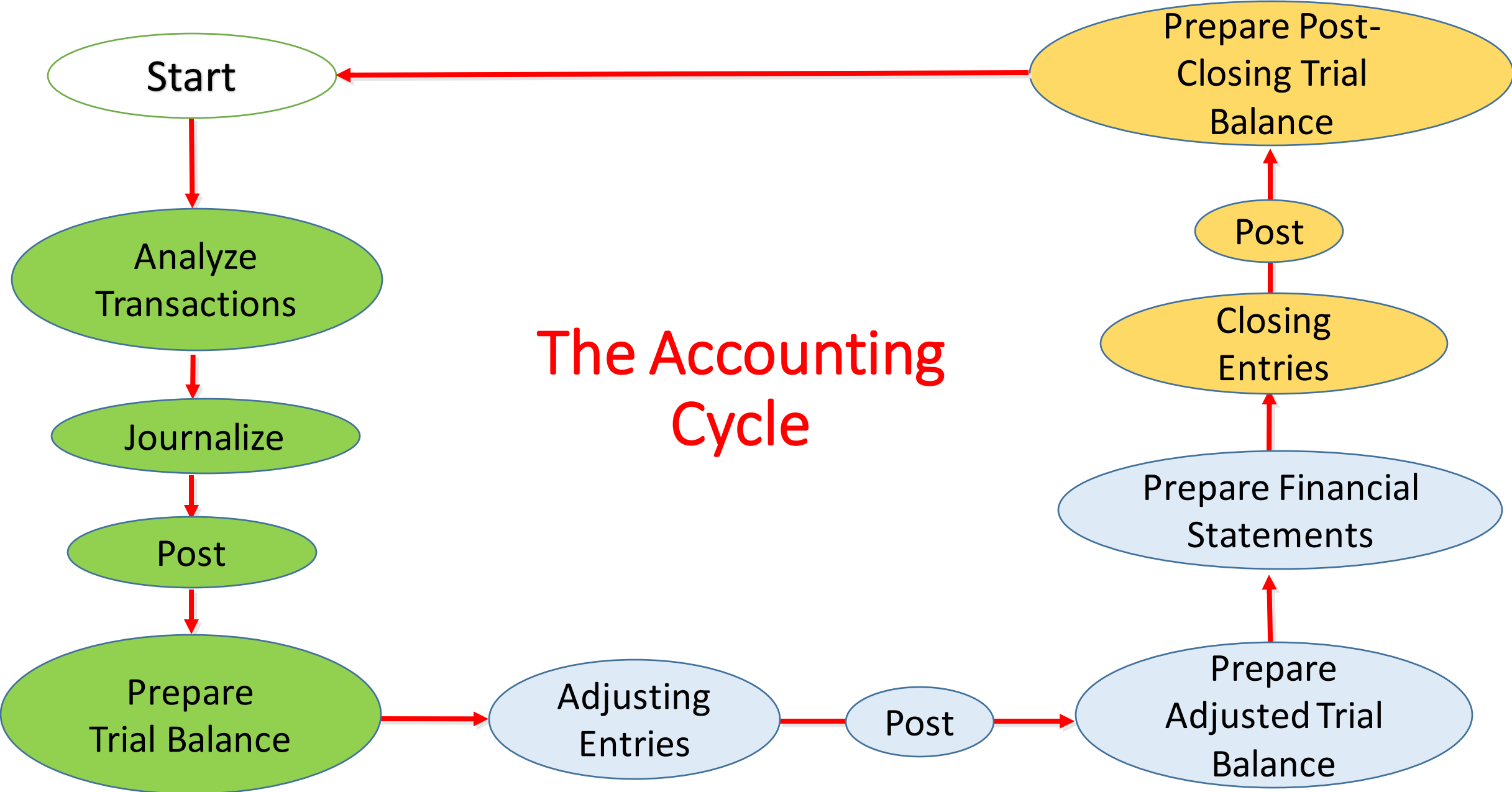
Big Dog Carworks

Trial Balance

<i>Acct. No.</i>	<i>Account</i>	<i>Account balances</i>	
		<i>Debit</i>	<i>Credit</i>
101	Cash	\$6,200	
110	Accounts receivable	2,500	
161	Prepaid insurance	2,400	
183	Equipment	3,000	
184	Truck	8,000	
201	Note payable		\$9,000
210	Accounts payable		700
247	Unearned repair revenue		400
320	Owners' capital		10,000
350	Drawing	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Gas expense	700	
		<u>\$30,100</u>	<u>\$30,100</u>

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.

The Accounting Cycle



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

Concept Self-Check

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 owners' equity recorded as a debit or credit?
6. Are decreases in owners' equity recorded as a debit or credit?
7. Summarize the rules for using debits and credits to record assets, expenses, drawing, liabilities, owner capital, and revenues.
8. What is a trial balance? Why is it prepared?
9. A general journal is often called a book of original entry. Why?
10. What is a general ledger? Why is it prepared?
11. Explain the posting process.

Comprehension Problems

CP 2-1

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

Transaction	Any Asset		Any Liability		Owners' Capital		Any Revenue		Any Expense	
	Debit (inc.)	Credit (dec.)	Debit (dec.)	Credit (inc.)	Debit (dec.)	Credit (inc.)	Debit (dec.)	Credit (inc.)	Debit (inc.)	Credit (dec.)
(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. Invest cash in a new business
 2. Paid cash for a truck
 3. Paid for prepaid insurance
 4. Purchased a machine on account
 6. Collected cash for services performed
 7. Billed customers for services performed last week
 8. Made a payment on account
 9. Made a deposit for insurance to be used in the future
 10. Paid cash for gas expense
 11. Purchased supplies on account
 12. Made a cash payment to a creditor
 13. Received a cash payment from a customer.
-

CP 2-3

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

	Assets		=	Liabilities		+	Equity	
	<i>Debit</i> (inc.)	<i>Credit</i> (dec.)		<i>Debit</i> (dec.)	<i>Credit</i> (inc.)		<i>Debit</i> (dec.)	<i>Credit</i> (inc.)
1. Purchased a \$10,000 truck on credit	10,000				10,000			
2. Purchased supplies for \$2,500 on account								
3. Paid \$2,000 of the amount owe 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

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

	<i>Debit</i>	<i>Credit</i>
1. Invested cash in a new business	Cash	Owner Capital
2. Purchased equipment on credit		
3. Paid for a one-year insurance policy		
4. Billed a customer for services performed		
5. Paid this month's rent		
6. Collected the amount billed in transaction 4 above		
7. Collected cash for services performed		
8. Paid for the equipment purchased in transaction 2 above		
9. Signed a union contract		
10. Collected cash from customer for services to be performed next month		



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CP 2-5

Required: Post the following transactions to the appropriate accounts:

1. Invest \$5,000 cash in a new business (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. Paid \$2,000 for the supplies purchased in transaction 4

Cash	Bank Loan	Owners' Capital	Repair Revenue
(1) 5,000		(1) 5,000	
Accounts Receivable	Accounts Payable		Electricity Expense
Prepaid Rent			Rent Expense
Supplies			

CP 2-6

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

1. Invested \$13,000 cash in a business
2. Purchased \$2,000 of equipment on credit
3. Paid \$800 cash for this month’s rent
4. Purchased on credit \$4,000 of supplies
5. Billed \$2,500 to customers for services performed
6. Paid cash for one-half of the amount owing in transaction 4
7. Collected \$500 of the amount billed in transaction 5
8. Withdrew \$300 for personal use.

Date	Account Titles & Explanation	Ref.	Debits	Credits
1.				



CP 2-7

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
 Owners' Capital
 To record owner investment.

Cash		Note Payable	Owners' Capital	Repair Revenue	
1	2		11		3
3	5				4
11	10				

Accounts Receivable

4	
---	--

Accounts Payable

10	2
	6
	7

Electricity Expense

7	
---	--

Prepaid Rent

5	
---	--

Rent Expense

--	--

Supplies

2	
---	--

Advertising Expense

6	
---	--

CP 2-8

The following trial balance was prepared from the books of Cross Co. 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.

<i>Acct.</i>		<u><i>Accounts Balances</i></u>	
<i>No.</i>	<i>Account</i>	<i>Debits</i>	<i>Credits</i>
101	Cash	\$120,400	
410	Commissions Revenue	5,000	
320	Owner 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	Supplies	6,000	
668	Utility expense		300
201	Note payable		80,000
656	Salaries expense		3,000
669	Telephone expense	200	
	Totals	<u>\$161,700</u>	<u>\$408,300</u>

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.



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CP 2-10

The following trial balance was prepared from the books of McQueen Co. 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.

<i>Acct.</i>		<u><i>Account Balances</i></u>	
<i>No.</i>	<i>Account</i>	<i>Debit</i>	<i>Credit</i>
210	Accounts payable	\$ 13,250	
110	Accounts receivable		\$10,000
181	Building	50,000	
320	Owner capital	75,000	
101	Cash	15,500	
182	Furniture	6,000	
180	Land		12,000
161	Prepaid insurance		9,600
201	Note Payable		28,000
350	Drawing	2,350	
162	Prepaid rent		8,000
173	Supplies	2,800	
	Totals	<u>\$164,900</u>	<u>\$67,600</u>

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

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

<table border="0"> <tr><td colspan="2" style="text-align: center;">Cash</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 1 25,000</td><td>Jn. 1 500</td></tr> <tr><td style="border-right: 1px solid black;">20 5,000</td><td>15 1,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>23 4,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>30 1,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>30 2,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>30 16,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>30 400</td></tr> </table>	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		30 400	<table border="0"> <tr><td colspan="2" style="text-align: center;">Note Payable</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>Jn. 30 4,000</td></tr> </table>	Note Payable			Jn. 30 4,000	<table border="0"> <tr><td colspan="2" style="text-align: center;">Owners' Capital</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>Jn. 1 25,000</td></tr> </table>	Owners' Capital			Jn. 1 25,000	<table border="0"> <tr><td colspan="2" style="text-align: center;">Repair Revenue</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>Jn. 20 5,000</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>30 3,000</td></tr> </table>	Repair Revenue			Jn. 20 5,000		30 3,000
Cash																																	
Jn. 1 25,000	Jn. 1 500																																
20 5,000	15 1,000																																
	23 4,000																																
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<table border="0"> <tr><td colspan="2" style="text-align: center;">Prepaid Insurance</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 1 2,000</td><td></td></tr> </table>	Prepaid Insurance		Jn. 1 2,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Accounts Payable</td></tr> <tr><td style="border-right: 1px solid black;"></td><td>Jn. 27 100</td></tr> </table>	Accounts Payable			Jn. 27 100	<table border="0"> <tr><td colspan="2" style="text-align: center;">Rent Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 1 500</td><td></td></tr> </table>	Rent Expense		Jn. 1 500																				
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<table border="0"> <tr><td colspan="2" style="text-align: center;">Accounts Receivable</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 30 3,000</td><td></td></tr> </table>	Accounts Receivable		Jn. 30 3,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Salaries Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 15 1,000</td><td></td></tr> <tr><td style="border-right: 1px solid black;">30 1,000</td><td></td></tr> </table>	Salaries Expense		Jn. 15 1,000		30 1,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Advertising Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 30 400</td><td></td></tr> </table>	Advertising Expense		Jn. 30 400																		
Accounts Receivable																																	
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Salaries Expense																																	
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30 1,000																																	
Advertising Expense																																	
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<table border="0"> <tr><td colspan="2" style="text-align: center;">Supplies</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 23 4,000</td><td></td></tr> </table>	Supplies		Jn. 23 4,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100																				
Supplies																																	
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<table border="0"> <tr><td colspan="2" style="text-align: center;">Land</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 30 5,000</td><td></td></tr> </table>	Land		Jn. 30 5,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100																				
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Telephone Expense																																	
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<table border="0"> <tr><td colspan="2" style="text-align: center;">Building</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 30 15,000</td><td></td></tr> </table>	Building		Jn. 30 15,000		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100		<table border="0"> <tr><td colspan="2" style="text-align: center;">Telephone Expense</td></tr> <tr><td style="border-right: 1px solid black;">Jn. 27 100</td><td></td></tr> </table>	Telephone Expense		Jn. 27 100																				
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Jn. 30 15,000																																	
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Telephone Expense																																	
Jn. 27 100																																	

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.



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CP 2-12

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

Sabre Travels Inc.
Trial Balance
January 31, 2017

	<u>Account Balances</u>	
	Debits	Credits
Cash	\$ 60	
Accounts receivable	140	
Supplies	10	
Equipment	300	
Building	700	
Land	300	
Note payable		\$100
Accounts payable		20
Owner capital		250
Fees earned		1,875
Advertising 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 owners' equity for the year ended January 31, 2017, and the balance sheet at January 31.

CP 2-13

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

			<i>Debit</i>	<i>Credit</i>
Jan.	1	Cash	10,000	
		Owner Capital		10,000
		To record the owner's investment.		
	5	Rent Expense	200	
		Cash		200
		To record the payment of rent for the month.		
	9	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	Gas Expense	450	
		Accounts Payable		450
		To record gas used on credit.		
	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	Advertising Expense	200	
		Cash		200
		To record payment of advertising for the month.		
	31	Drawing	50	
		Cash		50

Required:

1. Prepare necessary general ledger T-accounts and post the transactions.
2. Prepare a trial balance at January 31, 2017.



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Problems

P 2-1

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
Advertising Expense	2,200	Supplies Expense	800
Notes payable	5,000	Telephone Expense	250
Cash	1,000	Truck	9,000
Owners' Capital	2,000	Gas Expense	1,250
Commissions Exp.	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.

P 2-3

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

Findlay Consultants Co.
Trial Balance
At January 31, 2017

<i>Acct.</i>		<u><i>Account Balances</i></u>	
<i>No.</i>	<i>Account</i>	<i>Debits</i>	<i>Credits</i>
210	Accounts payable	\$ 9,000	
110	Accounts receivable		
610	Advertising expense	150	
101	Cash		\$ 3,625
320	Owner 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 advertising	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	Gas expense		750
677	Wages expense		1,500

Required:

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.



P 2-5

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

- Aug. 1 Invested \$13,000 cash in a new business
- 1 Paid \$8,000 cash for a used truck
- 2 Paid \$600 for a one-year truck insurance policy effective August 1
- 4 Collected \$2,000 fees in cash from a client for work performed
- 5 Billed \$5,000 fees to clients for services performed
- 7 Paid \$250 for supplies to be used in August
- 9 Purchased \$500 of supplies on credit
- 12 Collected \$1,000 of the amount billed on August 5
- 15 Paid \$200 for advertising in *The News* during the first two weeks of August
- 16 Paid half of the amount owing for the supplies purchased on August 9
- 20 Paid cash for the following expenses: rent for August, \$350; salaries, \$2,150; telephone, \$50; gas, \$250
- 25 Called clients for payment of the balance owing from August 5
- 28 Billed \$6,000 of fees to clients for services performed
- 31 The owner withdrew \$150 cash.

Required:

1. Prepare journal entries to record the August transactions
2. Open general ledger T-accounts for the following chart of account (account numbers are indicated in brackets): Cash (101), Accounts Receivable (110), Prepaid Insurance (161), Unused Supplies (173), Truck (184), Accounts Payable (210), Owner Capital (320) Owners' Drawings (340), Fees Earned (420), AdvertisingExpense (610), Insurance Expense (631), Rent Expense (654),Salaries Expense (656), Supplies Expense (668), TelephoneExpense (669), and Gas Expense (670).
3. Post these entries to the T-accounts. Total each account.
4. Prepare a trial balance at August 31, 2017.

CHAPTER 3

*Financial Accounting and the Use of
Adjusting Entries*

CHAPTER THREE

Financial Accounting and the Use of Adjusting Entries

Chapters 1 and 2 described the recording and reporting of accounting transactions in detail. 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.

Chapter 3 Learning Objectives

L01 – Explain the matching, and recognition GAAP require the recording of adjusting entries.

L02 – Explain the use of and prepare the adjusting entries required for prepaid expenses, depreciation, unearned revenues, accrued revenues, and accrued expenses.

L03 – Prepare an adjusted trial balance and use it to prepare financial statements.

A. Revenue Recognition Principle

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.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts Receivable		XX	
	Revenue			XX
	To record revenue earned on account.			

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.



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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.

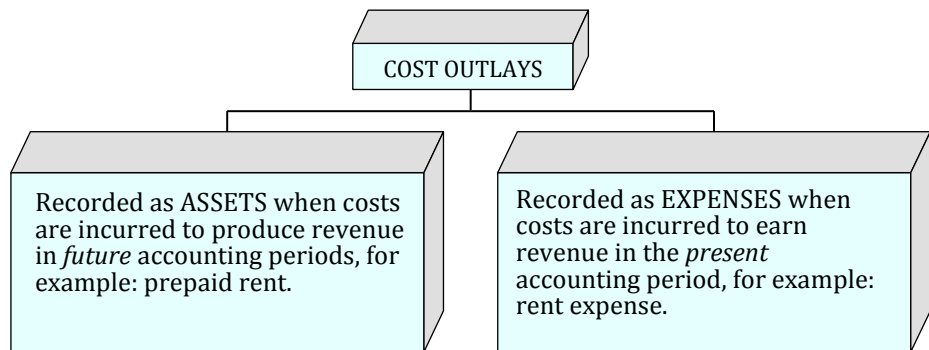
General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Unearned Revenue		XX	
	Revenue			XX
	To record the earned portion of Unearned Revenue.			

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.



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

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	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.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Prepaid Insurance		XX	
	Cash			XX
	To record payment of insurance in advance.			

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.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Insurance Expense		XX	
	Prepaid Insurance			XX
	To record the use of Prepaid Insurance.			



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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 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
Unadjusted Trial Balance
At January 31, 2017

Acct. No.	Account	Balance	
		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	Note payable		\$9,000
210	Accounts payable		700
247	Unearned revenue		400
320	Owners' capital		10,000
350	Drawing	200	
450	Repair revenue		10,000
654	Rent expense	1,600	
656	Salaries expense	4,000	
668	Supplies expense	1,500	
670	Depreciation expense	700	
		\$30,100	\$30,100

Figure 3-4 Unadjusted Trial Balance of Big Dog Carworks at January 31, 2017

Adjustments are recorded with **adjusting entries**. Their purpose is to ensure both the balance sheet 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 Revenue;
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, it includes both a balance sheet portion and an income statement portion. The income statement portion must be removed from the balance sheet 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:								
<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="border-top: 1px solid black; border-bottom: 1px solid black; padding: 5px 20px;">Prepaid Insurance</td> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 5px 20px;">2,400</td> </tr> </table>	Prepaid Insurance	2,400	<table style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px 20px;">Prepaid Insurance</td> <td style="padding: 5px 20px;">2,400</td> <td style="padding: 5px 20px;">2,400</td> </tr> <tr> <td style="padding: 5px 20px;">Cash</td> <td style="padding: 5px 20px;"></td> <td style="padding: 5px 20px;">2,400</td> </tr> </table>	Prepaid Insurance	2,400	2,400	Cash		2,400
Prepaid Insurance	2,400								
Prepaid Insurance	2,400	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 \text{ months} = \200 .

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



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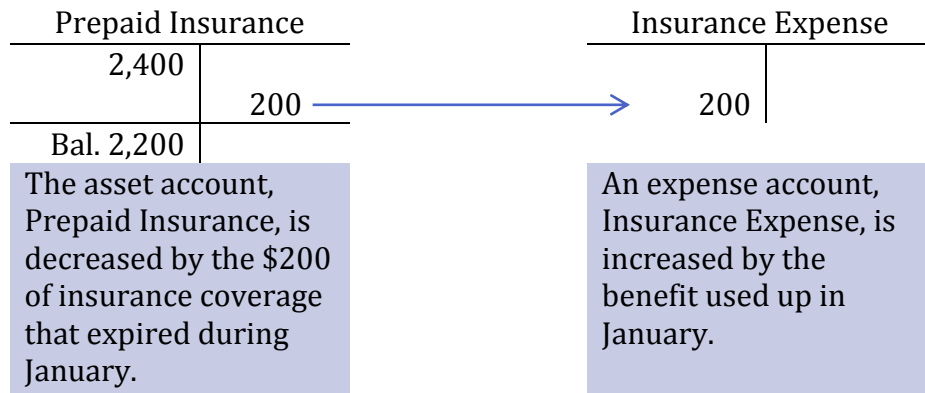
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(a)

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

General Journal				
Date	Account/Explanation	PR	Debit	Credit
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.



If the adjustment was not recorded, assets on the balance sheet would be overstated by \$200 and expenses would be understated by the same amount on the income statement.

Adjusting Unearned Revenue 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:

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

<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Unearned Repair Revenue</td> <td style="border-top: 1px solid black; border-left: 1px solid black; border-right: 1px solid black; width: 50px;"></td> <td style="text-align: center; width: 50px;">400</td> </tr> </table>	Unearned Repair Revenue		400		
Unearned Repair Revenue		400			
	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	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Unearned Repair Revenue</td> <td style="width: 20%; text-align: right;">300</td> <td style="width: 20%;"></td> </tr> <tr> <td style="padding-left: 20px;">Repair Revenue</td> <td></td> <td style="text-align: right;">300</td> </tr> </table>	Unearned Repair Revenue	300		Repair Revenue		300	
Unearned Repair Revenue	300								
Repair Revenue		300							
		<i>To adjust for repair revenue earned.</i>							

General Journal				
Date	Account/Explanati	PR	Debit	Credit
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.



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Unearned Repair Revenue		Repair Revenue	
	400		10,000
300			300
	100 Bal.		10,300 Bal.

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

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 balance sheet 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 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.

The adjusting journal entry to record depreciation is:

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Depreciation Expense		XX	
	Accumulated Depreciation			XX
	To adjust for depreciation.			

Let's work through two examples to demonstrate depreciation adjustments. Recall that in January, BDC 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 BDC 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).

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 31	Depreciation Expense, Equipment		25	
	Accumulated Depreciation, Equipment			25
	To adjust for one month of depreciation on the equipment.			



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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

<p>The Equipment account remains unchanged by the adjusting entry.</p>	<p>A contra account, accumulated depreciation, is increased by \$25.</p>	<p>Depreciation expense is increased by \$25, the amount of the equipment’s cost that has been allocated to expense.</p>
--	--	--

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

Equipment	3,000
Acc. Dep. – Equip.	<u>(25)</u>
Book value	2,975

Recall that BDC 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:

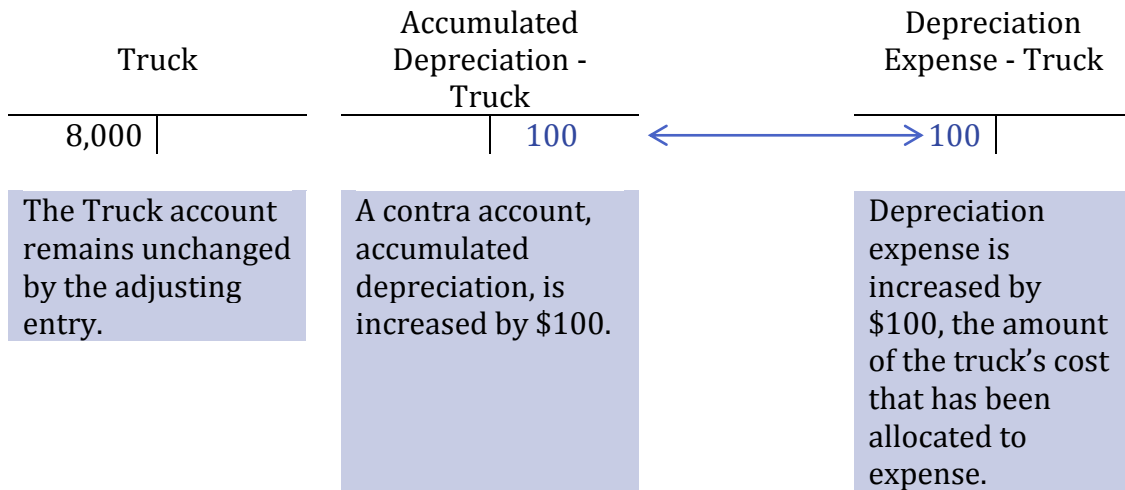
(d)

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).*

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 31	Depreciation Expense, Truck		100	
	Accumulated Depreciation, Truck			100
	To adjust for one month of depreciation on the truck.			

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



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

Truck	8,000
Acc. Dep. – Truck.	(100)
Book value	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*.



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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 of 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.

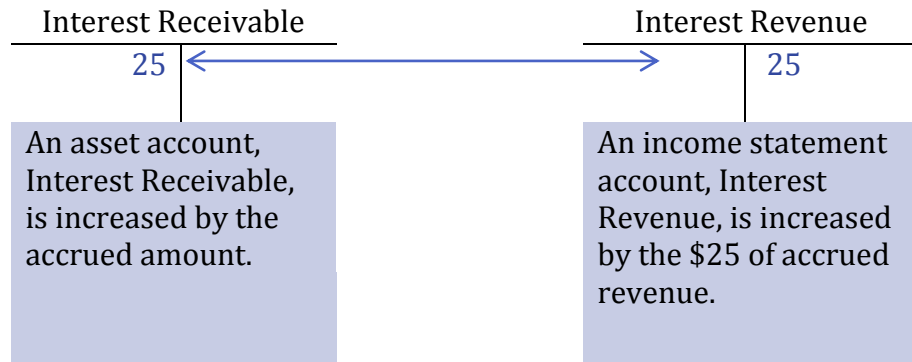
General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Acct. Receivable		XXX	
	Revenue			XXX
	To adjust for accrued revenue.			

Assume that BDC has rented out part of the building in which it operates to another business as of January 1, 2017. The rent is \$400 per month. If the rent has not been paid to BDC by January 31, and an accrued revenue amount needs to be recorded, as follows:

(e)

2017
 Jan. 31 Account Receivable 400
 Rent Revenue 400
 To record January rent from renter.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 31	Accounts Receivable		400	
	Repair Revenue			400
	To adjust for 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 BDC 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 a bank loan but for notes payable, the interest is paid when the note is due.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Expense		XXX	
	Payable			XXX
	To adjust for accrued expense.			

For Big Dog Carworks, the January 31, 2017 unadjusted trial balance shows a \$9,000 bank loan balance. This consists of a \$4,000 loan on January 2, an additional \$7,000 loan on January 3, and a repayment of \$2,000 on January 10. 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. BDC's adjusting entry to accrue this expense on January 31 is:

(g)

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

General Journal				
Date	Account/Explanation	PR	Debit	Credit
Jan 31	Interest Expense		18	
	Interest Payable			18
	To adjust for accrued interest; \$6,000 X 4% X 28/365 = \$18.41 (rounded to \$18)			

This adjusting entry enables BDC 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 balance sheet at January 31.

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



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
	<i>To accrue salaries for January 29-31.</i>		

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:



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Salaries Payable	Salaries Expense
150 ←	4,000 → 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.

Each of the five steps of adjusting entries either **debits an expense** or **credits a revenue**.

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 BDC at January 31, 2017. Changes are shown in blue.



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Big Dog Carworks
Trial Balance
At January 31, 2017

Big Dog Carworks
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	Note payable		\$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	Owner capital		10,000				10,000
350	Drawing	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	Gas expense	700				700	
830	Income taxes expense			(i) 500		500	
		<u>\$30,100</u>	<u>30,100</u>	<u>\$1,718</u>	<u>\$1,718</u>	<u>\$31,318</u>	<u>\$31,318</u>

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

Financial statements can now be prepared using the adjusted trial balance.

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	Owners' capital		10,000
350	Drawing	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	Gas expense	700	
830	Income taxes expense	500	
		<u>\$31,318</u>	<u>\$31,318</u>

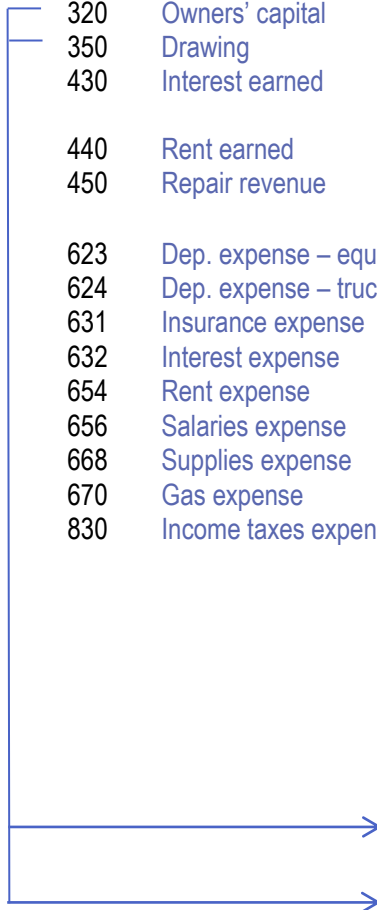
The income statement is prepared first, followed by the statement of owners' equity.

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

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

Big Dog Carworks
Statement of Owners' Equity
For the Month Ended January 31, 2017

Balance at January 1, 2017	\$ -0-
Investment	10,000
Net income	1,932
Drawing	(200)
Balance at January 31, 2017	<u>\$11,732</u>



The balance sheet can be prepared once the statement of owners' equity is complete.

Big Dog Carworks
Trial Balance
At January 31, 2017

Big Dog Carworks
Balance Sheet
At January 31, 2017

<i>Acct.</i>		<u><i>Account Balances</i></u>			
<i>No.</i>	<i>Account</i>	<i>Debit</i>	<i>Credit</i>	<i>Assets</i>	
101	Cash	\$ 6,200		Cash	\$6,200
110	Accounts receivable	2,500		Accounts receivable	2,500
116	Interest receivable	25		Interest receivable	25
125	Rent receivable	400		Rent receivable	400
161	Prepaid insurance	2,200		Prepaid insurance	2,200
183	Equipment	3,000		Equipment	3,000
184	Truck	8,000		Acc. Dep. - Equip.	(25)
193	Acc. dep. - equipment		\$ 25	Truck	8,000
194	Acc. dep. - truck		100	Acc. Dep. - Truck	(100)
201	Note payable		9,000	Total assets	<u>\$22,200</u>
210	Accounts payable		700		
222	Interest payable		18		
226	Salaries payable		150		
247	Unearned repair revenue		100	Note payable	9,000
260	Income taxes payable		500	Accounts payable	700
320	Owners' capital		10,000	Interest payable	18
350	Drawing	200		Salaries payable	150
430	Interest earned		25	Unearned repair rev.	100
440	Rent earned		400	Income taxes pay.	<u>500</u>
450	Repair revenue		10,300		10,468
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	Gas expense	700			
830	Income taxes expense	500			
		<u>\$30,318</u>	<u>\$30,318</u>		

		<i>Liabilities</i>	
		Note payable	9,000
		Accounts payable	700
		Interest payable	18
		Salaries payable	150
		Unearned repair rev.	100
		Income taxes pay.	<u>500</u>
		Total liabilities	<u>10,468</u>
		<i>Owners' Equity</i>	
		Owners' capital	<u>11,732</u>
		Total liabilities and owners' equity	<u>\$22,200</u>

Equipment and truck are shown the book value

These amounts are transferred from the Statement of owners' Equity.

Summary of Chapter 3 Learning Objectives

L01 – 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.

L02 – 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
	<i>To adjust prepaid expense for the amount of benefit used.</i>		

(2)

Date	Unearned Revenue	XX	
	Revenue		XX
	<i>To adjust unearned amounts now earned.</i>		

(3)

Date	Depreciation Expense	XX	
	Accumulated Depreciation		XX
	<i>To allocate the costs of plant and equipment over their useful lives.</i>		

(4)

Date	Account Receivable	XX	
	Revenue		XX
	<i>To record revenue earned on credit.</i>		

(5)

Date	Expense	XX	
	Payable		XX
	<i>To adjust for accrued expenses.</i>		



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L03 – 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.

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

Concept Self-check

1. 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?
2. What are adjusting entries and why are they required?
3. What are the five types of adjusting entries?
4. Why are asset accounts like Prepaid Insurance adjusted? How are they adjusted?
5. 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?
6. What is a contra account and why is it used?
7. How are liability accounts like Unearned Repair Revenue adjusted?
8. Explain the terms *accrued revenues* and *accrued expenses*. Give examples of each.
9. Why is an adjusted trial balance prepared?
10. How is the adjusted trial balance used to prepare financial statements?



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Comprehension Problems

CP 3-1

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

- | <i>A</i> | <i>B</i> |
|------------------------------------|-----------------------------|
| a. Insurance Expense | 1. Commissions Revenue |
| 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. Supplies | 7. Prepaid Insurance |
| h. Unearned Commissions
Revenue | 8. Interest Revenue |
| i. Salaries Payable | 9. Interest Expense |
| j. Depreciation Expense | 10. Unearned Rent Revenue |

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

CP 3-3

Prepare the journal entry required for each of the following transactions:

- a. Prepaid insurance totalling \$125 has expired.
- b. Utility expenses of \$200 are unpaid.
- c. Supplies of \$600 have been used.
- d. Salaries of \$1500 are unpaid
- e. Services performed but not recorded total \$2,200
- f. Services related to unearned service revenue of \$620 were performed

Required:

For each of the above items specify the type of adjustment (prepaid expense, unearned revenue, accrued revenue, or accrued expense) and the position of accounts before adjustment (overstatement or understatement).

CP 3-2

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

Truck	184	Depreciation Expense - Truck	624	Acc. Dep'n - Truck	194
10,000					

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.



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CP 3-4

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

<i>Account</i>	<i>Amount in unadjusted trial balance</i>	<i>Amount in adjusted trial balance</i>
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 3-6

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

Prepaid rent	\$ 6,000
Office supplies	700
Unearned commissions revenue	1,500
Salaries expense	5,000

Additional Information:

- The prepaid rent consisted of a payment for three months' rent at \$2,000 per month for December 2018, January 2019, and February 2019.
- Office supplies on hand at December 31, 2018 amounted to \$300.
- All but \$500 in the Unearned Commissions account has been earned in 2018.
- Salaries for the last three days of December amounting to \$300 have not yet been recorded.

Required:

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



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CP 3-7

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

<table border="0" style="width: 100%;"> <tr> <td style="width: 80%;"><u>Prepaid Advertising</u></td> <td style="width: 20%; text-align: right;">160</td> </tr> <tr> <td>UB 1,000 </td> <td style="text-align: right;">500</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Supplies</u></td> <td style="text-align: right;">173</td> </tr> <tr> <td>UB 750 </td> <td style="text-align: right;">400</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Equipment</u></td> <td style="text-align: right;">183</td> </tr> <tr> <td>UB 21,750 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Acc. Dep'n - Equip.</u></td> <td></td> </tr> <tr> <td></td> <td style="text-align: right;">1,500</td> </tr> <tr> <td></td> <td style="text-align: right;">250</td> </tr> </table>	<u>Prepaid Advertising</u>	160	UB 1,000	500			<u>Supplies</u>	173	UB 750	400			<u>Equipment</u>	183	UB 21,750				<u>Acc. Dep'n - Equip.</u>			1,500		250	<table border="0" style="width: 100%;"> <tr> <td style="width: 80%;"><u>Accounts Payable</u></td> <td style="width: 20%; text-align: right;">210</td> </tr> <tr> <td>UB 15,000</td> <td style="text-align: right;">200</td> </tr> <tr> <td></td> <td style="text-align: right;">100</td> </tr> <tr> <td></td> <td style="text-align: right;">400</td> </tr> <tr> <td></td> <td style="text-align: right;">800</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Salaries Payable</u></td> <td style="text-align: right;">226</td> </tr> <tr> <td></td> <td style="text-align: right;">700</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Unearned Rent Revenue</u></td> <td style="text-align: right;">250</td> </tr> <tr> <td>5,000 UB 10,000</td> <td></td> </tr> </table>	<u>Accounts Payable</u>	210	UB 15,000	200		100		400		800			<u>Salaries Payable</u>	226		700			<u>Unearned Rent Revenue</u>	250	5,000 UB 10,000		<table border="0" style="width: 100%;"> <tr> <td style="width: 80%;"><u>Owner Capital</u></td> <td style="width: 20%; text-align: right;">320</td> </tr> <tr> <td>UB 8,000</td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Rent Revenue</u></td> <td style="text-align: right;">480</td> </tr> <tr> <td></td> <td style="text-align: right;">5,000</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Advertising Expense</u></td> <td style="text-align: right;">610</td> </tr> <tr> <td>500 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Commissions Expense</u></td> <td style="text-align: right;">615</td> </tr> <tr> <td>UB 800 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Dep'n Expense - Equip.</u></td> <td style="text-align: right;">623</td> </tr> <tr> <td>250 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Maintenance Expense</u></td> <td style="text-align: right;">641</td> </tr> <tr> <td>200 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Salaries Expense</u></td> <td style="text-align: right;">656</td> </tr> <tr> <td>UB 9,500</td> <td></td> </tr> <tr> <td>700 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Supplies Expense</u></td> <td style="text-align: right;">688</td> </tr> <tr> <td>UB 2,500</td> <td></td> </tr> <tr> <td>400 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Telephone Expense</u></td> <td style="text-align: right;">669</td> </tr> <tr> <td>100 </td> <td></td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td><u>Utilities Expense</u></td> <td style="text-align: right;">676</td> </tr> <tr> <td>400 </td> <td></td> </tr> </table>	<u>Owner Capital</u>	320	UB 8,000				<u>Rent Revenue</u>	480		5,000			<u>Advertising Expense</u>	610	500				<u>Commissions Expense</u>	615	UB 800				<u>Dep'n Expense - Equip.</u>	623	250				<u>Maintenance Expense</u>	641	200				<u>Salaries Expense</u>	656	UB 9,500		700				<u>Supplies Expense</u>	688	UB 2,500		400				<u>Telephone Expense</u>	669	100				<u>Utilities Expense</u>	676	400	
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Required: Prepare in general journal format the adjusting entries that were posted. Include general ledger account and plausible descriptions.

CP 3-9

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	Owner capital		2,700				2,700
440	Rent Revenue		25,000				25,600
610	Advertising 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	<u>\$35,900</u>	<u>\$35,900</u>			<u>\$38,800</u>	<u>\$38,800</u>

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.



CP 3-10

The following general ledger accounts and additional information are taken from the records of Wolfe Co. 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	Supplies 173	Advertising Exp. 610
Bal. 2,700	Bal. 700	Bal. 200
Accounts Receivable 110	Owner 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.

Problems

P 3-1

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

<i>Account</i>	<i>Balance</i>	
	<i>Unadjusted</i>	<i>Adjusted</i>
a. Prepaid rent	\$ 300	\$ 600
b. Wages payable	500	700
c. Income taxes payable	-0-	-0
d. Unearned repair revenue	2,000	3,000
e. Unearned rent revenue	25,000	20,000
f. Advertising expense	5,000	3,500
g. Depreciation expense — equipment	-0-	500
h. Supplies expense	850	625
i. Gas expense	4,000	4,500

Required: For each of the above accounts, prepare the most likely adjusting entry, including plausible descriptions.

P 3-2

The unadjusted trial balance of Lukas Films Co. 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 advertising revenue	1,000
Insurance expense	900
Supplies expense	600
Telephone expense	825
Wages expense	15,000

The following information applies at December 31:

- A physical count of supplies indicates that \$300 of supplies have not yet been used at December 31.
- A \$75 telephone bill for December has been received but not recorded.



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- 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 advertising 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.

P 3-5

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

<i>Acct.</i>		<i>Balance</i>	
		<i>Debit</i>	<i>Credit</i>
<i>No.</i>	<i>Account</i>		
101	Cash	3,300	
110	Accounts receivable	4,000	
161	Prepaid insurance	1,200	
173	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	Taxes payable		-0-
320	Owner capital		7,000
350	Drawing	1,000	
410	Commissions Revenue		16,100
440	Rent earned		-0-
610	Advertising 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	Taxes expense	-0-	
		<u>30,500</u>	<u>30,500</u>

The following additional information is available:

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

Required:

- Prepare all necessary adjusting entries at December 31, 2018.



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2. Prepare an adjusted trial balance at December 31, 2018.
 3. Prepare an income statement, statement of owners' equity, and balance sheet.
-

P 3-6

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

Part A

- a. Invested \$5,000 cash in a new business
- 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.
- 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: advertising, \$350; interest, \$100; telephone, \$75; gas, \$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: advertising, \$200; interest, \$150; gas, \$375; wages, \$2,500
- m. Collected a \$2,000 advance on work to be done in January
- n. Received a bill for \$100 for electricity used during the month (recorded as utilities expense).

Required:

1. Prepare journal entries to record the December transactions.
2. Chart of accounts: Cash, Accounts Receivable, Prepaid Insurance, Supplies, Prepaid Rent, Truck, Accounts Payable, Owner Capital, Repair Revenue, Advertising Expense, Interest Expense, Telephone Expense, Gas Expense, Utilities Expense, and Wages Expense.
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.

Required:

- 4. Open additional general ledger T-accounts for the following: Supplies Expense, Accumulated Depreciation, Wages Payable, Unearned Revenue, Depreciation Expense, Insurance Expense, and Rent Expense.
 - 5. Prepare all necessary adjusting entries.
 - 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 owners' equity, and balance sheet.
-



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P 3-7

The Brown Company began operations on January 1, 2022. The owner, Joe Brown provided you with the following **unadjusted** trial balance as of January 31, 2022. He has asked for your help in developing the required end of month adjusting journal entries.

The Brown Company		
Trial Balance		
January 31, 2022		
Accounts	Debit	Credit
Cash	\$4,700	
A/R	2,100	
Supplies	1,800	
P/P Rent	6,000	
Equipment	12,600	
Accum. Depr. – Equip.		
A/P		\$1,400
Unearned Revenue		2,800
J. Brown, Capital		15,000
J. Brown, Drawing	500	
Service Revenue		8,500
Totals	<u>\$27,700</u>	<u>\$27,700</u>

In addition, the following adjusting information was provided.

- a) The P/P Rent covers a 6 – month period that began on January 1.
- b) At the end of the month, an inventory shows only \$800 of supplies is on hand.
- c) \$400 of the unearned revenue has been earned by the end of January.
- d) \$2,650 of revenue has been earned but the customers have not been billed as of the end of January.
- e) Unpaid salaries and wages at the end of January total \$950.
- f) A utilities expense incurred but not yet paid on January 31, 2022 for \$450.
- g) Equipment depreciation for the month is \$150.

Required:

Prepare the required adjusting journal entries for the end of January 2022.

CHAPTER 4

The Classified Balance Sheet and Accounting Cycle

CHAPTER FOUR

The Classified Balance Sheet and Accounting Cycle

At the end of the accounting period, after financial statements have been prepared, it is necessary to close temporary accounts to owners' capital. 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 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 balance sheet.

Chapter 4 Learning Objectives

- L01 – Define the accounting cycle.
- L02 – Identify and explain the steps in the accounting cycle.
- L03 – Explain the purpose of closing entries and use closing entries to prepare a post-closing trial balance.
- L04 – Explain the importance of financial statement disclosure.
- L05 – Explain and prepare a classified balance sheet.



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A. The Accounting Cycle

LO1 – Identify and explain the steps in the accounting cycle.

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 analysed and recorded in the general journal.

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

Step 1:
Transactions are analysed and journalized.

GENERAL JOURNAL					Page
Date		Description	Folio	Debit	Credit

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

GENERAL LEDGER							Acct. No.
Name of Account							
Date		Description	Folio	Debit	Credit	DR CR	Balance

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

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

Example
Trial Balance

Acct. No.	Account	Account	
		Debit	Credit
101	Cash	xxx	
110	Accounts receivable	xxx	
201	Account payable		xxx
	.		
	.		
	.		
		<u>Total</u>	<u>Total</u>

Step 4: The unadjusted account balances are analysed 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.

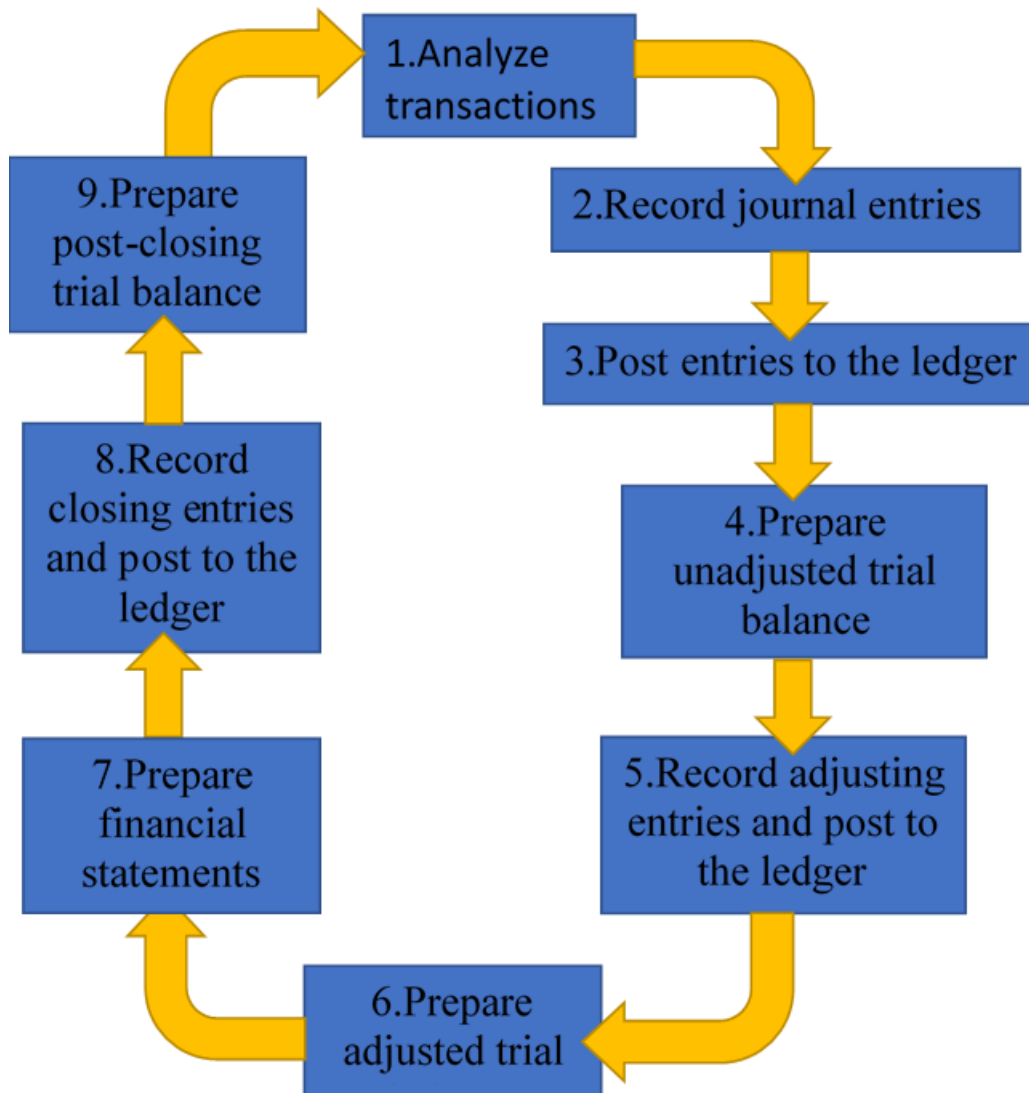


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The Accounting Cycle



B. The Closing Process

LO3 – 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 drawing 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 Drawing account, into owners' capital. Revenues, expenses, and drawing 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 owners' capital, 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 owners' capital account. A temporary closing account called the **Income Summary** is used. 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 Drawing account is *not* closed to the Income Summary account because this is not an income statement account. The Drawing account is closed in Entry 4 directly to the owners' capital 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 Owners' Capital account

The balance in the Income Summary account is transferred to the owners' capital account because the net income belongs to the owners' equity. 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 Owners' capital account. Again, the amount must always equal the net income reported on the income statement.



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Entry 4: Close the Drawing account to Owners' Capital

The Drawing account is closed to the Owners' capital account. This results in transferring the balance in drawing, a temporary account, to owners' capital, a permanent account.

The closing entries for Big Dog Carworks are shown in Figure 4–6.

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

GENERAL JOURNAL					Page 2
Date		Description	Folio	Debit	Credit
2017		Closing Entries			
		(1)			
Jan.	31	Interest Revenue	430	25	
		Rent Revenue	440	400	
		Repair Revenue	450	10,300	
		Income Summary	360		10,725
		<i>To close revenue account balances.</i>			
		(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
		Gas Expense	670		700
		Tax Expense	830		500
		<i>To close expense account balances.</i>			
		(3)			
Jan.	31	Income Summary	360	1,932	
		Owners' Capital	340		1,932
		<i>To close Income Summary.</i>			
		(4)			
Jan.	31	Owners' Capital	360	200	
		Drawing	350		200
		<i>To close drawing to owners' capital.</i>			

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

Figure 4–6 Closing Entries for BDC at January 31, 2017 for illustrative purposes

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 4-7. 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.

Closing Expense Accounts		Closing Revenue Accounts	
Dep'n Expense - Equip.	623	Interest Revenue	430
Bal.	25	25	25
Bal.	-0-		-0- Bal.
Dep'n Expense - Truck.	624	Rent Revenue	440
Bal.	100	400	400
Bal.	-0-		-0- Bal.
Insurance Expense	631	Repair Revenue	450
Bal.	200	10,300	10,300
Bal.	-0-		-0- Bal.
Interest Expense	632		
Bal.	18		
Bal.	-0-		
Rent Expense	654		
Bal.	1,600		
Bal.	-0-		
Salaries Expense	656		
Bal.	4,150		
Bal.	-0-		
Supplies Expense	668		
Bal.	1,500		
Bal.	-0-		
Gas Expense	670		
Bal.	700		
Bal.	-0-		
Taxes Expense	830		
Bal.	500		
Bal.	-0-		
		Income Summary	
		8,793	10,725
			1,932 Bal.

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

All revenue and expense account balances are now zero.

Figure 4-7 Closing Revenue and Expense Accounts



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When the income summary is closed to owners' capital in the third closing entry, the \$1,932 credit balance in the income summary account is transferred into owners' capital as shown in Figure 4-8. As a result, the income summary is left with a zero balance.

	Income Summary	360		Owners' Capital	340
		8,793			
		1,932			
	Bal.	-0-			1,932 ←
		10,725			1,932 Bal.
		1,932			Bal.

Figure 4-8 Closing the Income Summary Account

Finally, when drawing is closed to owners' capital in the fourth closing entry, the \$200 debit balance in the Drawing account is transferred into owner capital as shown in Figure 4-9. After the closing entry is posted, the Drawing account is left with a zero balance and owners' capital is left with a credit balance of \$1,857.

	Drawing	350		Owners' Capital	340
		200			
		200 →			
	Bal.	-0-			1,932
		200			1,732 Bal.

Figure 4-9 Closing the Dividends Account

This amount must agree to the owner capital balance calculated on the statement of owners' 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 appears below.

Big Dog Carworks
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	Note payable		9,000
210	Accounts payable		700
222	Interest payable		18
226	Salaries payable		150
247	Unearned repair revenue		100
260	Taxes payable		500
340	Owners' capital		11,732
Total debits and credits		<u>\$22,325</u>	<u>\$22,325</u>

Only permanent accounts

Only balance sheet accounts – the permanent accounts – have balances and are carried forward to the next accounting year. All income statement and drawing 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.

C. Financial Statement Disclosure Decisions

LO4 – 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



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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.

D. Classified Balance Sheet

LO5 – Explain and prepare a classified Balance Sheet.

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 owners' equity
3. Balance Sheet
4. Statement of cash flows

In addition, the financial statements are often accompanied by an auditor's report and a statement entitled "Management's Responsibility for Financial Statements. 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 Balance Sheet

A **classified balance sheet** organizes the asset and liability accounts into categories. The previous chapters used an unclassified balance sheet which included only three broad account groupings: assets, liabilities, and owners' equity. The classification of asset and liability accounts into meaningful categories is designed to facilitate the analysis of balance sheet 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. Examples of current assets include:

- **cash, comprising paper currency and coins, deposits at bank and money orders.**
- **short-term investments, cash that is invested in interest-bearing deposits.**
- **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.**
- **merchandise inventory that is expected to be sold within one year.**



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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.**

Current assets are normally reported before non-current assets on the balance sheet. 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 and debt of other companies that will be 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. They are shown first in the liabilities section of the balance sheet and listed in order of their due dates. Examples of current liabilities include:

- **bank loans (or borrowings) that are payable on demand or due within the next 12 months**
- **accounts payable**
- **accrued liabilities such as interest payable, wages payable, and 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 balance sheet 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 balance sheet 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.

Owners' Equity

As discussed in prior chapters, the owners' equity section of the classified balance sheet provides information about how the equity balance change during the period.

Presentation of the balance sheet

The balance sheet 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 owners' equity are presented below the assets. The following illustrates the classified balance sheet of Big Dog Carworks after several years of operation, presented in account form:



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Big Dog Carworks
Classified Balance Sheet
At December 31, 2020

The prior year's information
is also presented for

Assets

2020 2019

Current

Cash	\$ 10,800	\$ 12,000
Accounts receivable	26,000	24,000
Merchandise inventories	120,000	100,000
Prepaid expenses	<u>1,200</u>	<u>570</u>
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

Liabilities

2020 2019

Current

Borrowings (Note 5)	\$ 39,000	\$ 82,250
Accounts payable	24,000	22,000
Taxes payable	<u>15,000</u>	<u>10,000</u>
Total current liabilities	78,000	114,250

Non-current

Borrowings (Note 5)	163,145	-0-
---------------------	---------	-----

Total liabilities 241,145 114,250

Owners' Equity

Owners' Capital	<u>43,500</u>	<u>32,750</u>
Total Owners' equity	<u>43,500</u>	<u>32,750</u>
Total liabilities and equity	<u>\$284,645</u>	<u>\$147,000</u>

Assets are classified as current or non-current.

Liabilities are classified as current or non-current.

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

The statement of owners' equity is as follows:

Big Dog Carworks
Statement of Owners' Equity
For the Year Ended December 31, 2020

Balance at January 1, 2019	\$21,000
2019 net income	15,000
Drawing	<u>(3,250)</u>
Balance at December 31, 2019	32,750
2020 net income	20,000
Drawing	<u>(9,250)</u>
Balance at December 31, 2020	<u>\$43,500</u>

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 BDC was presented in the first few pages of Chapter 1:

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

<i>Revenue</i>	
Repairs	\$10,000
<i>Expenses</i>	
Rent	\$1,600
Salaries	3,500
Supplies	2,000
Gas	<u>700</u>
Total expenses	<u>7,800</u>
Net income	<u><u>\$2,200</u></u>



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Summary of Chapter 4 Learning Objectives

L01 – 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.

L02 – 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 drawing) are transferred to owners' capital, 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
	<i>To close revenue account balances to the Income Summary account.</i>		

(2)

Dec. 31	Income Summary	YY	
	Expense		YY
	<i>To close expense account balances to the Income Summary account.</i>		

(3)

Dec. 31	Income Summary	ZZ	
	Owners' Capital		ZZ
	<i>To close the Income Summary account balance to Owners' Capital (ZZ = XX - YY; ZZ must equal net income).¹</i>		

(4)

Dec. 31	Owners' Capital	AA	
	Drawing		AA
	<i>To close the Drawing account to Owners' Capital.</i>		

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.

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	Owners' Capital	XXX	
	Income Summary		XXX
	<i>To close the Income Summary account balance to Owners' Capital</i>		



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L01 – 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.

L03 – Explain and prepare a classified balance sheet.

A classified balance sheet groups assets and liabilities as follows:

<i>Assets</i>	<i>Liabilities</i>
Current assets	Current liabilities
Non-current assets:	Non-current or long-term
Property, plant, and	liabilities
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.

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

Concept Self-check

1. List the nine steps in the accounting cycle.
2. Which steps in the accounting cycle occur continuously throughout the accounting period?
3. Which steps in the accounting cycle occur at the end of the fiscal year? Explain how they differ from the other steps.
4. Identify which types of general ledger accounts are temporary and which are permanent.
5. What is the Income Summary account and what is its purpose?
6. What are the four types of closing entries, and why are they journalized?
7. Why is the Drawing account not closed to the Income Summary account when closing entries are prepared?
8. What is a post-closing trial balance and why is it prepared?
9. What are current assets?
10. What are non-current assets?
11. What are current liabilities?
12. What are non-current liabilities?



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Comprehension Problems

CP 4-1

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

<i>Account</i>	<i>Balance</i>
Accounts payable	\$200
Accounts receivable	100
Notes payable, 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
Salaries payable	60
Owners' capital	?
Supplies	10

Required: Prepare a classified balance sheet. Assume all accounts have normal balances.

CP 4-2 Sarah Lee Company had the following Income statement.

Sarah Lee Co.		
Income Statement		
For the Month Ended January 31, 2017		
<i>Revenues</i>		
Repairs		\$10,000
<i>Expenses</i>		
Rent	\$1,600	
Salaries	4,000	
Supplies	1,500	
Gas	700	
Total expenses		<u>7,800</u>
Net income		<u><u>\$2,200</u></u>

Required: Prepare closing entries at January 31, 2017.

Problems

P 4-1

Miller Company ended its fiscal year on June 30, 2017. The company's adjusted trial balance as of the end of its fiscal year is shown below.

MILLER COMPANY
Adjusted Trial Balance
June 30, 2017

Cash	\$9,840	
Account Receivable	8,780	
Equipment	15,900	
Accumulated Depr. – Equip.		\$7,400
Account payable		4,220
Unearned Rent Revenue		1,800
Owners' Capital		45,200
Drawing	16,000	
Service Revenue		64,000
Rent Revenue		6,500
Depreciation expense	8,000	
Salaries expense	55,700	
Utilities expense	14,900	
	\$129,120	\$129,120

Required:

1. Prepare the closing entries using page J15.
2. Post to Owner's Capital and Income Summary accounts.
3. Prepare a post-closing trial balance at June 30.



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P 4-2

The adjusted trial balance of James Moore Advertising Services, at December 31,2018.

MOORE COMPANY
Adjusted Trial Balance
December 31, 2018

Cash	\$6,000	
Account Receivable	6,300	
Office Supplies	200	
Land	10,000	
Building	42,000	
Accumulated Depr. – Build.		\$24,000
Equipment	8,000	
Accumulated Depr. – Equip.		6,000
Account payable		2,000
Salaries payable		500
Unearned Revenue		5,000
Notes payable (long term)		7,000
Owners’ Capital		12,000
Drawing	25,000	
Service Revenue		64,300
Depreciation expense - Building	1,000	
Depreciation expense – Equip.	2,000	
Salaries expense	16,500	
Supplies expense	800	
Advertising expense	3,000	
Total	\$120,800	\$120,800

Requirements:

1. Prepare the income statement and the statement of owner's equity for the year ended December 31, 2018.
2. Prepare the classified balance sheet at December 31, 2018.
3. Journalize and post the closing entries.
4. Prepare a post-closing trial balance at December 31, 2018.

P 4-3

Smart Company has an inexperienced accountant. During the first month on the job, the accountant made the following errors in journalizing transactions. All entries **were** posted as made.

1. A payment on account of \$950 to a creditor was debited to Accounts Payable \$590 and credited to Cash \$590.
2. The purchase of supplies on account for \$560 was debited to Computer \$56 and credited to Accounts Payable \$56.
3. A \$800 withdrawal of cash for N. Smart's personal use was debited to Rent Expense \$800 and credited to Cash \$800.

Required:

Prepare the correcting entries.



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CHAPTER 5

Accounting for the Sale of
Goods

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, Best Buy and Walmart each purchase and resell goods—such businesses are known as merchandisers. The accounting transactions for merchandising 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 merchandising firms, and transactions involving purchases and payments for goods sold in the normal course of business activities.

Chapter 5 Learning Objectives

- L01 – Describe merchandising and explain the financial statement components of sales, cost of goods sold, merchandise inventory, and gross profit; differentiate between the perpetual and periodic inventory systems.
- L02 – Analyze and record purchase transactions for a merchandiser.
- L03 – Analyze and record sales transactions for a merchandiser.
- L04 – Record adjustments to merchandise inventory.
- L05 – Explain and prepare a classified multiple-step income statement for a merchandiser.
- L06 – Explain the closing process for a merchandiser.
- L07 – (Appendix) Explain and identify the entries to record purchase and sales transactions in a periodic inventory system.



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A. The Basics of Merchandising

LO1 - Describe merchandising and explain the financial statement components of sales, cost of goods sold, merchandise inventory, and gross profit; differentiate between the perpetual and periodic inventory systems.

A merchandising company, or **merchandiser**, differs in several basic ways from a company that provides services. First, a merchandiser purchases and then sells goods whereas a service company sells services. For example, a car dealership is a merchandiser that sells cars while an airline is a service company that sells air travel. Because merchandising 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 merchandiser includes different details. A merchandising 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 merchandiser are illustrated in Figure 5-1.

<i>Service Company</i>	<i>Merchandising Company</i>
Revenues	Sales
	Less: Cost of Goods Sold
	<hr/>
	Equals: Gross Profit
	Less: Operating Expenses
	<hr/>
Less: Expenses	<hr/>
<hr/>	<hr/>
Equals: Net Income	Equals: Net Income
<hr/> <hr/>	<hr/> <hr/>

Figure 5-1 Differences Between the Income Statements of Service and Merchandising Companies

Assume that Excel Cars Company 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)	Less Cost of Goods Sold
Gross profit	<u>\$ 1,000</u>	

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 merchandiser relates to the balance sheet. Since a merchandiser purchases goods for resale, goods held for resale by a merchandiser are called *merchandise inventory* and are reported as an asset on the balance sheet. A service company would not normally have merchandise 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 Merchandise Inventory and Cost Of Goods Sold accounts in the general ledger are updated immediately when a purchase or sale of goods occurs. When merchandise inventory is purchased, the cost is debited to the Merchandise Inventory account. As inventory is sold to customers, the cost of the inventory sold is removed from the Merchandise Inventory account and debited to the Cost Of Goods Sold account. **Under a perpetual system, the detailed composition of merchandise 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 Merchandise Inventory account balance in the general ledger.

Some businesses will use a **periodic inventory system** instead. The purchase of merchandise inventory is debited to a temporary account called Purchases in the general ledger. At the end of the accounting period, inventory is counted, the Merchandise Inventory account is updated, and cost of goods sold is calculated. **In a periodic inventory system, the real-time balances in Merchandise Inventory and Cost Of Goods Sold accounts are**



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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 Merchandise Using the Perpetual Inventory Method

LO2 – Analyse and record purchase transactions for a merchandiser.

Recording the Purchase of Merchandise Inventory

When merchandise inventory is purchased, the cost is recorded in a Merchandise Inventory general ledger account. An account payable results when the merchandise 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 Company for \$2,000. Assume this was purchased on May 2, 2018. The journal entry and general ledger T-account effects would be as follows:

<i>General Journal Entry</i>	<i>General Ledger Effect</i>
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>May 2 Merchandise Inventory</p> <p style="margin-left: 40px;">Accounts Payable</p> </div> <div style="width: 10%; text-align: center;"> <p>2,000</p> <p style="margin-top: 20px;">2,000</p> </div> <div style="width: 40%; border-left: 1px solid black; padding-left: 10px;"> <p style="text-align: right; margin-bottom: 10px;"><u>Merch. Inventory</u></p> <p style="text-align: right; margin-bottom: 10px;">2,000 </p> <p style="text-align: right;"><u>Accounts Payable</u></p> <p style="text-align: right;">2,000</p> </div> </div>	

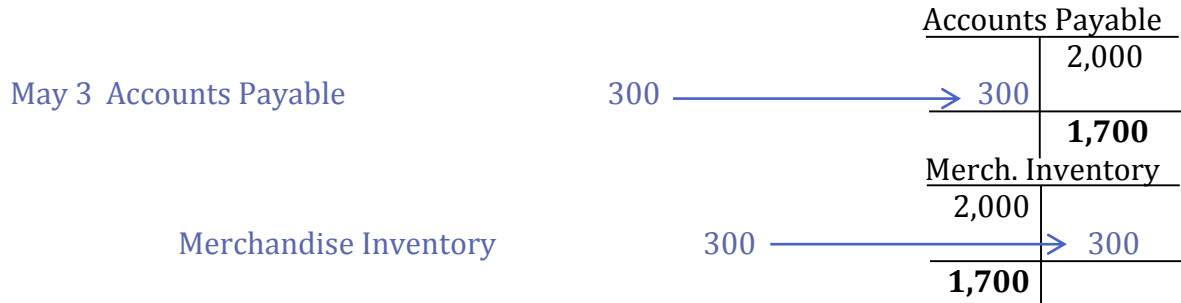
To record purchase of vehicle.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Merchandise Inventory		2,000	
	Accounts Payable			2,000
	To record the purchase of merchandise inventory on account.			

In addition to the purchase of merchandise inventory, there are other activities that affect the Merchandise Inventory account. For instance, merchandise 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 merchandise 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 Merchandise Inventory account.

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 **returns** adjustment. The amount of the allowance, or reduction, is recorded as via journal entry as a credit to the Merchandise Inventory account. The entry and related T-account effects are:



To record reduction in account payable: vehicle wrong colour.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts Payable		300	
	Merchandise Inventory			300
	To record purchase allowance; incorrect			

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 merchandise 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:



					Accounts Payable
May 9	Accounts Payable	1,700			1,700
					Merch. Inventory
	Merchandise Inventory	17			300
					1,683
	Cash	1,683			Cash
					1,683

To record payment on account in full and purchases discount applied.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts Payable		1,700	
	Merchandise Inventory			17
	Cash			1,683
	To record payment on account within the			

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.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts Payable		1,700	
	Cash			1,700
	To record payment of account; no purchase discount applied.			

In this case, the Merchandise Inventory account is not affected. The cost of the vehicle in the general ledger remains at \$1,700.

Transportation

Costs to transport goods from the supplier to the seller must also be considered when recording the cost of merchandise 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 or buyer 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:

			Merch. Inventory
			2,000
			300
			17
May 9 Merchandise Inventory	125		125
			1,808
			Cash
Cash	125		125

To record freight on vehicle purchased.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Merchandise Inventory		125	
	Cash			125
	To record shipping costs on inventory purchased.			

The cost of the vehicle in the Excel Merchandise 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 Merchandise Inventory account.

The next section describes how the sale of merchandise is recorded as well as the related costs of items sold.



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C. Merchandise Inventory: Sales and Collection Using the Perpetual Inventory System

LO3 – Analyse and record sales transactions for a merchandiser.

In addition to purchases on account, a merchandising company's operating cycle includes the sale of merchandise inventory *on account* or *on credit*.

There are some slight recording differences when revenue is earned in a merchandising company. These are discussed below.

Recording the Sale of Merchandise Inventory

The sale of merchandise 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 Merchandise 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 Merchandise Inventory account is \$1,808, as shown below.

The entries to record the sale of the merchandise inventory are:

			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><u>Accounts Receivable</u></td> </tr> <tr> <td style="width: 50%;"></td> <td style="text-align: right;">3,000</td> </tr> </table>	<u>Accounts Receivable</u>			3,000		
<u>Accounts Receivable</u>									
	3,000								
May 15	Accounts Receivable	3,000							
	Sales		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><u>Sales</u></td> </tr> <tr> <td style="width: 50%;"></td> <td style="text-align: right;">3,000</td> </tr> </table>	<u>Sales</u>			3,000		
<u>Sales</u>									
	3,000								
	Cost of Goods Sold	1,808	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><u>Cost of Goods Sold</u></td> </tr> <tr> <td style="width: 50%;"></td> <td style="text-align: right;">1,808</td> </tr> </table>	<u>Cost of Goods Sold</u>			1,808		
<u>Cost of Goods Sold</u>									
	1,808								
	Merchandise Inventory	1,808	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center;"><u>Merch. Inventory</u></td> </tr> <tr> <td style="width: 50%;"></td> <td style="text-align: right;">1,808</td> </tr> <tr> <td></td> <td style="text-align: right;">-0-</td> </tr> </table>	<u>Merch. Inventory</u>			1,808		-0-
<u>Merch. Inventory</u>									
	1,808								
	-0-								

To record sale of vehicle.

Costs are transferred to the income statement from the balance sheet at the same time the sale is recorded.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Accounts Receivable		3,000	
	Sales			3,000
	To record the sale of merchandise on account.			
	Cost of Goods Sold		1,808	
	Merchandise Inventory			1,808
	To record the cost of the sale			

The first part of the entry records the sales revenue. The second part is required to reduce the Merchandise Inventory account and transfer the cost of the merchandise sold to the Cost of Goods Sold account, and then to the income statement. The part of the entry ensures that both the Merchandise Inventory and Cost of Goods Sold accounts in the general ledger are up to date.

Sales Returns and Allowances

When merchandise inventory that has been sold is returned to the merchandiser 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:

May 17	Sales Returns and Allowances	100		Sales Ret. & Allow.
				100
	Accounts Receivable	100		Accounts Receivable
				3,000
				2,900
	<i>To record customer allowance for damage to vehicle during delivery.</i>			

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Sales Returns and Allowances		100	
	Accounts Receivable			100
	To record allowance for damage to merchandise inventory during delivery.			



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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	
Merchandise 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
Merchandise 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 \times 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:

			Cash	
May 21	Cash	2,842	2,842	
	Sales Discounts	58	58	
	Accounts Receivable	2,900	2,900	
			-0-	

To record payment on account and sales discount applied.

General Journal				
Date	Account/Explanation	PR	Debit	Credit
	Cash		2,842	
	Sales Discounts		58	
	Accounts Receivable			2,900
	To record payment on account and sales discount applied.			

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:



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Excel Cars Company
 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
Less: 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. Merchandisers 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 Merchandise Inventory Using the Perpetual Inventory System

LO4 – Record adjustments to merchandise inventory.

In the simple example above, Excel did not have any merchandise 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 Company 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:

				Merch Inventory	
				-0-	
June 2	Merchandise Inventory	10,000		10,000	
				10,000	
				Accounts Payable	
				-0-	
	Accounts Payable	10,000		10,000	
				10,000	

To record purchase of five vehicles.

The summary journal entry to record the sale of the vehicles on June 16 would be:

				Accounts Receivable	
				-0-	
June 16	Accounts Receivable	9,000		9,000	
				9,000	
				Sales	
				3,000	
	Sales	9,000		9,000	
				12,000	
				Cost of Goods Sold	
				1,808	
	Cost of Goods Sold	6,000		6,000	
				7,808	
				Merch. Inventory	
				10,000	
	Merchandise Inventory	6,000		6,000	
				4,000	

To record sale of three vehicles and related cost of goods sold.

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 owners' Capital - \$5,000. After the May and June transactions are recorded, the general ledger T-accounts would appear as follows:



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Cash		Accounts Payable		Owner Capital	Sales	
5,000	1,683 ³	² 300	2,000 ¹	5,000		3,000 ⁵
⁷ 2,842	125 ⁴	³ 1,700	10,000 ⁸			9,000 ⁹
6,034			10,000			12,000
Accounts Rec.					Sales Ret. & Allow.	
⁵ 3,000	100 ⁶				⁶ 100	
⁹ 9,000	2,900 ⁷					
9,000					Sales Discounts	
Merchandise Inv.					⁷ 58	
¹ 2,000	300 ²				Cost of Goods Sold	
⁴ 125	17 ³				⁵ 1,808	
1,808					⁹ 6,000	
	1,808 ⁵				7,808	
-0-						
⁸ 10,000	6,000 ⁹					
4,000						

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 Co.
Unadjusted Trial Balance
December 31, 2018

Account No.	Account Title	Account Balance	
		Debit	Credit
101	Cash	\$ 6,034	
110	Accounts Receivable	9,000	
150	Merchandise Inventory	4,000	
210	Accounts Payable		\$ 10,000
320	Owner Capital		5,000
500	Sales		12,000
508	Sales Returns and Allowances	100	
509	Sales Discounts	58	
570	Cost of Goods Sold	7,808	
		<u>\$27,000</u>	<u>\$27,000</u>

E. Merchandising Income Statement

LO5 – Explain and prepare a classified multiple-step income statement for a merchandiser.

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 merchandising 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.



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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
<i>Operating expenses</i>			
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		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 merchandising. 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 merchandising operations. Interest earned, dividends earned, and gains on the sale of property, plant, and equipment are more examples of other revenues not related to merchandising 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 Merchandiser Using the Perpetual Inventory System

LO6 – Explain the closing process for a merchandiser.

The process of recording closing entries for service companies was illustrated in Chapter 4. The closing procedure for merchandising 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 Owners' Capital, and Drawings are closed to Owners' Capital.

When preparing closing entries for a merchandiser, the income statement accounts unique for merchandisers 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 owners' capital. The same three-step process is used, as



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shown in chapter 4, as applied to the financial information of Excel Cars Company 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	12,000	
	Income Summary		12,000
	<i>To close all income statement accounts with credit balances to the income summary.</i>		

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	9,966	
	Cost of Goods Sold		9,808
	Sales Returns and Allow.		100
	Sales Discounts		58
	<i>To close all income statement accounts with credit balances to income summary.</i>		

Entry 3

The Income Summary account is closed to the Owners' capital account. The effect is to transfer temporary (income statement) account balances in the income summary totalling \$4,034 to the permanent (balance sheet) account, Owners' capital.

		(c)	
Dec. 31	Income Summary	2,034	
	Owners' Capital		2,034
	<i>To close income summary account to owners' capital.</i>		

After these closing entries are posted, the general ledger T-accounts would appear as follows:

Cash		Accounts Payable		Sales		
5,000	1,683 ³	² 300	2,000 ¹		3,000 ⁵	
⁷ 2,842	125 ⁴	³ 1,700	10,000 ⁸		9,000 ⁹	
6,034			10,000		12,000	
				Owners' Capital	^a 12,000	
				→ 2,034 ^c	-0-	
Accounts Rec.		The balance in the Income Summary is transferred to Owners' Capital.	Income Summary		Sales Ret. & Allow.	
53,000	100 ⁶		^b 9,966	12,000 ^a	⁶ 100	
⁹ 9,000	2,900 ⁷		^c 2,034			100 ^b
9,000			-0-		-0-	
Merchandise Inventory				Sales Discounts		
¹ 2,000	300 ²			⁷ 58		
⁴ 125	17 ³				58 ^b	
				-0-		
1,808	1,808 ⁵					
-0-				Cost of Goods Sold		
⁸ 10,000	6,000 ⁹			⁵ 1,808		
4,000	2,000			⁹ 6,000		
2,000				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 owners' capital.



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Appendix: The Periodic Inventory System

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 Company had the following transactions in 2019, its next accounting year:

Opening inventory	1 vehicle at \$2,000
<i>Plus:</i> Purchases	6 vehicles at \$2,000 each
<i>Less:</i> Sales	<u>(5) vehicles at \$3,000 each</u>
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 Co.
Income Statement
For the Year Ended December 31, 2019

	<i>2018</i>	<i>2019</i>
Sales	\$12,000	\$15,000
<i>Less:</i> Sales returns and allowances	(100)	-0-
Sales discounts	(58)	-0-
Net sales	<u>11,842</u>	<u>15,000</u>
<i>Cost of goods sold</i>		
Opening inventory	-0-	2,000
Purchases	12,000	12,000
Transportation-in	125	-0-
<i>Less:</i> Purchase returns and allow.	(300)	-0-
Purchase discounts	(17)	-0-
Cost of goods available for sale	<u>11,808</u>	<u>14,000</u>
<i>Less:</i> ending inventory	<u>(2,000)</u>	<u>(4,000)</u>
Cost of goods sold	<u>9,808</u>	<u>10,000</u>
Gross profit and net income	<u>\$ 2,034</u>	<u>\$ 5,000</u>

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 balance sheet using the periodic inventory system can be illustrated as follows:

Excel Car Co.			
Income Statement			
For the Year Ended December 31, 2019			
Sales			\$15,000
<i>Cost of goods sold</i>			
Opening inventory (Jan. 1, 2019)		\$2,000	
Cost of goods purchased		<u>12,000</u>	
Cost of goods available		14,000	
Less: Ending inventory (Dec. 31)		<u>(4,000)</u>	
Cost of goods sold			<u>10,000</u>
Gross profit and net income			<u>\$ 5,000</u>
Excel Car Co.			
Balance Sheet			
At December 31			
	<i>Assets</i>	<i>2018</i>	<i>2019</i>
Cash		\$A,000	\$C,000
Accounts receivable		B,000	D,000
Merchandise inventory		2,000	4,000



At the end of the accounting period, cost of goods sold must be calculated which requires that the balance in Merchandise Inventory be determined. To determine the end of the period balance in Merchandise Inventory, a physical count of inventory is performed. The total value of the inventory as identified by the physical count becomes the ending balance in Merchandise Inventory. Cost of goods sold can then be calculated as follows:

Beginning Balance of Merchandise Inventory	XX
Plus: Net Cost of Goods Purchased*	XX
Less: Ending Balance of Merchandise Inventory	<u>(XX)</u>
Equals: Cost of Goods Sold	XX

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

Concept Self-check

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 merchandise 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 merchandise 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 merchandise 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 merchandise inventory in a perpetual inventory system?
13. How are the closing entries for a merchandiser 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. Compare the perpetual and periodic inventory systems. What are some advantages of each?
16. (Appendix) How is cost of goods sold calculated using the periodic inventory system?



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Comprehension Problems

CP 5-1

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

Reber Corp. uses the perpetual inventory system. Its transactions during July 2018 are as follows:

- July 6 Purchased \$600 of merchandise on account from Hobson Corporation for terms 1/10, net 30
- 9 Returned \$200 of defective merchandise
- 15 Paid the amount owing to Hobson.

Required: Prepare journal entries to record the above transactions.

CP 5-3

Boucher Corporation uses the perpetual inventory system. Its transactions during June 2017 are as follows:

- June 1 Boucher purchased \$1,200 of merchandise inventory from a supplier for terms 1/10, n 60.
- 3 Boucher sold all of the inventory purchased on June 1 for \$1,500 to Wright Inc. for terms 2/10, net 30.
- 8 Wright returned \$800 of defective merchandise 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.

CP 5-4

The following information is taken from the records of Smith Corp. at June 30, 2018, the fiscal year-end:

Advertising 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	72,000
Sales returns and allowances	2,000

Required:

1. Prepare a classified income statement.
 2. Compute gross profit percentage.
-

CP 5-5

Refer to the information in CP 5-4.

Required: Prepare all closing entries.



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CP 5-6

Consider the information for each of the following four companies.

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Opening inventory	\$?	\$ 184	\$ 112	\$750
Purchases	1,415	?	840	5,860
Cost of goods available	1,940	534	?	6,610
Ending inventory	340	200	135	?
Cost of goods sold	?	?	?	5,740

Required: Calculate the missing amounts.

CP 5-7

The following information is taken from the records of four different companies in the same industry:

	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Sales	<u>\$ 300</u>	<u>\$ 150</u>	<u>\$?</u>	<u>\$ 90</u>
Opening inventory	<u>?</u>	<u>40</u>	<u>40</u>	<u>12</u>
Purchases	<u>240</u>	<u>?</u>	<u>?</u>	<u>63</u>
Cost of goods available	<u>320</u>	<u>?</u>	<u>260</u>	<u>?</u>
Less: Ending inventory	<u>?</u>	<u>(60)</u>	<u>(60)</u>	<u>(15)</u>
Cost of goods sold	<u>?</u>	<u>100</u>	<u>200</u>	<u>60</u>
Gross profit	<u>\$ 100</u>	<u>\$?</u>	<u>\$ 100</u>	<u>\$?</u>
Gross profit percentage	<u>?</u>	<u>?</u>	<u>?</u>	<u>?</u>

Required:

1. Calculate the missing amounts.
2. Which company seems to be performing best? Why?

CP 5-8

Horne Inc. and Sperling Renovations Ltd. both sell goods and use the perpetual inventory system. Horne Inc. had \$3,000 of merchandise inventory at the start of its fiscal year, January 1, 2015. During the 2015, Horne Inc. had the following transactions:

- May 5 Horne sold \$4,000 of merchandise on account to Sperling Renovations Ltd., terms 2/10, net 30. Cost of merchandise to Horne from its supplier was \$2,500.
- 7 Sperling returned \$500 of merchandise received in error which Horne returned to inventory; Horne issued a credit memo. Cost of merchandise to Horne was \$300.
- 15 Horne received the amount due from Sperling Renovations Ltd.

Required: Prepare journal entries to record the above transactions and adjustment:

- a. In the records of Horne Inc.
- b. In the records of Sperling Renovations Ltd.



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CP 5-9 Recording Purchase and Sales Transactions

Below are the April, 2016 sales for Beautort Co.

- April 1 Purchased \$15,000 of merchandise for cash.
- April 3 Sold merchandise to a customer for \$8,000 cash. (Cost \$4,600)
- April 5 Purchased \$10,000 of merchandise from a supplier for terms 1/10, n30.
- April 7 Returned \$2,000 of damaged merchandise inventory from April 5 back to the supplier.
Supplier will repair the items and return them to their own inventory.
- April 8 Sold \$8,000 of merchandise for terms 2/10, n30. (Cost \$4,000). Agreed to pay shipping costs for the goods sold to the customer.
- April 9 Shipped the goods sold on April 8 to customer, fob shipping point for \$500 cash.
(Hint: Shipping costs paid to ship merchandise sold to a customer is not an inventory cost.)
- April 10 Customer from April 3 returned \$1,000 of unsuitable goods which were returned to inventory. (Cost \$400). Amount paid was refunded.
- April 10 Agreed to give customer from April 8 sale a sales allowance of \$200.
- April 12 Purchased inventory on account for \$22,000 for terms 1/10, n30.
- April 15 Paid amount owing for purchases on April 5.
- April 16 Paid \$600 for shipping on the April 12 purchase.
- April 18 Collected \$5,000 cash, net of discount, for the customer account owing from April 8.
- April 27 Paid for the April 12 purchase.
- April 27 Sold \$20,000 of merchandise inventory for cash (Cost \$10,000).

Required: Prepare the journal entries, if any, for Beautort Co. Round final entry amounts to the nearest whole dollar.

CP 5-10 Calculating Inventory and Cost of Goods Sold

Below is a table that contains two important calculations that link together to determine net income/(loss):

Inventory, opening balance	\$ 10,000	\$ 53,000	?	168,540	50,562
Plus: purchases	30,000	?	1,685,400	?	?
Total goods available for sale	?	212,000	2,247,200	?	657,306
Less: ending inventory	15,000	?	842,700	556,180	100,000
Cost of goods sold	?	132,500	?	?	?
Sales	?	240,000	1,600,000	900,000	?
Less: cost of goods sold	?	?	?	?	?
Gross profit	30,000	?	?	276,400	142,694
Less: operating expenses	12,000	?	275,000	?	?
Net income/(loss)	?	43,900	?	26,400	(2,306)
Gross profit/sales (%)	?	?	?	?	?

Required: Calculate the missing account balances using the relationships between these accounts. Percentage can be rounded to the nearest two decimal places.



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Problems

P 5-4

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
Merchandise 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
Office supplies	5,000

Required:

Prepare an income statement. List expenses other than cost of goods sold as other expenses. Assume all accounts have normal balances.

P 5-5 Recording Purchase and Sales Transactions

Below are transactions for March, 2016 for AngieJ Ltd.:

March 1	Purchased \$25,000 of merchandise on account for terms 2/10, n30.
March 3	Sold merchandise to a customer for \$5,000 for terms 1/10, n30. (Cost \$2,600)
March 4	Customer from March 3 returned \$200 of some unsuitable goods which were returned to inventory. (Cost \$100)
March 5	Purchased \$15,000 of merchandise from a supplier for cash and arranged for shipping, fob shipping point.
March 6	Paid \$200 for shipping on the March 5 purchase.
March 7	Contacted the supplier from March 5 regarding \$2,000 of merchandise with some minor damages. Supplier agreed to reduce the price and offered an allowance of \$500 cash, which was accepted.
March 8	Sold \$25,000 of merchandise for terms 1.5/10, n30. (Cost \$13,000). Agreed to pay shipping costs for the goods sold to the customer.
March 9	Shipped the goods sold on March 8 to customer, fob destination for \$500 cash. (Hint: Shipping costs paid to ship merchandise sold to a customer is an operating expense.)
March 11	Paid for the March 1 purchase to the supplier.
March 13	Collected the account owing from the customer from March 3.
March 15	Purchased office supplies on account for \$540 for terms 1/10, n30.
March 18	Ordered merchandise inventory from a supplier totalling \$15,000. Goods to be shipped on April 10, fob shipping point.
March 20	Collected \$6,010 cash from an account owing from two months ago. The early payment discount had expired.
March 25	Paid for the March 15 purchase.
March 27	Sold \$12,500 of merchandise inventory for cash (Cost \$5,000).

Required: Prepare the journal entries, if any, for AngieJ Ltd.



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P 5-6

Providence Corp. was incorporated on July 2, 2018 to operate a merchandising 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 Purchased \$3,500 merchandise on account from Blic Pens Ltd. for terms 2/10, n30
- 2 Sold merchandise on account to Spellman Chair Rentals Inc. for \$2,000, costing \$800.
- 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 merchandise 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 merchandise on account from Peel Products Inc. for terms n30
- 15 Sold merchandise on account to Eagle Products Corp. for \$2,000, cost \$500.
- 15 Purchased \$1,500 of merchandise 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 merchandise included in the July 8 purchase.
- 20 Sold merchandise on account to Aspen Promotions Ltd. for \$3,500 costing \$1,500
- 24 Paid Bevan Doors Inc. for the purchase made July 15 (less discount)
- 26 Sold merchandise on account to Longbeach Sales Ltd. for \$600, costing \$200.
- 26 Purchased \$800 of merchandise on account from Silverman Co. for terms 2/10, n30

Required: Prepare journal entries to record the July transactions.

CHAPTER 6

Assigning Costs to Merchandise

CHAPTER SIX

Assigning Costs to Merchandise

Recording transactions related to the purchase and sale of merchandise 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 merchandise inventory that remains on hand at the end of an accounting period are also explored.

Chapter 6 Learning Objectives

- L01 – Calculate cost of goods sold and merchandise inventory under specific identification, first-in first-out (FIFO), last in first out (LIFO) and weighted average cost flow assumptions, using the perpetual inventory system
- L02 – Explain the impact on financial statements of inventory cost flow assumptions and errors.
- L03 – Explain and calculate lower of cost and net realizable value inventory adjustments.
- L04 – Estimate merchandise inventory using the gross profit method and the retail inventory method.
- L05 – (Appendix) Calculate cost of goods sold and merchandise inventory under specific identification, first-in first-out (FIFO), last in first out (LIFO) and weighted average cost flow assumptions, using the periodic inventory system.



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A. Inventory Cost Flow Assumptions

LO1 – Calculate cost of goods sold and merchandise inventory under specific identification, first-in first-out (FIFO), last in first out (LIFO) 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, and transportation costs. 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 pound in October and \$7.00 a pound in November because of changes in weather conditions in South America. Therefore, each pound of coffee inventory may have a different cost depending on which pound 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 merchandise 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.

	<i>Purchase Transaction</i>	
<i>Date</i>	<i>Number of units</i>	<i>Price per unit</i>
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)*; *last in first out (LIFO)* 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 Merchandise Inventory and Cost of Goods Sold would show:

Merchandise Inventory					
Jun. 1	\$1				
5	2				
7	3				
21	4				
28	5				Cost of Goods Sold
		11	Jun. 30	→ 11	
End. Bal.	4				

Figure 6-2 Cost of Goods Sold using Specific Identification

The entry to record the June 30 sale on account would be:

Accounts Receivable	40	
Sales		40
<i>To record the sale of merchandise on account.</i>		
Cost of Goods Sold	11	
Merchandise Inventory		11
<i>To record the cost of the sale.</i>		



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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. Three 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 Merchandise Inventory and Cost of Goods Sold as illustrated in Figure 6-3 would show:

Merchandise Inventory				Cost of Goods Sold	
Jun. 1	\$1				
5	2				
7	3				
21	4				
28	5				
End. Bal.	5	10	Jun. 30	→ 10	

Figure 6-3 Cost of Goods Sold using FIFO

The entry to record the sale would be:

Accounts Receivable	40	
Sales		40
<i>To record the sale of merchandise on account.</i>		
Cost of Goods Sold	10	
Merchandise Inventory		10
<i>To record the cost of the sale.</i>		

Last-In, First-Out (LIFO) Cost Flow Assumption

The last-in, first-out (LIFO) method of assigning costs assumes that the most recent purchases are sold first. These more recent costs are charged to the goods sold, and the costs of the earliest purchases are assigned to inventory.

Using the information from the previous example, the last four units purchased are assumed to be the last four units sold under LIFO.

The cost of the four units sold is \$14 (\$2 + \$3 + \$4 + \$5). Sales still equal \$40, so gross profit under LIFO is \$26 (\$40 – \$14). The cost of the one remaining unit in ending inventory would be the cost of the first unit purchased (\$1).

The general ledger T-accounts for Merchandise Inventory and Cost of Goods Sold as illustrated in Figure 6-4 would show:

Merchandise Inventory					
Jun. 1	\$1				
5	2				
7	3				
21	4				
28	5				
		14	Jun. 30	→	14
End. Bal.	1				

Figure 6-4 Cost of Goods Sold using LIFO

The entry to record the sale would be:

Accounts Receivable	40	
Sales		40
<i>To record the sale of merchandise on account.</i>		

Cost of Goods Sold	14	
Merchandise Inventory		14
<i>To record the cost of the sale.</i>		

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 Merchandise Inventory and Cost of Goods Sold are:

Merchandise Inventory			
Jun. 1	\$1	} = \$15 total cost/5 units = \$3 avg.	
5	2		
7	3		
21	4		
28	5		
			12
End. Bal.	3		12
			↑
		4 units sold @ \$3 avg. cost/unit = \$12	

Figure 6-5 Cost of Goods Sold using Weighted Average

The entry to record the sale would be:

Accounts Receivable	40	
Sales		40
<i>To record the sale of merchandise on account.</i>		

Cost of Goods Sold	12	
Merchandise Inventory		12
<i>To record the cost of the sale.</i>		

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 merchandise is continuous. 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:

<u>Date</u>	<u>Number of units sold</u>
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.



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A partially-completed inventory record card is shown in Figure 6-5 below:

The card tracks the flow of *each type* of inventory.

Date	Purchased			Sold			Balance in Inventory		
	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 6-6 Inventory Record Card

In Figure 6-6, 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 reduction.

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 6-7.

Date	Purchased			Sold			Balance in Inventory		
	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 6-7 Inventory Record Card using Specific Identification

Notice in Figure 6-8 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, LIFO and weighted average.



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Date	Purchased			Sold			Balance in Inventory		
	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

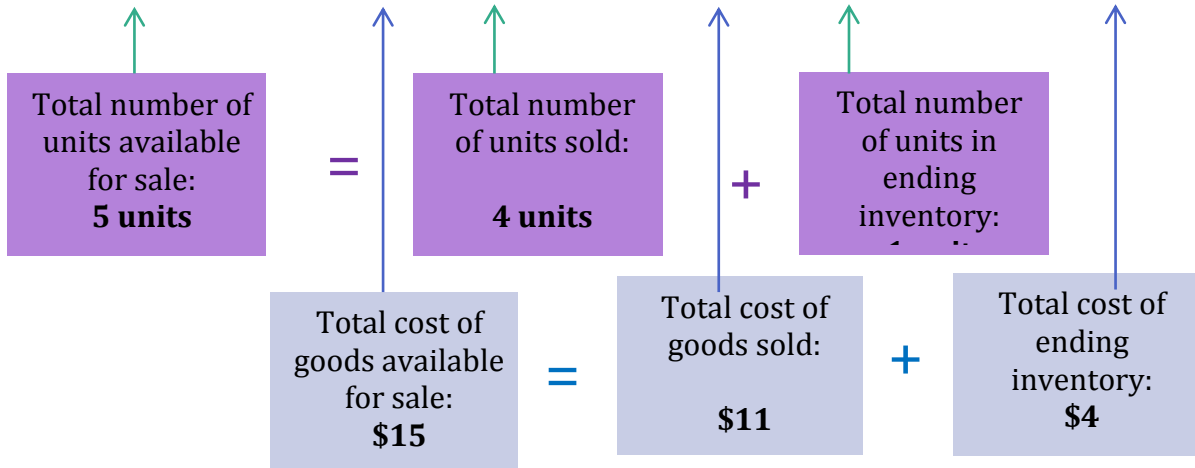


Figure 6-8 Total Number (or Cost) of Units Sold plus Total Number (or Cost) of Units in Ending Inventory equals Total Number (or Cost) of Units Available for Sale

Comprehensive Example—FIFO (Perpetual)

Using the same information, we now apply the FIFO cost flow assumption as shown in Figure 6-9.

Date	Purchased			Sold			Balance in Inventory		
	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@ 1@	\$5
8				1	\$2	\$2	1	\$3	\$3
21	1	\$4	\$4				2	1@ 1@	\$7
23				1	\$3	\$3	1	\$4	\$4
28	1	\$5	\$5				2	1@ 1@	\$9
29				1	\$4	\$4	1	\$5	\$5

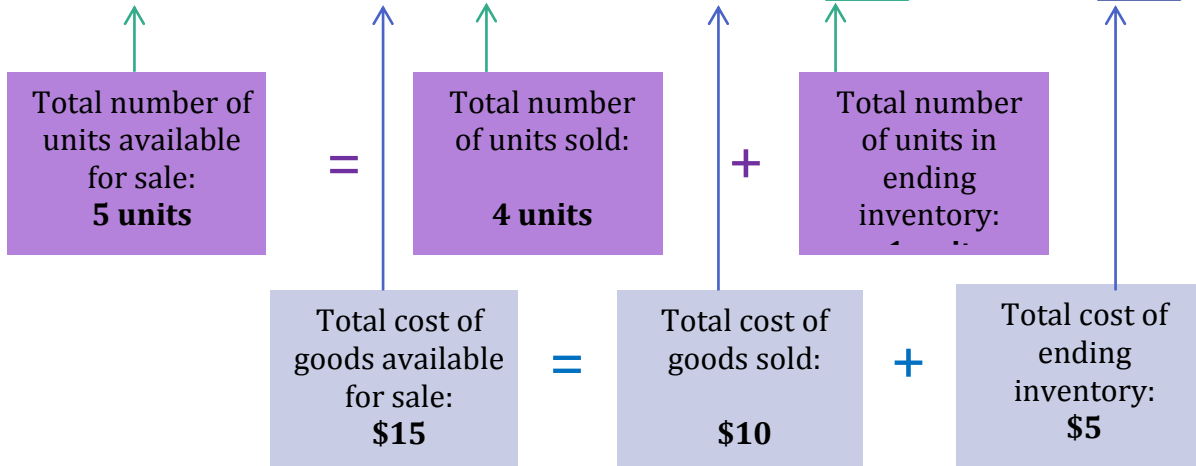


Figure 6-9 Inventory Record Card using FIFO (Perpetual)

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 6-9, 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



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purchased. In Figure 6-9, 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—LIFO (Perpetual)

Using the same information, we now apply the LIFO cost flow assumption as shown in Figure 6-10.

Date	Purchased			Sold			Balance in Inventory		
	Units	Unit Cost	Total \$	Units	Unit Cost	Total \$	Units	Unit Cost	Total \$
June 1	1	\$1	\$1				1	\$1	
3					\$1		1	1@\$1	\$1
5	1	\$2	\$2	1		\$2	1	1@\$2	\$2
7	1	\$3	\$3				2		\$3
8				1	\$2	\$3	1	\$3	
21	1	\$4	\$4				2	1@\$3 1@\$4	\$7
23				1	\$3	\$4	1		
28	1	\$5	\$5				2	1@\$5	\$5
29				1	\$4	\$5	1	\$9	\$1

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:
\$14

+

Total cost of ending inventory:
\$1

Figure 6-10 Inventory Record Card using LIFO (Perpetual)

When calculating the cost of the units sold in LIFO, the last unit in inventory will always be the first unit removed. For example, in Figure 6-10, on June 8, one unit is sold when the previous balance in inventory consisted of 2 units: 1 unit purchased on June 28 that cost \$5 and 1 unit purchased on June 21 that cost \$4. Because the unit costing \$5 was in inventory last (after the June 8 unit costing \$3),

the cost assigned to the unit sold on June 8 is \$3. Under LIFO, the last units into inventory are assumed to be the first units removed from inventory when calculating cost of goods sold. Therefore, under LIFO, ending inventory will always be the most recent units purchased. In Figure 6-10, there is one unit in ending inventory and it is assigned the \$1 cost of the most recent purchase which was made on June 1.

Comprehensive Example—Weighted Average (Perpetual)

The inventory record card transactions using weighted average costing are detailed in Figure 6-11. *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 \div 2 \text{ 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.

Date	Purchased			Sold			Balance in Inventory			Average Cost Calc.	
	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 6-11 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 ($\$8.25 \div 2 \text{ units} = \$4.125/\text{unit}$ 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



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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 6-12 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.

<i>Cost flow assumption</i>	<i>Total cost of goods available for sale</i>	<i>Total units available for sale</i>	<i>Total cost of goods sold</i>	<i>Total units sold</i>	<i>Total cost of ending inventory</i>	<i>Total units in ending inventory</i>
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
LIFO	15.00	5	14.00	4	1	1

Figure 6-12 Comparing Specific Identification, FIFO, LIFO and Weighted Average

Journal Entries

In Chapter 5 the journal entries to record the sale of merchandise 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 6-11).

Accounts Receivable	10.00	
Sales		10.00
<i>To record the sale of merchandise on account at \$10 per unit.</i>		

Cost of Goods Sold	3.25	
Merchandise Inventory		3.25
<i>To record the cost of the sale.</i>		

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 merchandise 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 *merchandise 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 Merchandise 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.



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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 6-13.

	<i>Spec. ident.</i>	<i>FIFO</i>	<i>Wtd. avg.</i>	<i>LIFO</i>
Sales (4 units @ \$10)	\$40.00	\$40.00	\$40.00	\$40.00
Cost of goods sold	11.00	10.00	10.88	14.00
Gross profit and net income	<u>\$29.00</u>	<u>\$30.00</u>	<u>\$29.12</u>	<u>\$26.00</u>
Ending inventory (on the balance sheet)	\$ 4.00	\$ 5.00	\$ 4.12	\$1.00

Figure 6-13 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. However, LIFO does the opposite of FIFO.

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 merchandise inventory at December 31, 2017, 2018, and 2019 was reported as \$2,000 and that merchandise 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.

Merchandise Inventory				2018	2019
Beg. Bal.	2,000		Sales	\$30,000	\$30,000
2018 Purch.	20,000	20,000 2018 COGS	COGS	20,000	20,000
2018 Bal.	2,000		Gross profit	\$10,000	\$10,000
2019 Purch.	20,000	20,000 2019 COGS			
2019 Bal.	2,000				

Figure 6-14 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.

Merchandise Inventory				2018	2019
Op. Bal.	2,000		Sales	\$30,000	\$30,000
2018 Purch.	20,000	20,000 2018 COGS	COGS	21,000	19,000
		1,000 Inv. Adj.	Gross profit	\$ 9,000	\$11,000
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.

Figure 6-15 Income Statement Effects, Error in 2018 Ending Inventory



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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.

	<i>Overstated inventory</i>	<i>Correct inventory</i>
Gross profit for 2018	\$10,000	\$ 9,000
Gross profit for 2019	<u>10,000</u>	<u>11,000</u>
Total	<u>\$20,000</u>	<u>\$20,000</u>

Figure 6-16 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 merchandise 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 merchandise 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 6-17 below.

	Total cost	Total NRV	LCNRV	
			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 6-17 LCMNRV 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 LCMNRV of \$2,600. Because the LCMNRV is lower than cost, an adjusting entry must be recorded as follows.

Cost of Goods Sold 50
 Merchandise Inventory 50
To adjust inventory to LCMNRV.

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 6-17 above show they have a combined cost of \$2,650 and a combined net realizable value of \$2,700. LCMNRV would therefore be \$2,650. In this case, the cost is equal to the LCMNRV so no adjusting entry would be required if applying LCMNRV on a group basis.

D. Estimating the Balance in Merchandise Inventory

LO4 – Estimate merchandise 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



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methods are based on a calculation of the gross profit percentage in the income statement. Assume the following information:

Sales		\$15,000	100%
<i>Cost of goods sold:</i>			
Opening inventory		\$ 4,000	
Purchases		12,000	
		<u>16,000</u>	
Cost of goods available for sale		16,000	
Less: Ending inventory		<u>(6,000)</u>	
Cost of goods sold		<u>10,000</u>	67%
Gross profit		<u>\$ 5,000</u>	<u>33%</u>

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.

<i>Cost of goods sold</i>	
Opening inventory	\$ 4,000
Purchases	<u>12,000</u>
Cost of goods available for sale	16,000
Less: Estimated ending inventory	<u>?</u>
Cost of goods sold	<u>\$10,000</u>

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	<u>10,000</u>
Equals what must still be on hand	<u>\$ 6,000</u>

<i>Cost of goods sold</i>	
Opening inventory	\$ 4,000
Purchases	<u>12,000</u>
Cost of goods available for sale	16,000
Less: Estimated ending inventory	<u>6,000</u>
Cost of goods sold	<u>?</u>

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	<u>6,000</u>
Equals what must have been sold	<u>\$10,000</u>

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.

<p>Sales (given) \$2,000</p> <p><i>Cost of goods sold</i></p> <p style="padding-left: 20px;">Opening inventory (given) \$ 200</p> <p style="padding-left: 20px;">Purchases (given) 1,100</p> <p style="padding-left: 20px;">Cost of goods available for sale 1,300</p> <p style="padding-left: 20px;">Less: Estimated ending inventory (100)</p> <p style="padding-left: 20px;">Cost of goods sold 1,200</p> <p>Gross profit \$ 800</p>	<div style="border: 1px solid #ccc; background-color: #e6e6fa; padding: 5px; width: fit-content;"> <p>Step 3: Ending inventory can be estimated ($\\$1,300 - 1,200 = 100$)</p> </div> <div style="border: 1px solid #ccc; background-color: #e6e6fa; padding: 5px; width: fit-content; margin-top: 10px;"> <p>Step 2: Cost of goods sold can be derived ($\\$2,000 - 800 = \\$1,200$)</p> </div> <div style="border: 1px solid #ccc; background-color: #e6e6fa; padding: 5px; width: fit-content; margin-top: 10px;"> <p>Step 1: Gross profit is estimated at \$800 ($\\$2,000 \times 40\%$).</p> </div>
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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.



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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% ($12/10 \times 100$). 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.

<p>Step 1: Opening inventory and purchases (and therefore cost of goods available for sale) are restated at retail (cost x 160%).</p>	<i>Six Months Ended June 30, 2019</i>	
	<i>At retail</i>	<i>At cost</i>
Sales (given)	\$2,000	\$2,000
<i>Cost of goods sold</i>		
{ Opening inventory (from records)	\$ 320	\$ 200
{ Purchases (from records)	<u>1,760</u>	<u>1,100</u>
{ Cost of goods available for sale	2,080	1,300
{ Less: Estimated ending inventory	<u>(80)</u>	<u>(50)</u>
{ Cost of goods sold	2,000	1,250
{ Gross profit	<u>\$ -0-</u>	<u>\$ 750</u>

Step 3: Ending inventory can be derived ($\$2,080 - 2,000 = \80).

Step 2: Cost of goods sold is restated at retail (equal to sales).

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 merchandise inventory under first-in first-out (FIFO), last in first out (LIFO) 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	XX	
	Sales		XX

No entry is made to record cost of goods sold and to reduce Merchandise 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
<i>Cost of goods sold</i>	
Opening inventory	\$ 1,000
Purchases	<u>5,000</u>
Goods available for sale	6,000
<i>Less: Ending inventory</i>	<u>(2,000)</u>
Cost of goods sold	<u>4,000</u>
Gross profit	<u>\$6,000</u>

Even under the periodic inventory system, however, inventory cost flow assumptions need to be made (FIFO, LIFO, and 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.



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Our original example using units assumed there was no opening inventory at June 1, 2018 and that purchases were made as follows.

<i>Date</i>	<i>Purchase Transaction</i>	
	<i>Number of units</i>	<i>Price per unit</i>
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:

<i>Purchases</i>		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:

FIFO	\$5
LIFO	1
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:

	<i>LIFO</i>	<i>FIFO</i>	<i>Wtd. avg.</i>
Sales	<u>\$40</u>	<u>\$40</u>	<u>\$40</u>
<i>Cost of goods sold</i>			
Opening inventory	-0-	-0-	-0-
Purchases	<u>15</u>	<u>15</u>	<u>15</u>
Goods available for sale	15	15	15
Less: Ending inventory	<u>(1)</u>	<u>(5)</u>	<u>(3)</u>
Cost of goods sold	<u>14</u>	<u>10</u>	<u>12</u>
Gross profit and net income	<u>\$26</u>	<u>\$30</u>	<u>\$28</u>
Ending inventory (balance sheet)	<u>\$ 1</u>	<u>\$ 5</u>	<u>\$ 3</u>

**Figure 6-18 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 FIFO (Figure 6-3), LIFO (Figure 6-4), and weighted average (Figure 6-5) cost flow assumptions, respectively.



Example: Calculate Ending Inventory and Cost of Goods Sold under FIFO, LIFO, and the Average methods using **Periodic Inventory System**

	<u>Brown</u>	<u>Electronics</u>		
<u>Date</u>	<u>Explanation</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Total Cost</u>
<u>Jan. 1</u>	<u>Beginning Inventory</u>	<u>200</u>	<u>\$11</u>	<u>\$2,200</u>
<u>March 16</u>	<u>Purchase</u>	<u>300</u>	<u>12</u>	<u>3,600</u>
<u>July 23</u>	<u>Purchase</u>	<u>400</u>	<u>13</u>	<u>5,200</u>
<u>Nov 18</u>	<u>Purchase</u>	<u>500</u>	<u>14</u>	<u>7,000</u>
	<u>Total units available for sale</u>	<u>1,400</u>		<u>\$18,000</u>
	<u>Units in ending inventory</u>	<u>600</u>		
	<u>Units sold</u>	<u>800</u>		

↓
Total cost of goods available for sale

Periodic Inventory System

This example explains how to determine the value of ending inventory, cost of goods sold and the effect on net income. Ending inventory value is determined by using either the FIFO method, which is the first in first out method, the LIFO method, which is the last in first out method, or an average method.

From the information above in the purchasing table, you will be asked to calculate the ending inventory values using the three methods I cited before, as well as the cost of goods sold on the three methods. And you may even be asked for what is the effect on the net income.

In order to solve this problem. The first thing I would suggest you do is to complete the table shown above for the Brown Electronics if it's not complete it, so that you'll have all the information you need. We do that by just determining total purchase for each of the various units segments we have.

For example, in beginning inventory, we had 200 units. They cost us \$11 each, so this will become \$2,200. The next item on March 16 we purchased 300 units at \$12 this becomes \$3,600. Then on July 23 we purchased another 400 at \$13 each, this becomes \$5,200. Finally, on November 18th we purchased an additional 500 units, at \$14, this becomes \$7,000.

Now let's determine a total cost, and total number of units, we have by adding up all these units, the number comes out to be 1,400 units. This means we have 1,400 units available for sale. Adding up the individual total cost gives us \$18,000. That means all the units,

all 1,400 units that we have available for sale, cost a total of \$18,000. We never add up the unit cost.

The next thing we need to know is how many of these units were sold by the end of the year, or how many units we have left at the end of the year. The problem tells us that 800 of the units were sold. Well, if 800 of the 1,400 units were sold, that means we still have 600 units on hand at the end of the year. We need to determine the value of those 600 units at the end of the year. And that's what our ending inventory value will be. I will calculate that under the FIFO, LIFO, and the average methods.

Calculating Ending Inventory under FIFO (first in - first out):

The FIFO method assumes that the unit's first purchased are the units you're going to sell first. So, if you had beginning inventory, it assumes that the beginning inventory on January 1st, 200 units, were sold first. Then the units that you purchased next on March 16, 300 units, were sold. So now we've accounted for 500 units. And remember, we have to account for 800 units, which means we only need 300 units. So 300 of the 400 units on July 23 were sold, which means 100 of these units are still inventory at the end of the year and they each cost us \$13 and that means that those units in inventory are valued at \$1300. Furthermore, we also know that we still have 500 units that were purchased on November 18 and these 500 units were purchased at \$14 per unit and they're valued at \$7,000. So we know now that are ending Inventory under FIFO is equal to \$8,300. That's the value of the 600 units that still remain unsold at the end of the year.

Calculating Ending Inventory Under FIFO	
100 units @ \$13/unit = 1,300	
<u>500 units @ \$14/unit = 7,000</u>	
600 units	\$8,300 Ending Inventory FIFO

Calculating Ending Inventory under LIFO (last in - first out):

For LIFO, it's the same process only in reverse. Let's look at LIFO.

We're going to calculate the ending inventory under LIFO, this means that the last units are sold first. So, the last units you purchased, the first units you sell. So, if we sold 800 units, these 500 units purchased on November 18 are sold first.

We need 300 units down and we get it from the 400 units purchased on July 23. Thus we know we sold 300 of those 400 units, which means we still have 100 of these units left at \$13 per unit. These units in inventory are valued at \$1,300. Furthermore, we also know that we still have 300 units that were purchased on March 16 and these 300 units were purchased at \$12 per unit and they're valued at \$3,600. And 200 units that were beginning inventory on January 1st, these 200 units were purchased at \$11 per unit, they're valued at \$2,200. So we know now that are ending Inventory under LIFO is equal to \$7,100. That's the value of the 600 units that still remain unsold at the end of the year.

<u>Calculating Ending Inventory Under LIFO</u>	
100 units @ \$13/unit =	1,300
300 units @ \$12/unit =	3,600
200 units @ \$11/unit =	2,200
600 units	\$7,100 Ending Inventory LIFO

Now, I want you to note that when we calculated the ending inventory on the FIFO method, noticed 100 units plus 500 units equals 600 remaining units. When you calculated the ending inventory under LIFO method, noticed that the 100 plus 300 plus 200 units equals to 600 remaining units.

Calculating Ending Inventory under Average Cost Method:

Now, when we go to the average method there, it's a little bit different from FIFO and LIFO methods. With the average method, you have to calculate a unit average cost first. Now, the one thing you do not do when you calculate unit average cost is adding up the individual unit cost and then divide them by the number of units. Don't never do that.

If you want to calculate the unit average cost, take the total cost of goods available for sale \$18,000 and divided by the total number of units available for sale 1,400 units, you get a unit price off \$12.86.

So let's see how that would work. Now what do you do to calculate the ending inventory under the average method is you take the 600 units that you know you'll have as an ending inventory, regardless of which ones they are, and multiply that by the \$12.86 average cost per unit. That gives you an ending inventory of \$7,716.

$$\text{Average cost per unit} = \frac{\text{Total cost of goods available for sale}}{\text{Total units available for sale}} = \frac{\$18,000}{1,400 \text{ units}} = \$12.86/\text{unit}$$

600 units @ \$12.86/unit = \$7,716 Ending Inventory under Average cost

To Calculate Cost of a Goods Sold Under FIFO:

Now, to calculate the cost of goods sold under the FIFO method, you need to understand that the \$18,000 for the total cost, that's the total cost of all the units we purchased or began a year with. Now, if we subtract the value of the ending inventory that we have at the end of the year; the difference will be the cost of goods sold.

In other words, the cost of goods sold under the FIFO method is equal to the cost of goods available for sale minus the ending inventory under FIFO. Which is the cost of goods available for sale \$18,000 minus the \$8,300 ending inventory under FIFO method.

And that is equal to a cost of goods sold of \$9,700. That's our cost of goods sold under FIFO.

Total cost of goods available for sale	\$18,000
<u>Less: Ending Inventory FIFO</u>	<u>8,300</u>
COGS FIFO	\$9,700

To Calculate Cost of a Goods Sold Under LIFO:

To calculate the cost of goods sold under LIFO, you use the same formula you used before to calculate cost of goods sold under FIFO. The cost of goods sold under LIFO method is equal to the same \$18,000 which represents the total cost of goods available for sale minus the ending inventory, which is \$7,100 and that is your cost of goods sold of \$10,900.

You see that the two methods give you two very different results.

Total cost of goods available for sale	\$18,000
<u>Less: Ending Inventory LIFO</u>	<u>7,100</u>
COGS LIFO	\$10,900

To Calculate Cost of a Goods Sold Under Average Cost:

To calculate the cost of goods sold under the average method. Again, take the \$18,000 which is the total cost of goods available for sale minus the ending inventory under the average method which is \$7,716. And that gives you a cost of goods sold of \$10,284. That's equal to the cost of goods sold under the average method.

Total cost of goods available for sale	\$18,000
<u>Less: Ending Inventory Average</u>	<u>7,716</u>
COGS Average Cost	\$10,284

Determine the effect of each valuing inventory method on net income:

Now that you've determined the value of the ending inventory using the FIFO, the LIFO, and the average methods, you've also determined the value of the cost of goods sold using each of the three methods.

The rest of the problem, we will assume that sales in each case is \$16,000 and we want to determine the effect of each method of valuing inventory method on net income.

Recall that sales minus cost of goods sold equals the gross profit. So what we'll do here is we look at each method, will look at the FIFO method, look at the LIFO method and we'll look at the average method, and calculate the gross profit for each method. We know that sales is assumed to be \$16,000 under each method. What changes under each method is the cost of goods sold. For example, under the FIFO method, cost of goods sold was \$9,700. So, will subtract \$9,700 from sales \$16,000 to have gross profit amount under FIFO which is \$6,300. under the LIFO method, cost of goods sold was \$10,900. So, let's subtract \$10,900 from total sales \$16,000 to calculate gross profit under LIFO method to be \$5,100.

We will do the same thing under the average method, we will subtract cost of goods sold of \$10,284 from total sales \$16,000 to calculate gross profit to be \$5,716 under the average method.

- Let's assume our sales is \$16,000 under all Inventory costing method, what's our gross profit?

	FIFO	LIFO	Average Cost
Sales	\$16,000	\$16,000	\$16,000
Less: COGS	(9,700)	(10,900)	(10,284)
Gross Profit	\$6,300	\$5,100	\$5,716
Less: Selling & Admin Exp	(3,000)	(3,000)	(3,000)
Net Income	\$3,300	\$2,100	\$2,716

We see that in this scenario here of increasing unit prices, noticed the prices are increasing, the FIFO results in the largest gross profit, assuming that the selling and administrative expenses below gross profit are the same in all three cases than the FIFO method in an increasing price environment will result in the largest net income.

Noticed that in an increasing price environment, the LIFO method result in the lowest gross profit. And again, assuming the selling and administrative expenses are the same in all cases, the LIFO method would give you the lowest net income and the average method falls somewhere in between.

This is important to note that this result because of unit costs are increasing in an inflationary environment has caused increased FIFO ending inventory which tends to give you the largest gross profit, hence the largest net income again, assuming selling and administrative expenses are equal in all three cases. If this were a deflationary price period where prices are actually decreasing than all of this would be reversed.

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

Concept Self-check

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, LIFO 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, LIFO 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

Laplante Inc. uses the perpetual inventory system. The following transactions took place during January 2019

<i>Date</i>		<i>Units</i>	<i>Unit Cost</i>
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, and ending inventory under the following inventory cost flow assumptions:

1. FIFO, LIFO
2. Weighted average.

<i>Date</i>	<i>Purchased</i>			<i>Sold</i>			<i>Balance in Inventory</i>		
	<i>Units</i>	<i>Unit Cost</i>	<i>Total \$</i>	<i>Units</i>	<i>Unit Cost</i>	<i>Total \$</i>	<i>Units</i>	<i>Unit Cost</i>	<i>Total \$</i>
Jan. 1							100	\$1	\$100
7									
9									
21									
24									



CP 6-2

ABBA uses the perpetual inventory system. The following transactions took place in January 2017.

<i>Date</i>		<i>Units</i>	<i>Unit Selling Price/ Cost</i>
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. Calculate the ending inventory under the three-cost flow assumption: a) FIFO, b) LIFO, and c) weighted average.
 2. Assume ABBA uses the FIFO and LIFO inventory cost flow assumption
 - a. Show calculations for cost of goods sold for both inventory methods.
 3. Assume ABBA uses the weighted average inventory cost flow assumption
 - a. Show calculations for cost of goods sold.
-

CP 6-3

The following information is taken from the records of East Oak Distributors Inc. The company uses the perpetual inventory system.

<i>Date</i>		<i>Units</i>	<i>Unit Cost/Price</i>
May 1	Opening Inventory	100	\$1
5	Sale #1	80	5
6	Purchase #1	200	2
12	Purchase #2	125	3
13	Sale #2	300	5
19	Purchase #3	350	2
29	Purchase #4	150	1
30	Sale #3	400	5

Required:

- Calculate cost of goods sold and the cost of ending inventory under each of the following inventory cost flow assumptions:
 - FIFO
 - LIFO
 - Weighted average.
- Complete the following partial income statements:

	<i>FIFO</i>	<i>LIFO</i>	<i>Wtd. Avg.</i>
Sales	\$ _____	\$ _____	\$ _____
Cost of goods sold	_____	_____	_____
Gross profit	=====	=====	=====

- Which costing method would you choose if you wished to maximize net income? Maximize ending inventory value?



CP 6-4

Required: Choose the method of inventory valuation that corresponds to each of the statements that follow:

1. FIFO
2. Weighted average.
3. LIFO

___ 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

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.

Errors	2017 Statements				2018 Statements			
	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.



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CP 6-6

Partial income statements of Lilydale Products Inc. are reproduced below:

	2019	2020	2021
Sales	\$30,000	\$40,000	\$50,000
Cost of Goods Sold	<u>20,000</u>	<u>23,000</u>	<u>25,000</u>
Gross Profit	<u>\$10,000</u>	<u>\$17,000</u>	<u>\$25,000</u>

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

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

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 $33\frac{1}{3}$ 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

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

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.



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CP 6-11 (Appendix)

On March 15, 2017, Sudden Sales Co. purchased \$5,000 of merchandise 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-.
-

CP 6-12 (Appendix)

Bouchard Inc. uses a periodic inventory system.

	<i>Units</i>	<i>Unit Cost</i>
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 ending inventory, cost of a good sold, and gross profit for each of:

1. FIFO
2. LIFO
3. Weighted average.

	<u>FIFO</u>	<u>LIFO</u>	<u>Wtd. average</u>
Sales	\$1,200	\$1,200	\$1,200
<i>Cost of goods sold</i>			
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.

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.

Required: Calculate

1. Ending inventory under LIFO
2. Ending inventory under FIFO
3. Ending inventory under weighted average.
4. Cost of goods sold under LIFO
5. Cost of goods sold under FIFO
6. Cost of goods sold under weighted average.



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CP 6-14 (Appendix)

The following information is taken from the records of West End Distributors Inc. The company uses the periodic inventory system.

	<i>Units</i>	<i>Unit cost</i>
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. LIFO
 - c. Weighted average.
2. Complete the following partial income statements:

	<u>FIFO</u>	<u>LIFO</u>	<u>Wtd. average</u>
Sales	\$1,450	\$1,450	\$1,450
<i>Cost of goods sold</i>			
Opening inventory			
Purchases			
Cost of goods available			
Less: Ending inventory	_____	_____	_____
Cost of goods sold	_____	_____	_____
Gross profit	=====	=====	=====

CP 6-15

Sam company reports the following beginning inventory and purchases, and it ends the period with 40 units in inventory.

Beginning inventory 100 units at \$11 cost per unit
Purchase 1 40 units at \$12 cost per unit
Purchase 2 20 units at \$13 cost per unit

- a. Compute ending inventory using the FIFO periodic system.
- b. Compute cost of goods sold using the LIFO periodic system.



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Problems

P 6-1

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.

<i>Purchases</i>				<i>Sales</i>		
		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, LIFO, and weighted average inventory cost flow assumptions. Set up a table as follows:

<i>Date</i>	<i>Purchased</i>			<i>Sold</i>			<i>Balance in inventory</i>		
	<i>Units</i>	<i>Unit cost</i>	<i>Total \$</i>	<i>Units</i>	<i>Unit cost</i>	<i>Total \$</i>	<i>Units</i>	<i>Unit cost</i>	<i>Total \$</i>
							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

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:

		<i>Purchases</i>				<i>Sales</i>	
		<i>Units</i>	<i>Unit cost</i>			<i>Units</i>	<i>Unit sell. price</i>
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. Calculate ending inventory and COGS under a) FIFO, b) LIFO and c) weighted average inventory cost flow assumptions.
2. Calculate the amount of gross profit for the year under FIFO, LIFO and weighted average inventory cost flow assumptions. Which method matches cost of goods sold more closely with revenues? Why?



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P 6-3

Southern Cross Company Limited made the following purchases and sales of Products A and B during the year ended December 31, 2018:

		<i>Product A</i>	
		<i>Units</i>	<i>Unit cost/ selling price</i>
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

		<i>Product B</i>	
		<i>Units</i>	<i>Unit cost/ selling price</i>
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

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:

Date	Purchased			Sold			Balance in inventory		
	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. LIFO
 - 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

Partial income statements of Schneider Products Inc. are reproduced below:

	<i>2017</i>	<i>2018</i>
Sales	\$50,000	\$50,000
Cost of goods sold	<u>20,000</u>	<u>23,000</u>
Gross profit	<u>\$30,000</u>	<u>\$27,000</u>

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

The year-end inventory of Goodall Inc. consisted of the following similar groups of items, priced at cost and at net realizable value:

<i>Item</i>	<i>Cost</i>	<i>NRV</i>
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

Reflex Corporation sells three products. The inventory valuation of these products is shown below for years 2018 and 2019.

	2018			2019		
	<i>Cost</i>	<i>Market</i>	<i>Unit basis (LCNRV)</i>	<i>Cost</i>	<i>Market</i>	<i>Unit basis (LCNRV)</i>
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
<i>Cost of goods sold</i>		
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

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	6
Selling commissions expense	3
Administrative expenses	

Required: Calculate the estimated ending inventory.

P 6-9

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:

	<i>At retail</i>	<i>At cost</i>
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)

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:

	<i>Ending inventory</i>		
	<i>2018</i>	<i>2019</i>	<i>2020</i>
LIFO	\$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:

	<i>2018</i>	<i>2019</i>	<i>2020</i>
Sales	<u>\$1,000</u>	<u>\$1,200</u>	<u>\$1,150</u>
Purchases	<u>1,280</u>	<u>1,100</u>	<u>1,010</u>

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:

	<i>2018</i>	<i>2019</i>	<i>2020</i>
Sales	\$1,000	\$1,200	\$1,150
<i>Cost of goods sold</i>			
Opening inventory	-0-	?	?
Purchases	1,280	?	?
<i>Less: Ending inventory</i>	<u>(360)</u>	<u>?</u>	<u>?</u>
Cost of goods sold	<u>920</u>	<u>?</u>	<u>?</u>
Gross profit/net income	<u>\$ 80</u>	<u>\$ 140</u>	<u>\$ 60</u>



P 6-11 (Appendix)

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.

		<i>Units</i>	<i>Unit Cost</i>
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, LIFO, and weighted average inventory cost flow assumptions as follows:

	<i>Units</i>	<i>FIFO</i>	<i>LIFO</i>	<i>Wtd. avg.</i>
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, LIFO, and weighted average inventory cost flow assumptions. . For 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, LIFO, and weighted average inventory cost flow assumptions. Set up a table as follows:

	<i>Units</i>	<i>FIFO</i>	<i>LIFO</i>	<i>Wtd. avg.</i>
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 LIFO;
 - b. Using a FIFO cost flow method instead of LIFO.
 5. What method of cost flow would you recommend in this case? Why?
-

P 6-12 (Appendix)

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.

<i>Goods available for sale</i>			<i>Sales</i>		
	<i>Units</i>	<i>Unit cost</i>		<i>Units</i>	<i>Unit sell. price</i>
Opening Inventory	25	\$5	Sale #1	30	\$6
Purchase #1	15	\$4	Sale #2	20	\$4
Purchase #2	10	\$3	Sale #3	50	\$2
Purchase #3	35	\$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 and LIFO
 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?
-



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P 6-13 (Appendix)

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, LIFO, 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)

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:

	<i>Rising prices</i>		<i>Falling prices</i>	
	<i>FIFO</i>	<i>Wtd. avg.</i>	<i>FIFO</i>	<i>Wtd. avg.</i>
Sales	\$5,000	\$5,000	\$5,000	\$5,000
<i>Cost of goods sold</i>				
Opening inventory	\$1,000			
Purchases	6,000			
Cost of goods avail.	<u>7,000</u>	<u>?</u>	<u>?</u>	<u>?</u>
Ending inventory*	<u>3,000</u>	<u>?</u>	<u>?</u>	<u>?</u>
Cost of goods sold	<u>4,000</u>	<u>?</u>	<u>?</u>	<u>?</u>
Gross profit	<u>\$1,000</u>	<u>\$?</u>	<u>\$?</u>	<u>\$?</u>

* 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 7

Internal Control and Cash

CHAPTER SEVEN

INTERNAL CONTROL and CASH

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.

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.



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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 exercise 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.
- Ensure human recourse control
- Payments made using non-cash means: Checks 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 checks.
- Documentation: Standardizing documents used for financial transactions, such as invoices, internal materials requests, inventory receipts and travel expense reports, can help to maintain consistency in record keeping over time.
- Access Control: Controlling access to different parts of an accounting system via passwords, lockouts and electronic access logs can keep unauthorized users out of the system while providing a way to audit the usage of the system to identify the source of errors or discrepancies
- Assigning specific duties to each employee
- Rotating employee job assignments
- Apply Technological control

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 check 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 check. 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 check is prepared for the amount of the fund. The custodian of the fund cashes the check 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 check 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 check is issued for the purpose of establishing a petty cash fund.

The journal entry is:

Petty Cash	200	
Cash		200
<i>To establish the \$200 petty cash fund.</i>		

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 check for \$190.



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Delivery Expense	100	
Postage Expense	35	
Office Supplies Expense ¹	55	
Cash		190
<i>To reimburse the petty cash fund.</i>		

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 check. 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	100	
Postage Expense	35	
Office Supplies Expense	55	
Cash Over/Short Expense	2	
Cash		192
<i>To reimburse the petty cash fund and account for the \$2 shortage.</i>		

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:

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.

Delivery Expense	100
Postage Expense	35
Office Supplies Expense	55
Cash Over/Short Exp.	4
Cash	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 check 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 Co. is shown in Figure 7-1:



[Link to Original](#)



[Link to Original](#)

Big Dog Carworks Co. 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 checks										
These checks have been issued by the company, but have not yet cleared the bank. They are called reconciling items.		<table border="0"> <thead> <tr> <th>Check No.</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>580</td> <td>\$4,051</td> </tr> <tr> <td>599</td> <td>196</td> </tr> <tr> <td>600</td> <td><u>7</u></td> </tr> </tbody> </table>	Check No.	Amount	580	\$4,051	599	196	600	<u>7</u>		
Check No.	Amount											
580	\$4,051											
599	196											
600	<u>7</u>											
Adjusted general ledger Cash balance at Mar. 31	<u>\$20,673</u>	Adjusted bank balance at Mar. 31	<u>\$20,673</u>	(4,254)								
				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 checks that have been recorded in BDC's general ledger Cash account totalling \$4,254 that have not yet been presented and accepted for payment (or been *cleared*) by the bank. Checks 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 checks**. Outstanding checks cause the bank statement balance to be overstated compared to the company's records. These checks 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 checks 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 checks (subtracted)
- Bank charges (subtracted)
- Book errors (added or subtracted, depending on the nature of the error)

Bank reconciling items

- Deposits in transit (added)
- Outstanding checks (subtracted)
- Bank errors (added or subtracted, depending on the nature of the error)

General Ledger Reconciling Items

The collection of notes receivable² 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.

Checks 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 check. NSF checks must be subtracted from the unreconciled general ledger Cash balance of cash on the bank reconciliation.

Checks 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 check was "stale-dated" – issued too long ago; was unsigned or illegible; or shows the wrong account

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.



number). Returned checks cause the general ledger Cash account to be overstated compared to the bank statement. These returned checks 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 check 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 check for \$250 but recorded it in the records as \$520, the \$270 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 check 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 check clears the bank. Outstanding checks mean that the bank statement balance is overstated. Therefore, outstanding checks 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 check 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 BDC 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.



[Link to Original](#)



[Link to Original](#)

The opening balance agrees to the March 31 general ledger balance shown on the bank reconciliation in Fig. 7-2

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 checks issued are as follows:

<i>Deposits</i>		<i>Checks</i>	
<i>Date</i>	<i>Amount</i>	<i>No.</i>	<i>Amount</i>
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	<u>\$9,482</u>	Total	<u>\$8,226</u>

These totals agree to the Cash general ledger account debits and credits in Figure 7-2.



The bank statement issued by BDC's bank is as follows:

<i>Second Chartered Bank Big Dog Carworks Co. Bank Statement Month Ended April 30, 2017</i>				
<i>Date</i>	<i>Type</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>
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. = check 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 Co. 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 checks shown on the bank statement with checks recorded as cash disbursements in the company's records.

- a. Review the prior month's bank reconciliation and ensure that outstanding checks have cleared the bank in the subsequent month.

In the company records:

These checks were recorded in March; therefore, the cash balance per the general ledger is correctly stated.

In the bank statement:

These outstanding March checks may not have cleared the bank in April. If some of the checks have not yet been paid, the bank's balance is overstated at April 30 by the amount of these checks.

The outstanding checks on the March 31 bank reconciliation are shown in Figure 7-1 and reproduced below.



[Link to Original](#)



[Link to Original](#)

Checks clearing the bank are marked with an 'x' on the prior month's outstanding check list and on the April bank statement, as follows:

<i>Check No.</i>	<i>Amount</i>
580	\$4,051 x
599	196 x
600	7 x

<i>Date</i>	<i>Type</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>
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 checks (# 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 checks.

- b. Compare the checks clearing the bank in April with the checks recorded as April cash disbursements. Cleared items are marked with an 'x' on the April check list and the April bank statement:

<i>Check No.</i>	<i>Amount</i>	
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	<u><u>\$8,226</u></u>	

These April checks are still outstanding.

<i>Date</i>	<i>Type</i>	<i>Out</i>		<i>In</i>	<i>Balance</i>
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 checks were recorded in April; therefore, the general ledger Cash balance is correctly stated.

In the bank statement:

These outstanding checks were not paid by the bank in April. Therefore, the unreconciled bank balance on April 30 of \$24,023 is overstated.

The outstanding checks must be deducted from the unreconciled bank statement balance on the bank reconciliation, as follows:

Big Dog Carworks Co. 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
		<i>Less: Outstanding checks</i>	
		<i>Check No.</i>	<i>Amount</i>
		606	\$ 287
		607	1,364
		608	100
		609	40
		610	<u>1,520</u>
			(3,311)

Step 3

Other disbursements made by the bank but not recorded in the company records are identified and marked with an 'x'.

<i>Date</i>	<i>Type</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>
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 check of John Donne for \$180.

In the company records:

The check of John Donne had originally been recorded as a cash receipt (a payment on account). During April, no entry was made regarding this returned check; 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 check.

In reconciling the cash balances shown in the general ledger and on the bank statement, this returned check 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 check 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 check does not belong to Big Dog and does not require any change in its accounting records.

In the bank statement:

The check 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 checks 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 Co. Bank Reconciliation At April 30, 2017																																						
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Unreconciled general ledger Cash balance at Apr. 30</td> <td style="width: 10%; text-align: right;">\$21,929</td> <td style="width: 10%;"></td> </tr> <tr> <td>Less: Bank charges</td> <td style="text-align: right;">\$ 6</td> <td></td> </tr> <tr> <td style="padding-left: 20px;">NSF Check – J. Donne</td> <td style="text-align: right;"><u>180</u></td> <td style="text-align: right;"><u>(186)</u></td> </tr> </table>	Unreconciled general ledger Cash balance at Apr. 30	\$21,929		Less: Bank charges	\$ 6		NSF Check – J. Donne	<u>180</u>	<u>(186)</u>		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Unreconciled bank statement balance at Apr. 30</td> <td style="width: 10%; text-align: right;">\$24,023</td> <td style="width: 10%;"></td> </tr> <tr> <td>Add: Check deducted in error</td> <td></td> <td style="text-align: right;">31</td> </tr> <tr> <td>Less: Outstanding checks</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Check No.</td> <td style="padding-left: 20px;">Amount</td> <td></td> </tr> <tr> <td style="padding-left: 40px;">606</td> <td style="padding-left: 20px;">\$ 287</td> <td></td> </tr> <tr> <td style="padding-left: 40px;">607</td> <td style="padding-left: 20px;">1,364</td> <td></td> </tr> <tr> <td style="padding-left: 40px;">608</td> <td style="padding-left: 20px;">100</td> <td></td> </tr> <tr> <td style="padding-left: 40px;">609</td> <td style="padding-left: 20px;">40</td> <td></td> </tr> <tr> <td style="padding-left: 40px;">610</td> <td style="padding-left: 20px;"><u>1,520</u></td> <td style="text-align: right;">(3,311)</td> </tr> </table>	Unreconciled bank statement balance at Apr. 30	\$24,023		Add: Check deducted in error		31	Less: Outstanding checks			Check No.	Amount		606	\$ 287		607	1,364		608	100		609	40		610	<u>1,520</u>	(3,311)
Unreconciled general ledger Cash balance at Apr. 30	\$21,929																																					
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Check No.	Amount																																					
606	\$ 287																																					
607	1,364																																					
608	100																																					
609	40																																					
610	<u>1,520</u>	(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:

<i>Date</i>	<i>Amount</i>	
April 5	\$1,570	x
10	390	x
23	5,000	x
28	1,522	x
30	<u>1,000</u>	←
Total	<u>\$9,482</u>	

This April deposit is still in transit.



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<i>Date</i>	<i>Type</i>	<i>Out</i>	<i>In</i>	<i>Balance</i>
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 Co.
Bank Reconciliation
At April 30, 2017

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Unreconciled general ledger Cash balance at Apr. 30</td> <td style="width: 20%; text-align: right;">\$21,929</td> </tr> <tr> <td>Less: Bank charges</td> <td style="text-align: right;">\$ 6</td> </tr> <tr> <td style="padding-left: 20px;">NSF Check - J. Donne</td> <td style="text-align: right;"><u>180</u></td> </tr> <tr> <td></td> <td style="text-align: right;"><u>(186)</u></td> </tr> </table>	Unreconciled general ledger Cash balance at Apr. 30	\$21,929	Less: Bank charges	\$ 6	NSF Check - J. Donne	<u>180</u>		<u>(186)</u>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Unreconciled bank statement balance at Apr. 30</td> <td style="width: 20%; text-align: right;">\$24,023</td> </tr> <tr> <td>Add: Check deducted in error</td> <td style="text-align: right;">31</td> </tr> <tr> <td style="padding-left: 20px;">Outstanding deposit</td> <td style="text-align: right;"><u>1,000</u></td> </tr> <tr> <td></td> <td style="text-align: right;">25,054</td> </tr> <tr> <td>Less: Outstanding checks</td> <td></td> </tr> <tr> <td style="padding-left: 20px;"><i>Check No.</i></td> <td style="text-align: right;"><i>Amount</i></td> </tr> <tr> <td style="padding-left: 40px;">606</td> <td style="text-align: right;">\$ 287</td> </tr> <tr> <td style="padding-left: 40px;">607</td> <td style="text-align: right;">1,364</td> </tr> <tr> <td style="padding-left: 40px;">608</td> <td style="text-align: right;">100</td> </tr> <tr> <td style="padding-left: 40px;">609</td> <td style="text-align: right;">40</td> </tr> <tr> <td style="padding-left: 40px;">610</td> <td style="text-align: right;"><u>1,520</u></td> </tr> <tr> <td></td> <td style="text-align: right;"><u>(3,311)</u></td> </tr> </table>	Unreconciled bank statement balance at Apr. 30	\$24,023	Add: Check deducted in error	31	Outstanding deposit	<u>1,000</u>		25,054	Less: Outstanding checks		<i>Check No.</i>	<i>Amount</i>	606	\$ 287	607	1,364	608	100	609	40	610	<u>1,520</u>		<u>(3,311)</u>
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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 Co. Bank Reconciliation At April 30, 2017																																																																						
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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 checks should clear the bank in May. The \$31 check 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 BDC'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 check	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.



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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 BDC makes a \$1,000 sale to a customer who uses a credit card that charges BDC a fee of 2%; the cost of the sale is \$750.

BDC would record the following entries:

Cash	980	
Bank Charges Expense	20	
Sales		1,000
<i>To record sale and related credit card fee.</i>		
Cost of Good Sold	750	
Merchandise Inventory		750
<i>To record cost of sales.</i>		

The credit card fee is calculated as the \$1,000 sale x 2% = \$20. This means that BDC 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.

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

Concept Self-check

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 check?
-



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Comprehension Problems

CP 7-2

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. check deducted in error by bank	200
December deposit recorded by the bank January 3, 2018	700
December checks not yet paid by bank in December	
#631	\$354
#642	746
#660	200
#661	300
	<u>\$1,600</u>

Required: Prepare a bank reconciliation and all necessary adjusting journal entries at December 31, 2017.

CP 7-3

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 check amounting to \$700 and deposited on March 15 was returned NSF with the bank statement.
- c. Check #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 check for \$250 belonging to Global Corp. but charged by the bank to Gladstone Ltd. was included with the cancelled checks returned by the bank.
- f. There were \$622 of outstanding checks 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.



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CP 7-4

Rommy Company deposits all cash receipts on the day when they are received and it makes all cash payments by check. At the close of business on June 30, 2016, its Cash account shows an \$11,352 debit balance. Rommy's June 30 bank statement shows \$10,332 on deposit in the bank. Prepare a bank reconciliation for Rommy Company using the following information.

- a) Outstanding checks as of June 30 total \$1,713.
- b) The June 30 bank statement included a \$23 debit memorandum for bank services; Rommy has not yet recorded the cost of these services.
- c) In reviewing the bank statement, a \$90 check written by Rommy Company was mistakenly recorded in Rommy Company's books at \$99.
- d) June 30 cash receipts of \$2,724 were placed in the bank's night depository after banking hours and were not recorded on the June 30 bank statement.
- e) The bank statement included a \$5 credit for interest earned on the cash in the bank.

Required:

1. Prepare a bank reconciliation at June 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 June 30 bank reconciliation.

Problems

P 7-1

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.
-



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P 7-2

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 check was not returned with the bank statement though it was paid by the bank.
- Checks 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 check, which should have been charged to Gagetown Ltd.
- A \$350 check 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 check 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

Gibson Energy Ltd. controls its cash by depositing receipts on a daily basis and making all disbursements by check. 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 check, originally received as payment for an account receivable of \$130, is included. A memo for bank charges of \$10 is also included. Another memo advises 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. Checks written during November but not included with the bank statement are no. 1154, \$32; no. 1192, \$54; no. 1193, \$83; no. 1194, \$109.
- d. Check no. 1042 is returned with the bank statement. The check was made for \$494, the correct amount owing for office expense. The check was recorded in the company records as \$548.
- e. Checks outstanding at the end of October included checks no. 1014 for \$152 and no. 1016 for \$179. Check no. 1016 was paid in the bank statement; check 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.
-



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CHAPTER 8

Receivables

CHAPTER EIGHT

Receivables

This chapter focuses on one type of current assets – receivables. 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 balance sheet method. Actual account receivables are written off when judged to be uncollectible. Write-offs can be subsequently recovered. The journalizing of notes receivable and related interest revenue is also discussed in this chapter.

Chapter 8 Learning Objectives

- L01 – Types of Receivables.
- L02 – Explain, calculate, and record estimated uncollectible accounts receivable and subsequent write-offs and recoveries.
- L03 – Explain and record short-term notes receivable and calculate related interest.

A. Types of Receivable

LO4 – Explain, calculate, and record estimated uncollectible accounts receivable and subsequent write-offs and recoveries.

Account Receivable - Amounts due from credit customers. Result from prior sales on account, are normally expected to be collected within a relatively short period, such as 30 or 60 days.

Notes Receivable - Amounts due from borrowers who have taken out loans, or issued Promissory Notes.

Other receivables

Receivables such as interest receivable which are not a result of business operations.

Unfortunately, not all receivables are collected. This section discusses issues related to accounts receivable and their collection.

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.

Two methods are used in accounting for uncollectible accounts:

1. The direct write-off method
2. The allowance method

The Direct Method

Under the Direct Method, there is no need to estimate how much is going to be written off during the upcoming year because the actual write-off of a customer's account takes place only when the company decides to write-off a specific customer's account.

To Write Off a Specific (Customer) Account

Example: Assume that we write one of our customers account receivable, John Doe's \$500 off because he left the country without paying.



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When a customer account is written off using this method, the journal entry is:

Bad debt expense	500
A/R – J. Doe	500

To write off John Doe account

This journal entry is repeated as often as accounts are written off.

What happens if payment is received after a customer has been written off?

Let's say John Doe came back and he decided to pay us, how would we record the journal entry:

In this case, the journal entry that was made to write the account off is simply reversed:

A/R – J. Doe	500
Bad debt expense	500

To reinstate a previously written off account

After the above reversing entry is made, just simply create the journal entry to record the payment,

Cash	500
A/R – J. Doe	500

Received payment from customer.

The direct write-off method violates the matching principle which requires that the expense of uncollectable accounts to be matched with the related revenue for any specific period. Therefore, many companies can't use the direct write-off method because it violate GAAP and these companies must use a different method, "the allowance method".

The Allowance Method

When companies use the allowance method, they estimate bad debt expenses at the end of the period. Under the Allowance Method, it is necessary for a company to estimate the dollar amount of its account receivables that it expects may not be collected during the following accounting year. At this point, the entire amount is

expensed (this is not the same as writing off a specific customer account.

Bad debt expense should be matched to the credit sales of the same period. For example, assume BDC 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 balance sheet as shown below using assumed values.

Accounts receivable	\$25,000
<i>Less: Allowance for doubtful accounts</i>	<i>1,400</i>
<i>Net receivable</i>	<u><i>\$23,600</i></u>

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	xxx	
Allow. For Doubt. Acct.		xxx

To record estimated uncollectible accounts receivable.



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The bad debt expense is shown on the income statement. Allowance for doubtful accounts appears on the balance sheet and is subtracted from accounts receivable resulting in the estimated net accounts receivable.

Two different methods can be used to estimate uncollectible accounts. One method focuses on estimating Bad Debt Expense on the income statement (% of sales), while the other focuses on estimating the desired balance in allowance for doubtful accounts on the balance sheet (% of receivables).

To estimate how much of the account receivables may not be collected, the company may use one of the following methods:

% of sales (credit) method or,
% of receivables method

The Income Statement Method (percentage of sales)

The objective of the **income statement method** (% of sales) 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.

Assuming all sales are credit sales, then net credit sales is equal to sales less sales discounts less sales returns and allowances.

In either case, the company expenses the estimated amount by debiting the operating expense “bad debt expense” and credits the account titled “Allowance For Doubtful Accounts” or **AFDA**.

The journal entry for this is:

Bad debt expense	D
AFDA	C

To expense estimated uncollectible accounts and create the AFDA.

1. Assume the **% of Sales method** was used.

Example: Say there is credit balance of \$500 in the AFDA account at yearend and the company estimates that next year's uncollectible accounts based on next year's sales will be \$5,000.

AFDA	
	500

In this case, expense next year's \$5,000 estimated uncollectible amount and credit the AFDA account as follows:

Bad debt expense 5,000

AFDA 5,000

To record bad debt expense for the following year.

The new balance in the AFDA is \$5,500.

2. Assume the **% of Sales method** was used.

Example: Say there is debit balance of \$500 in the AFDA account at yearend and the company estimates that next year's uncollectible accounts based on next year's sales will be \$5,000.

AFDA	
500	

As in the previous case, expense next year's \$5,000 estimated uncollectible amount and credit the AFDA account as follows:

Bad debt expense 5,000

AFDA 5,000

To record bad debt expense for the following year.

The new balance in the AFDA is \$4,500.

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:



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4. Yearend or end of period adjustments do not take into account the balances in the AFDA account before adjusting.

The balance sheet Method (percentage of receivable)

Assume the **% of Receivables** method was used.

Example: Say there is credit balance of \$500 in the AFDA account at yearend and the company estimates that uncollectible accounts based on next year's receivables will be \$5,000.

AFDA	
	500

In this case, \$4,500 must be expensed since the AFDA account already has a \$500 credit balance originally based on estimated uncollectible receivables. Thus, the journal entry becomes:

Bad debt expense 4,500

AFDA 4,500

To record bad debt expense for the following year.

The new balance in the AFDA is \$5,000.

Assume the **% of Receivables** method was used.

Example: Say there is debit balance of \$500 in the AFDA account at yearend and the company estimates that uncollectible accounts based on next year's receivables will be \$5,000.

AFDA	
	500

In this case, \$5,500 must be expensed since the AFDA account has a \$500 debit balance which was never expensed. Thus, the journal entry becomes:

Bad debt expense 5,500

AFDA 5,500

To record bad debt expense for the following year.



The new balance in the AFDA is \$5,000.

Estimated uncollectible accounts can also be calculated by using the **balance sheet method** (% of receivable) 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.

<i>Customer</i>	<i>Total</i>	<i>Number Of Days Outstanding</i>				
		<i>1-30</i>	<i>31-60</i>	<i>61-90</i>	<i>91-120</i>	<i>Over 120</i>
Bendix Inc.	\$1,000					\$1,000
Devco Marketing Inc	6,000	\$1,000	\$3,000	\$2,000		
Hornsgren 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	<u>\$25,000</u>	<u>\$10,000</u>	<u>\$5,000</u>	<u>\$2,000</u>	<u>\$7,000</u>	<u>\$1,000</u>

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:

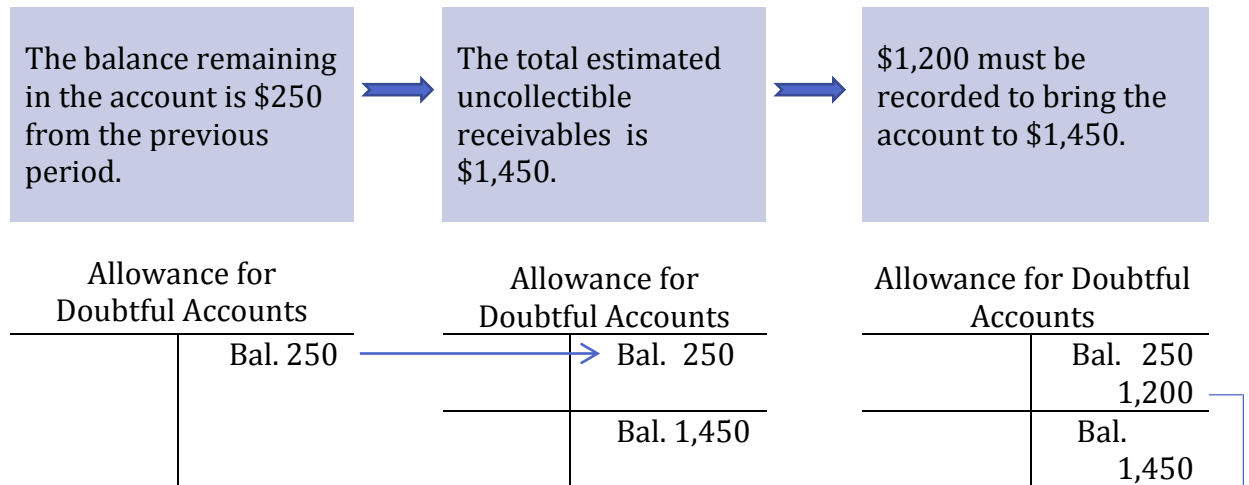
<i>Number Of Days Outstanding</i>				
<i>1-30</i>	<i>31-60</i>	<i>61-90</i>	<i>91-120</i>	<i>Over 120</i>
1%	3%	5%	10%	40%

The calculation of expected uncollectible accounts receivable at December 31, 2017 would be as follows:

<i>Calculation of Uncollectible Amounts</i>			
<i>December 31, 2017</i>			
<i>Age (days)</i>	<i>Accounts receivable</i>	<i>Estimated bad debt percentage</i>	<i>Estimated uncollectible amount</i>
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	<u>\$25,000</u>		<u>\$1,450</u>

A total of \$1,450 of accounts receivable is estimated to be uncollectible at December 31, 2017.

Under the balance sheet 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 adjustment is recorded by the following journal entry:

Bad Debts Expense	1,200	
Allow. For Doubt. Acct.		1,200 ←

To record estimated bad debts expense.

As an alternative to using an aging analysis to estimate uncollectible accounts, a simplified balance sheet method can be used. The **simplified balance sheet 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	1,250	
Allow. For Doubt. Acct.		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 balance sheet 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.

When the % of Receivables Method is used:

1. The % of receivables method is considered a balance sheet approach because it is based on accounts receivables, which are shown on the balance sheet.
2. The % of receivables method affects the income statement and balance sheet when the estimated amount of uncollectables is determined.
3. When an account is written off, only balance sheet accounts are affected.
4. Yearend or end of period adjustments must take into account whether there are debit or credit balances in the AFDA account before adjusting.

Writing Off Accounts Receivable Under the Allowance Method

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.	1,000	
Acct. Rec. – Bendix Inc.		1,000
<i>To write-off Bendix Inc.'s account receivable</i>		

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.

	<i>Before</i>		<i>After</i>
	<u><i>write-off</i></u>	<u><i>Write-off</i></u>	<u><i>write-off</i></u>
Accounts receivable	\$25,000	Cr 1,000	\$24,000
Less: Allowance for doubtful accounts	<u>1,450</u>	Dr 1,000	<u>450</u>
Net accounts receivable	<u>\$23,550</u>		<u>\$23,550</u>

A write-off does not affect bad debt expense. Recall that the adjusting entry to estimate uncollectible accounts was:

Bad Debts Expense xxx
 Allow. For Doubt. Acct. 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. xxx ←
 Accounts Receivable 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 Co. 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 BDC 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 BDC — \$250 (\$1,000 x 25%) in this case — and is recorded as:



Accounts Rec. – Bendix Inc. 250	Allow. For Doubt. Acct. 250
<i>To reverse write-off and reinstate collectible portion of account.</i>	
This entry reverses the collectible part of the receivable previously written off. The effect of the reversal is shown below.	
Accounts Receivable	Allowance for Doubtful Accounts
Bal. \$25,000	Bal. 1,450
Write-off 1,000	Write-off 1,000
Recovery 250	Recovery 250

The second entry records the collection of the reinstated amount as:

Cash.	250
Acct. Rec. – Bendix Inc.	250
<i>To record recovery of collectible portion of account previously written off.</i>	

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 BDC 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, BDC 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	4,000	
Service Revenue		4,000
<i>To record service revenue from Woodlow.</i>		

Then entry on December 1 to record the conversion of the account receivable to a note receivable would be:

Note Receivable - Woodlow	4,000	
Account Rec. - Woodlow		4,000
<i>To record conversion of the account receivable from Woodlow to a 4%, 3-month note receivable due February 28, 2018.</i>		

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	13	
Interest Revenue		13
<i>To record interest accrued on the Woodlow note receivable at year-end (\$4,000 x 4% x 1/12 mos. = \$13).</i>		



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The maturity date is three months from the date of issue, or February 28, 2018. On that date, BDC would record the collection of the note receivable and related interest as:

Cash	4,040	
Note Rec. -Woodlow		4,000
Interest Receivable		13
Interest Revenue		27

To record the collection of the note receivable and interest from January 1 to February 28, 2018 ($\$4,000 \times 4\% \times 2/12 \text{ mos.} = \27).

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

Concept Self-check

1. How does use of allowance for doubtful accounts match expenses with revenue?
2. How does the income statement method calculate the estimated amount of uncollectible accounts?
3. What is an ageing schedule for bad debts, and how is it used in calculating the estimated amount of uncollectible accounts?
4. How are credit balances in accounts receivable reported on the financial statements?
5. What is an example of a journal entry to create a note receivable?



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Comprehension Problems

CP 8-4

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 under the direct write-off method.
	Aug. 8	Wrote off \$3,000 of miscellaneous customer accounts as uncollectible under the allowance method
	Dec. 31	Estimated uncollectible accounts as \$4,000 (1% 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 under the allowance method
	Dec. 31	Estimated uncollectible accounts as \$4,500 (1% of sales).

Required:

1. Prepare journal entries to record the above transactions.
-

CP 8-5

Impulse Inc. had the following unadjusted account balances at December 31, 2017, its year-end.

	<u>Account Balances</u>	
	<i>Debit</i>	<i>Credit</i>
Accounts Receivable	\$125,000	
Allowance for Doubtful Accounts		\$ 3,000
Sales		750,000

Impulse estimates its uncollectible accounts as 5 per cent of its December 31 accounts receivable balance.

Required:

1. Calculate the amount of estimated uncollectible accounts that will appear on Impulse's balance sheet 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 balance sheet at December 31, 2017 showing accounts receivable, allowance for doubtful accounts, and the net accounts receivable.
-

CP 8-7

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 2 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.

CP 8-8

Elliot Inc. has the following unadjusted account balances at December 31, 2017:

	<u>Account Balances</u>	
	<u>Debit</u>	<u>Credit</u>
Accounts Receivable	\$50,000	
Allowance for Doubtful Accounts	1,000	
Accounts		\$200,00
Sales		0

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 balance sheet 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 balance sheet at December 31, 2017?
3. Which calculation provides better matching: that made in question 1 or in question 2? Why?



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CP 8-9

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.
-

CP 8-10

Matt Co. has the following transactions related to notes receivable during the last 2 months of 2017. The company does accrue interest at the end of the year December 31 only.

- Nov. 1 Loaned \$40,000 cash to Sami INC on a 12 month, 10% note.
- Dec. 11 Sold goods to John Hatala, Inc., receiving a \$10,000, 90-day, 8% note.
- Dec. 16 Received a \$8,000, 180 days, 9% note in exchange for Lee Co.'s outstanding accounts receivable.
- Dec. 31 Accrued interest revenues on all notes receivable.

Required

- (a) Journalize the transactions for Matt Co.
- (b) Record the collection of the Sami note at its maturity in 2018.

Problems

P 8-4

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 balance sheet?
 2. How would the credit balances in the customers' accounts be disclosed?
-

P 8-5

The following balances appear in the unadjusted trial balance of Lapointe Inc. at its year-end, December 31, 2017.

	<u>Account Balances</u>	
	<u>Debit</u>	<u>Credit</u>
Accounts Receivable	\$100,000	
Allowance for Uncollectible		\$ 5,000
Accounts		600,000
Sales (all on credit)		

Lapointe uses the balance sheet 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,



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2017 and 2018. Assume that Lapointe estimated doubtful accounts to be one per cent of sales for both years.

P 8-6

The following balances are taken from the unadjusted trial balance of Penner Inc. at its year-end, December 31, 2017.

	<u>Account Balances</u>	
	<i>Debit</i>	<i>Credit</i>
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:

<u>Age</u> <u>(days)</u>	<u>Accounts</u> <u>receivable,</u> <u>Dec 31</u>	<u>Estimated</u> <u>uncollectible</u> <u>percentage</u>
1-30	\$ 50,000	2%
31-60	27,000	4%
61-90	40,000	5%
91-120	30,000	10%
Over 120	<u>3,000</u>	50%
Total	<u><u>\$150,000</u></u>	

Required:

1. Determine the total estimated uncollectibles.
 2. Prepare adjusting entry at December 31 to record bad debt expense.
-

P 8-7

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.

<i>Age (days)</i>	<i>Accounts receivable</i>
1-30	\$100,000
31-60	50,000
61-90	25,000
91-120	60,000
Over 120	<u>15,000</u>
Total	<u>\$250,000</u>

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:

<i>Age (days)</i>	<i>Estimated loss percentage</i>
1-30	2%
31-60	4%
61-90	5%
91-120	10%
Over 120	50%



P 8-8

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:

	<i>2017</i>	<i>2018</i>
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 8-9

On January 1, 2017, the Brown Company had Accounts Receivable \$145,000, and Allowance for Doubtful Accounts \$15,000. The Brown Company prepares financial statements annually at December 31. During the year, the following selected transactions occurred.

1. Jan. 6 Sold \$25,000 of merchandise to Henry Company, terms n/10.
 2. 16 Accepted Henry Company's \$25,000, 3-month, 8% note for balance due.
 3. Feb. 18 Sold \$12,000 of merchandise to Adam Company and accepted Adam's \$12,000, 6-month, 9% note for the amount due.
 4. April 16 Collected Henry Company note in full.
 5. 30 Accepted Larry Inc.'s \$5,000, 3-month, 7% note in settlement of a past-due balance on account.
-

6. Aug. 18 Received payment in full from Adam Company on note due.
7. Aug. 30 The Larry Inc. note was dishonored. Larry Inc. is not bankrupt; future payment is anticipated.
8. Sept. 9 Sold \$15,000 of merchandise to Smith Company and accepted a \$15,000, 6-month, 10% note for the amount due.

Required
Journalize the transactions.



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P 8-10

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.

<i>Name of customer</i>	<i>Invoice date</i>	<i>Amount</i>
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:

<i>Age</i> <i>(days)</i>	<i>Estimated</i> <i>loss</i> <i>percentage</i>
1-30	0.5%
31-60	1%
61-90	3%
91-120	10%
121-150	25%
Over 150	50%

2. Prepare the journal entry to record the bad debt expense for the year.

P 8-11

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:

<i>Age (days)</i>	<i>Accounts receivable</i>	<i>Estimated loss percentage</i>
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	<u>\$ 50,000</u>	

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 8-12

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 9

LONG-LIVED ASSETS

CHAPTER NINE

Long-lived Assets

Long-lived assets or property, plant, and equipment (PPE) 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: property, plant, and equipment (PPE), intangible assets, and goodwill. Also discussed are depreciation and amortization, techniques to allocate the cost of most long-lived assets over their estimated useful lives.

Chapter 9 Learning Objectives

- L01 – Describe how the cost of property, plant, and equipment is determined.
- L02 – Explain, calculate, and record depreciation using the units-of-production, straight-line, and double-declining balance methods.
- L03 – Explain, calculate, and record the impairment of long-lived assets.
- L04 – Account for the derecognition of PPE assets.
- L05 – Explain and record the acquisition and amortization of intangible assets.
- L06 – Explain goodwill and identify where on the balance sheet it is reported
- L07 – 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.



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		<i>Capital expenditures</i>		
		<i>Land</i>	<i>Building</i>	<i>Equipment</i>
Costs to acquire PPE	}	Purchase price	Purchase price	Invoice cost
		Commission to real estate agent	Commission to real estate agent	Transportation
		Legal fees	Legal fees	Insurance (during transportation)
Costs to prepare PPE for use	}	Costs of draining, clearing, and landscaping; demolition	Repair and remodelling costs before use	Assembly Installation (including wages paid to company employees)
		Assessments for streets and sewage system	Payments to tenants for premature termination of lease	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 be 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 ($\$150,000 \times 25\%$) and the Building account would be debited for the remaining 75% or \$112,500 ($\$150,000 \times 75\% = \$112,500$ or $\$150,000 - \$37,500 = \$112,500$) as shown in the following journal entry.



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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: $\$150,000 \times 25\% = \$37,500$; building: $\$150,000 \times 75\% = \$112,500$.

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 supervise 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:

1. Straight-line method.
2. Units of production (Activity) method.
3. Double declining balance method.

There are three factors necessary to calculate depreciation of PPE:

- cost of the asset
- salvage value
- estimated useful life or productive output.

Salvage 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 salvage 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 miles 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.

Units-of-Production Depreciation Method

Units-of-Production **depreciation methods**, such as the units-of-production method, are used when the output of an asset varies from period to period.

Units-of-Production method 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 Co. purchased a \$20,000 piece of equipment on January 1, 2017 with a \$2,000 salvage 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:



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<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>	<u>(f)</u>
<i>Year</i>	<i>Carrying amount at start of year</i>	<i>Usage (units)</i>	<i>Rate*</i>	<i>Dep'n expense</i>	<i>Book value at end of year (b) - (e)</i>
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
		<u>10,000</u>		<u>\$18,000</u>	

*(\$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 or book value will equal salvage 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 or book value would be as follows each year:

<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>	<u>(f)</u>
<i>Year</i>	<i>Carrying amount at start of year</i>	<i>Usage (units)</i>	<i>Rate</i>	<i>Dep'n expense</i>	<i>Carrying amount at end of year (b) - (e)</i>
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
		<u>11,800</u>		<u>\$18,000</u>	

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 or book value of the asset down to its salvage value of \$2,000.



Straight-Line Depreciation Method

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. To calculate depreciation expense under the straight-line method, we need to determine **depreciable cost**.

Depreciable Cost = Cost – Salvage Value

Straight-line depreciation is calculated as:

$$\frac{\text{Depreciable Cost}}{\text{Useful life}} = \text{Depreciation expense each period}$$

Or

$$\frac{(\text{Cost} - \text{salvage value})}{\text{Useful life}} = \text{Depreciation expense each period}$$

To demonstrate, assume the same \$20,000 piece of equipment used earlier, with a useful life of five years and a salvage value of \$2,000. Straight-line depreciation would be \$3,600 per year calculated as:

$$\frac{(\$20,000 - \$2,000)}{5 \text{ years}} = \$3,600 \text{ depreciation expense each year}$$

(Depreciable Cost = \$20,000 – \$2,000 = \$18,000)

Over the five-year useful life of the equipment, depreciation expense and carrying amounts or book value will be as follows:

<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>
<i>Year</i>	<i>Carrying amount at start of year</i>	<i>Dep'n expense</i>	<i>Carrying amount at end of year</i>
			<i>(b) – (c)</i>
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
		<u>\$18,000</u>	

The carrying amount or book value at December 31, 2021 will be the salvage 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.

What about If the firm purchase the equipment anytime during the year rather than at the beginning of the year? According to our prewise example, let's assume that we purchased the equipment on July 1, 2017. We would own the equipment for six months of the first year from July 1 to December 31. Depreciation for the first year 2017 would be \$1,800 ($\$3,600 \times 6 \text{ months} / 12 \text{ months}$).

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 salvage 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, $n = 5 \text{ years}$; $2/5 = 40\%$.



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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:

<u>(a)</u>	<u>(b)</u>	<u>(c)</u>	<u>(d)</u>	<u>(e)</u>
<i>Year</i>	<i>Carrying amount at start of year</i>	<i>DDB rate</i>	<i>Dep'n expense (b) x (c)</i>	<i>Carrying amount at end of year (b) - (d)</i>
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
			<u>\$18,000</u>	

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 salvage value of \$2,000.

E. Impairment of Long-lived Assets

LO3 – 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 salvage 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

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 salvage 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 ($\$3,600 \times \frac{1}{2}$).

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		Accumulated Depreciation - Equipment	
2017	20,000		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	<u>(14,400)</u>
Carrying amount	5,600
Proceeds of disposition	<u>(5,600)</u>
Gain on disposal	<u>\$ -0-</u>

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	<u>(14,400)</u>
Carrying amount	5,600
Proceeds of disposition	<u>(7,000)</u>
Gain on disposal	<u>\$ (1,400)</u>

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	<u>(14,400)</u>
Carrying amount	5,600
Proceeds of disposition	<u>(500)</u>
Loss on disposal	<u>\$ 5,100</u>

The adjusting entry would be:

2021			
Nov. 30	Cash	500	
	Accum. Dep'n – Equip.	14,400	
	Loss on Disposal		5,100
	Equipment		20,000

In each of these cases, the cash proceeds must be recorded (by a debit) and the cost and accumulated depreciation must be removed from the 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



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\$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:

$$\text{Cost of new asset} = \text{Cash paid} + \text{Fair value of asset traded}$$

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 salvage 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:

$$\begin{aligned} \text{Cost of new asset} &= \text{Cash paid} + \text{Fair value of asset traded} \\ &= \$19,000 + 4,000 \\ &= \$23,000 \end{aligned}$$

There will be a loss on disposal of \$1,600 on the old equipment, calculated as follows:

Cost	\$ 20,000
Accumulated dep'n	<u>(14,400)</u>
Carrying amount	5,600
Fair value	<u>(4,000)</u>
Loss on disposal	<u>\$ 1,600</u>

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
	<i>To record purchase of new equipment and trade-in of old equipment</i>

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

LO5 – 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



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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 balance sheet 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 salvage 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
	<i>To record the purchase of a patent as an intangible asset.</i>		

Assuming the patent will last 40 years with no salvage 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
	<i>To record patent amortization: (\$20,000/40 yrs. = \$500 x ½ = \$250).</i>		

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

LO6 - Explain goodwill and identify where on the balance sheet it is reported.

Assume that Big Dog Carworks Co. purchases another company for \$10 million (\$10M). BDC 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	<u>\$7M</u>
Total	<u>\$9M</u>



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Why would BDC 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 balance sheet. 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

LO7 – Describe the disclosure requirements for long-lived assets in the notes to the financial statements.

When long-lived assets are presented on the balance sheet, 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 9 Learning Objectives

L01 – 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 expenditure 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.

L02 – 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, salvage 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:

$$\frac{\text{(Cost – salvage value)}}{\text{Estimated total output}} \times \text{units of actual output for year}$$

Straight-line:

$$\frac{\text{(Cost – salvage value)}}{\text{Useful life}}$$

Double-declining balance:

$$\text{Carrying amount} \times \left\{ \frac{100\%}{\text{Useful life}} \right\} \times 2$$

Under DDB, depreciation expense in subsequent years is calculated based on the prior year's carrying amount.



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Under all methods, carrying amount cannot be less than salvage value.

L03 – 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
<i>To record impairment loss.</i>			

L04 – 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
<i>To adjust depreciation to date of disposal.</i>			

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:

$$\text{Cost of new asset} = \text{Cash paid} + \text{Fair value of asset traded}$$

If there is a difference between the fair value of the old asset and its carrying value, a gain or loss results.

L05 – 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.

L06 – Explain goodwill and identify where on the balance sheet 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 balance sheet under its own heading of “Goodwill.” It is not amortized.

L07 – Describe the disclosure requirements for long-lived assets in the notes to the financial statements.

When long-lived assets are presented on the balance sheet, 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



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- 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

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. What is depreciation?
5. 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.
6. Assume that you have recently purchased a new sports car. Is a usage or a time-based method preferable for recording depreciation? Why?
7. 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?
8. What is the double-declining balance rate of depreciation for an asset that is expected to have a ten-year useful life?
9. How is partial-year depreciation expense calculated?
10. 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.
11. Explain the effect on the calculation of depreciation expense for capital expenditures made subsequent to the initial purchase of property, plant, or equipment.
12. Explain the process for determining whether the value of a long-lived asset has been impaired, and the required adjustments to the accounting records.
13. 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?
14. Why are the significant parts of property, plant, and equipment recorded separately?
15. When does the derecognition of PPE not result in a gain or loss on disposal?



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16. What is a trade-in? Explain whether a trade-in is the same as the sale of an asset.
 17. 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?
 18. How is the cost of a new capital asset calculated when a trade-in is involved?
 19. How are intangible assets different from property, plant, and equipment? the same?
 20. 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.
 21. How does a copyright differ from a trademark? Give an example of each.
 22. How are intangible assets valued, and what are their financial statement disclosure requirements?
 23. 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 9-1

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:

Balance sheet 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



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- ___ 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 9-2

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 salvage 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. Compute the depreciable cost.
 3. Compute the depreciation expense using straight-line method.
-

CP 9-4

Mayr Inc. purchased a machine for its factory on June 1, 2018 for \$110,000. The machine is expected to have an estimated useful life of ten years with a salvage value of \$10,000.

Required: Compute the depreciation for 2018 and 2019 using

1. The straight-line method
 2. Calculate the book value for 2018
-

CP 9-5

Penny Corp. purchased a new car on March 1, 2018 for \$25,000. The estimated useful life of the car was five years or 400,000 miles. Estimated salvage value was \$5,000. The car was driven 120,000 miles. in 2018 and 150,000 miles. in 2019.

Required: Calculate the depreciation for 2018 and 2019 using

1. The straight-line method
 2. Unit of production (Activity)
 3. Double-declining balance method.
-

CP 9-6

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 salvage 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 salvage 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 salvage 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 $\frac{1}{2}$ year rule to calculate depreciation expense in the year of acquisition and disposal.
-

CP 9-8

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



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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 9-9

Refer to the information in CP 9-4 and 9-7. 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 9-10

Murphy Limited purchased a \$30,000 asset with a five-year life expectancy and no salvage value. Two alternative methods of calculating depreciation expense are presented below.

	<i>Method A</i>	<i>Method B</i>
<i>Year</i>		
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 9-11

The Savage Corporation purchased three milling machines on January 1, 2015 and immediately placed them in service. The following information relates to these purchases:

	<i>Machine 1</i>	<i>Machine 2</i>	<i>Machine 3</i>
Cost	\$7,500	\$7,500	\$7,500
Salvage value	-0-	1,200	300
Useful life	5 Years	6 Years	8 Years

The company uses the straight-line method of depreciation, and records $\frac{1}{2}$ 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 salvage 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 salvage value remained unchanged. Machine 3 had a remaining useful life of five years (that is, to December 31, 2024) but now no salvage 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.
-



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CP 9-12

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		Description	Folio	Debit	Credit		Balance
2016							
Aug.	1	Purchase	GJ7	15,000		DR	15,000

Accumulated Depreciation – Equipment

Acct. No. 193

Date		Description	Folio	Debit	Credit		Balance
2018							
		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 salvage 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 9-13

St. Laurent Limited purchased a truck for cash on January 1, 2018. The company's fiscal year-end is December 31. The following details apply:

<u>Cost</u>	<u>Useful life</u>	<u>Salvage value</u>	<u>Depreciation method</u>
\$10,500	5 years	\$500	Straight-line method

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.

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.

CP 9-14

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 straight-line method, has an estimated useful life of ten years, and a salvage value of \$10,000. The machinery has an estimated useful life of five years and a salvage value of 10% of cost. Depreciation expense is calculated on the basis of units of productive. The machinery's units of productive 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 salvage value.



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Required: Prepare journal entries to record in the records of Brown:

1. Depreciation and amortization expense for 2018
-

Problems

P 9-2

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:

<i>Situation</i>	<i>Accounting treatment</i>
___ Invoice price of new machine, net of cash discount offered	(1) Debit Machinery account (2) Debit an expense account for the current period
___ Cash discount on the above, which has not yet been taken	(3) Debit an asset other than the machine and write-off the asset separately from the machine
___ Anticipated first year's savings in operating costs from use of new machine	(4) Credit Machinery account (5) None of the above; explain what account would be appropriate, if applicable.
___ Two-year service contract on operations of new machine paid in full	
___ Cost of materials used while testing new machine	
___ 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.



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P 9-4

Janz Corporation purchased a piece of machinery on January 1, 2018. The company's year-end is December 31. The following information is applicable:

<u>Cost</u>	<u>Useful life</u>	<u>Salvage value</u>	<u>Depreciation method</u>
\$90,000	9,000 units	-0-	Unit of Activity

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 (book value) of the machinery shown on the balance sheet at the end of 2019?
 4. Prepare a partial comparative balance sheet for Janz Corporation at the end of 2019.
-

P 9-5

Livingston Corp. purchased printer on January 1, 2018. The company year-end is December 31. The following information is applicable:

<u>Cost</u>	<u>Estimated useful life</u>	<u>Salvage value</u>	<u>Usage (units)</u>	
\$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 units of production. Present your solution in the following format:

Year	Depreciation expense		
	Straight-line	Double-declining balance	Units of production
2018			
2019			
2020			
2021			
Total			

2. Which method of depreciation would you recommend in this case? Why?

P 9-6

Roberto Trucks Inc. purchased a delivery van on January 1, 2018. The following information is available.

Cost	Estimated useful life	Salvage value
\$11,000	4 years or 75,000 miles.	\$2,000

The truck was driven 20,000 miles in 2018.

Required:

- Calculate the depreciation for 2018 under each of the following methods:
 - Units of production
 - Straight-line
 - Double-declining balance
- Compare the depreciation expense and carrying amount (book value) for 2018 under each of these methods.

P 9-7

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 salvage value of the machine is \$1,000.



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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 $\frac{1}{2}$ 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. Salvage 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 9-8

On January 1, 2017, Young Inc. purchased a machine for \$30,000. Its engineers had estimated useful life for the machine at 8 years and salvage value is 6,000. Assume that the straight-line method of depreciation is used.

Required:

1. Calculate the carrying amount (book Value) of the machine at December 31, 2019.
2. Calculate the amount of depreciation expense to be recorded at December 31, 2020, and prepare the necessary journal entry.

P 9-9

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 salvage 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.

Required: Prepare journal entries to record the transactions on the following dates:

1. May 1, 2018
 2. Calculate depreciation expense for 2018, 2019, and 2020.
-

P 9-10

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 salvage value of 10% of cost.

The computer software has an estimated useful life of three years and no salvage 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 $\frac{1}{2}$ 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.
-



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CHAPTER 10

CHAPTER TEN

Current and Non-current Liabilities

A corporation often has liabilities – amounts owing to creditors. These liabilities must be classified on the balance sheet 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. Non-current debt includes amounts owing to creditors that will be paid over many years, like some kinds of notes payable.

Chapter 10 Learning Objectives

- L01 – Identify and explain the difference between current and non-current liabilities.
- L02 – Record and disclose known current liabilities.
- L03 – Record and disclose estimated current liabilities.
- L04 – Explain, calculate, and record non-current liabilities.

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 balance sheet date or the next operating cycle, whichever is longer. Examples include accounts payable, salaries payable, unearned revenues, notes payable, and short-term notes payable.

Non-current liabilities (long-term liabilities) are forms of debt expected to be paid beyond one year of the balance sheet date or the next operating cycle, whichever is longer. Long-term notes payable are 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 balance sheet. 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 notes payable, 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 checks. 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



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deducted. **Gross pay** is the amount of salaries or wages¹ 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.

Payroll – Basic Theory

In general, payroll takes into account the gross wages and/or salaries of all employees, less payroll deductions, leaving net wages and/or salaries to be paid to the employees.

On a more detailed level, payroll is shown on a comprehensive payroll schedule showing detailed records for each employee's wages and/or salaries, and payroll deductions.

When learning about payroll, it is best to look at the big picture first, then work one's way down to the detail level, as follows:

For employees:

- 1. Calculate the separate and gross wages and/or salaries taking into consideration any overtime pay to hourly workers who worked more than 40 hours per week.**
- 2. Calculate the separate and total payroll tax deductions (social security and Medicare) and separate and total income tax deductions (federal and State) for each employee.**
- 3. Calculate other payroll deductions (mandatory or discretionary).**
- 4. Calculate net pay**
- 5. Make payments to the appropriate employees and entities for which deductions were withheld.**

Step 1.

Calculating the gross wages is determined arithmetically and is straightforward.

Example: Say you have a single hourly employee who worked 47 hours during the week and his regular pay is \$14 per hour with

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.

overtime at time and a half. To determine his gross wages for the week,

$$40 \text{ hours @ } \$14 + 7 \text{ hours @ } \$21 = \$707 \text{ during the week}$$

(the \$21 in wages is the overtime rate or regular wage times 1.5)

Do this for as many employees as you have, taking into account their specific circumstances.

For a salaried employee, divide annual salary by the number of pay periods during the year to determine his salary for the period.

Example: Say we also have a single employee on salary and on a weekly pay period. Let's also say our salaried employee earns \$52,000 per year. During each week, he would earn

$$\$52,000 / 52 \text{ weeks} = \$1000.00 \text{ per week}$$

To get the gross salaries and wages for the week, you simply add all wages and salaries as shown in the above calculations.

$$\text{Gross salaries and wages} = \$707 + \$1,000 = \$1,707$$

Step 2

To calculate the various taxes, it is best to first determine who is responsible for paying them:

Tax	Who Pays?		Comments
	Employee Pays	Employer Pays	
Social Security Tax*	Yes	Yes	Employer matches employee contributions
Medicare Tax*	Yes	Yes	
Federal Income Tax	Yes	No	Only employees pay.
State Income Tax	Yes	No	
Federal Unemployment Tax Act (FUTA)*	No	Yes	Only employer pays, per employee, per year.
State Unemployment Tax Act (SUTA)*	No	Yes	



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*Obviously you see a few asterisks. That's because there are additional considerations that you should be aware of, as follows:

1. **Social Security is applied at a rate of 6.2% up to a certain cap which varies from year to year.**
2. **Medicare is applied to all earnings at the rate of 1.45%.**
3. **Social Security plus Medicare is referred to as FICA (Federal Insurance Contribution Act). The sum of the social security and Medicare rates equals the FICA rate. That is, the FICA rate is the sum of 6.2% and the 1.45% or 7.65%**
4. **FUTA is paid by the employer only, not the employee.**
5. **SUTA is paid by the employer only, not the employee.**
6. **Per the textbook, the FUTA plus SUTA rate totals 6.2% (FUTA does not fall below 0.8%). So if you know one of the rates, you can calculate the other.**

For example, if the FUTA rate = 0.8%, then the SUTA rate = 5.4%; or, if SUTA = 3%, then FUTA = 3.2% and so on. Again, per the textbook, the FUTA and SUTA rates are applied against a cap of the first \$7,000 in salaries and wages per employee per year.

But remember, only the employer pays this payroll tax. IT IS NOT WITHHELD FROM THE EMPLOYEE.

Payroll Journal Entries

Assume an employer has several employees and during the first two weeks of the year they earn \$50,000 in gross salaries and wages. Also assume the following:

- | | | |
|---|---|-----------------------------------|
| a) Social security withholdings, 6.2% | } | Required withholdings |
| b) Medicare withholding, 1.45% | | |
| c) Federal income tax withholding, \$8,000 | | |
| d) State income tax withholding, \$1,000 | | |
| e) Health Insurance deductions, \$500 | } | Discretionary withholdings |
| f) Union dues, \$250 | | |
| g) Charitable contributions, \$125 | | |
| h) Credit Union deductions, \$300 | | |

Since this is the first payroll at the beginning of the year, assume all salaries and wages are subject to FUTA and SUTA, with their respective percentages of 1% and 5.2%

Instructions:

a) Show the company's required journal entries for the above payroll, as follows:

- a. **Employee related journal entry**
- b. **Employer payroll journal entry**
- c. **Employer FUTA & SUTA journal entry**

b) Also show the required journal entry for the payment:

- a. **health insurance**
- b. **union dues**
- c. **net employee salaries and wages**

Date	Account	Debit	Credit
a1.	Salaries & Wages Exp. (this is the gross amount)	50,000	
	Soc. Sec. Tax Payable (6.2% of gross amount)		3,100
	Medicare Tax Payable (1.45% of gross amount)		725
	Fed. Income Tax Payable (given)		8,000
	State Income Tax Payable (given)		1,000
	Health Insurance Premium Payable (given)		500
	Union Dues Payable (given)		250
	Charitable Contributions Payable (given)		125
	Credit Union Deductions Payable (given)		300
	Salaries & Wages Payable (gross – above credits)		36,000
	To record employees salaries and wages.		

The above journal entry records the **total** gross salaries and wages for **all employees** as a debit amount. It also shows the totals for all of the amounts withheld from employees' salaries and wages.

a2.	Payroll Tax Exp	3,825	
	Soc. Sec. Tax Payable (6.2% of gross amount)		3,100
	Medicare Tax Payable (1.45% of gross amount)		725
	To record employer payroll tax expense		

The above journal entry records the employer's **matching** social security and Medicare contributions for all employees.



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a3.	Payroll Tax Exp	3,100	
	FUTA Payable		500
	SUTA Payable		2,600
	To record employer FUTA & SUTA tax		

The above journal entry shows the employer's journal entry for the FUTA & SUTA unemployment taxes. Recall, the employer pays this tax every year for each employee on the first \$7,000 of an employee's annual wages or salary.

SEE BELOW

b1 & 2	Health Insurance Premium Payable (given)	500	
	Union Dues Payable (given)	250	
	Cash		750
	To record payment of health insurance premiums and Union Dues Payable		

The above journal entry is typical for the payment of a payable(s) from the employee related journal entry. Note the amount previously credited is now debited to eliminate the liability and cash is credited.

b3.	Salaries & Wages Payable (gross – above credits)	36,000	
	Cash		36,000
	To record payment of employee' net salaries and wages.		

The above journal entry is typical for the payment of a payable, in this case, the employees' net pay, from the employee related journal entry. Note the amount previously credited is now debited to eliminate the liability and cash is credited.

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.

Row	Employee	Gross pay	Payroll Deductions							Net pay
			Withholding taxes (15%)	Employment insur. (2%)	Gov't pension (5%)	Comp. health plan	Union dues (1%)	Comp. pension (3%)	Total deduct.	
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 10-1: December 15-31, 2017 Payroll Record Example

This is the same as gross pay in Figure 10-1.

These are all current liability accounts.

This is the same as net pay in Figure 10-1.

The journal entry to record the cheque paid to S. Smith would be:

Dec. 31	Salaries Expense	1,560.00
	Employee Inc. Withholding Pay.	234.00
	Employment Insur. Pay.	
	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 check paid to J. Jones would be:

Dec. 31	Salaries Expense	975.00
	Employee Inc. Withholding Pay.	146.25
	Employment Insur. Pay.	
	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.



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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 balance sheet 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.

Sales tax is a fee imposed by State government and sometimes subdivisions on certain retail items. In some States, food items and clothing may not be taxed, for example. The tax itself is usually a percent of the sales price of the item. Retailers impose it, collect it on behalf of the government, and periodically remit it to the government revenue department along with any appropriate required documentation.

Example: Say a customer purchases a \$100.00 item and there is a 7% sales tax. The retailer collects the \$100 for the sale and the additional \$7.00 for the sales tax. The journal entry to record this sale is as follows:

Cash*	\$107.00	
	Sales	\$100.00
	Sales Tax Payable	\$7.00

*The account A/R would replace cash if the sale had been made on account.

When the sales tax is paid to the State, the retailer makes the following journal entry:

Sales Tax Payable	\$7.00	
	Cash	\$7.00

An issue that often comes up in a classroom setting is to separate a given a total dollar amount into its 'sales' and 'sales tax' components. For example,

“A retailer’s cash collection for the week amounts to \$13,375.00. If the sales tax rate is 8%, how much were the sales and sales tax amounts?”

To solve this problem, simply divide the amount collected by the sum of 1 plus the decimal equivalent of the tax rate to get the **sales** amount. In this case, $1 + 0.07$ or 1.07 . This gives you

$$\$13,375.00 \div 1.07 = \mathbf{\$12,500}$$
 in sales

Therefore, $\$13,375.00 - \$12,500$ in sales = **\$875.00** in sales tax

To prove this, simply multiply the sales figure by the tax rate only to get the sales tax.



The above is based on the formula,

Cash collected = cash sales + cash sales x sales tax rate

Factoring out cash sales yields,

Cash collected = cash sales (1 + sales tax rate)

Solving for cash sales,

Cash collected ÷ (1 + sales tax rate) = cash sales

Short-term Notes Payable

Short-term notes receivable were discussed in Chapter 9. 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 balance sheet date.

In Chapter 9, BDC 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 BDC'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 BDC for the note receivable to the entries recorded by Woodlow to establish and then satisfy a note payable for the same transaction.

	<i>BDC records</i>	<i>Woodlow records</i>																														
2017 Dec. 1	<table border="1"> <tr> <td>Note Rec. – Woodlow</td> <td style="text-align: right;">4,000</td> <td></td> </tr> <tr> <td> Account Rec. – Woodlow</td> <td></td> <td style="text-align: right;">4,000</td> </tr> <tr> <td colspan="3">To record conversion of the account receivable from Woodlow to a 4%, 3-month note receivable due February 28, 2018.</td> </tr> </table>	Note Rec. – Woodlow	4,000		Account Rec. – Woodlow		4,000	To record conversion of the account receivable from Woodlow to a 4%, 3-month note receivable due February 28, 2018.			<table border="1"> <tr> <td>Account Payable – BDC</td> <td style="text-align: right;">4,000</td> <td></td> </tr> <tr> <td> Note Payable – BDC</td> <td></td> <td style="text-align: right;">4,000</td> </tr> <tr> <td colspan="3">To record conversion of the account payable to BDCC to a 4%, 3-month note payable due February 28, 2018.</td> </tr> </table>	Account Payable – BDC	4,000		Note Payable – BDC		4,000	To record conversion of the account payable to BDCC to a 4%, 3-month note payable due February 28, 2018.														
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Dec. 31	<table border="1"> <tr> <td>Interest Receivable</td> <td style="text-align: right;">13</td> <td></td> </tr> <tr> <td> Interest Earned</td> <td></td> <td style="text-align: right;">13</td> </tr> <tr> <td colspan="3">To record interest revenue accrued on the Woodlow note receivable at year-end ($\\$4,000 \times 4\% \times 1/12 \text{ mos.} = \\13).</td> </tr> </table>	Interest Receivable	13		Interest Earned		13	To record interest revenue accrued on the Woodlow note receivable at year-end ($\$4,000 \times 4\% \times 1/12 \text{ mos.} = \13).			<table border="1"> <tr> <td>Interest Expense</td> <td style="text-align: right;">13</td> <td></td> </tr> <tr> <td> Interest Payable</td> <td></td> <td style="text-align: right;">13</td> </tr> <tr> <td colspan="3">To record interest expense accrued on the BDCC note payable at year-end ($\\$4,000 \times 4\% \times 1/12 \text{ mos.} = \\13).</td> </tr> </table>	Interest Expense	13		Interest Payable		13	To record interest expense accrued on the BDCC note payable at year-end ($\$4,000 \times 4\% \times 1/12 \text{ mos.} = \13).														
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2018 Feb. 28	<table border="1"> <tr> <td>Cash</td> <td style="text-align: right;">4,040</td> <td></td> </tr> <tr> <td> Interest Receivable</td> <td></td> <td style="text-align: right;">13</td> </tr> <tr> <td> Interest Earned</td> <td></td> <td style="text-align: right;">27</td> </tr> <tr> <td> Note Rec. – Woodlow</td> <td></td> <td style="text-align: right;">4,000</td> </tr> <tr> <td colspan="3">To record the collection of the note receivable and interest revenue from January 1 to February 28, 2018 ($\\$4,000 \times 4\% \times 1/12 \text{ mos.} = \\27).</td> </tr> </table>	Cash	4,040		Interest Receivable		13	Interest Earned		27	Note Rec. – Woodlow		4,000	To record the collection of the note receivable and interest revenue from January 1 to February 28, 2018 ($\$4,000 \times 4\% \times 1/12 \text{ mos.} = \27).			<table border="1"> <tr> <td>Cash</td> <td></td> <td style="text-align: right;">4,040</td> </tr> <tr> <td> Interest Payable</td> <td style="text-align: right;">13</td> <td></td> </tr> <tr> <td> Interest Expense</td> <td style="text-align: right;">27</td> <td></td> </tr> <tr> <td> Note Payable – BDC</td> <td style="text-align: right;">4,000</td> <td></td> </tr> <tr> <td colspan="3">To record the payment of the note payable and interest expense from January 1 to February 28, 2018 ($\\$4,000 \times 4\% \times 1/12 \text{ mos.} = \\27).</td> </tr> </table>	Cash		4,040	Interest Payable	13		Interest Expense	27		Note Payable – BDC	4,000		To record the payment of the note payable and interest expense from January 1 to February 28, 2018 ($\$4,000 \times 4\% \times 1/12 \text{ mos.} = \27).		
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Notice that the dollar amounts in the entries for BDC are mirrors of those for Woodlow. BDC records interest earned; Woodlow records interest expense. BDC will report two current assets in its balance sheet 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.² 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

² Corporate income taxation is complex and covered more thoroughly in advanced accounting courses.



influenced by the amount of corporate income taxes paid in the prior year by a company.

Assume that BDC is required to make monthly corporate income tax instalments during 2017 of \$1,500 and that these amounts must be 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 BDC financial statement for the year ended December 31, 2017. Assume that after all these adjustments, BDC 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%, BDC 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	→	20,000	Corp. Inc. Tax Exp
				16,500	Corp. Inc. Tax. Pay.
	Corporate Inc. Taxes Payable	20,000	→	20,000	3,500

To record 2017 corporate income tax expense.

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 BDC income statement at December 31 would show:

Big Dog Carworks Co.
Income Statement
For the Year Ended December 31, 2017

Revenue	\$500,000
Operating expenses	<u>400,000</u>
Income before income taxes	100,000
Income taxes	<u>20,000</u>
Net income	<u>\$80,000</u>

The \$3,500 balance in the Corporate Income Taxes Payable general ledger account would be shown as a current liability on the balance sheet 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 balance sheet 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:



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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 BDC 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
<i>To record estimated audit fees for the year.</i>	

D. Non-current Liabilities (Long-term Liabilities)

LO4 – Explain, calculate, and record non-current liabilities.

A corporation often incurs long-term debt to acquire property, plant, and equipment. These borrowings are repayable over many years. There are four 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



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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.

4. **Notes payable** are written promises to pay specified dollar amounts, on specific dates, to the owners of the notes. The dollar amounts to be paid include the amount borrowed, called principal, and interest.

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 BDC 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 BDC, the company would make the following journal entry:

2017			
Jan. 1	Cash	100,000	
	Loan-Payable – First Bank		100,000
	<i>To record 10% loan from First Bank.</i>		

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
	<i>To record purchase of equipment with loan proceeds.</i>		

BDC 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 10-2 illustrates this effect. Note particularly columns B, C, and D.

	A	B	C	D
Year ended	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-
			<u>\$100,000</u>	

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 10-2 Effect of blended interest and principal payments

Figure 10-2 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 10-2 can also be used to present the related information on the financial statements of BDC at each year-end. Recall that assets and liabilities need to be classified as current and non-current on the balance sheet. Current liabilities are amounts paid within one year of the balance sheet 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 balance sheet even though the full amount of the loan outstanding is reported in a single general ledger account called Loan Payable – First Bank. The



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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 10-3 Allocation of current and non-current portions of loan principal

The balance sheet presentation would be as follows at each year-end:

	2017	2018	2019
<i>Current liabilities</i>			
Current portion of borrowings	\$33,232	\$36,557	\$ - 0-
<i>Non-current liabilities</i>			
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 balance sheet. The *interest* expense portion is reported on the income statement as an expense. Because these payments are made at BDC's year-end (December 31), no interest payable is accrued or reported on the balance sheet 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 Co. 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 BDC does not legally own the truck, the substance of the lease agreement is the same as 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, BDC is required under GAAP to record the finance lease as a liability and the truck as a long-lived asset on its balance sheet. 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
	<i>To record First Leasing Company lease of a truck.</i>		

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 BDC 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

Balance sheet 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.



Notes payable are written promises to pay specified dollar amounts, on specific dates, to the owners of the notes. The dollar amounts to be paid include the amount borrowed, called principal, and interest.

with Notes Payable, we need to know 3 things about a note:

1. Principal (the amount of money we owe)
2. Interest Rate (typically an annual interest rate)
3. Maturity term (or frequency of the year — how many days or months for the note)

In Notes Receivable, we were the ones providing funds that we would receive at maturity. Now, we are going to borrow money that we must pay back later so we will have Notes Payable. Interest is calculated as **Principal x Interest x Frequency** of the year (use 360 days as the base if note term is days or 12 months as the base if note term is in months).

Interest-bearing notes to receive short-term financing, a company may issue an interest-bearing note to a bank. An interest-bearing note specifies the interest rate charged on the principal borrowed. The company receives from the bank the principal borrowed; when the note matures, the company pays the bank the principal plus the interest.

Accounting for an interest-bearing note is simple. For example, assume the company's accounting year ends on December 31. Smith Company issued a \$10,000, 90-day, 9% note on December 1.

The following entries would record the loan, the accrual of interest on December 31 and its payment on March 1 of the next year:

Date	Account	Debit	Credit
Dec 1	Cash	10,000	
	Notes Payable		10,000
	To record borrowed 90-day, 9% note.		
Dec 31	Interest Expense	75	
	Interest Payable		75
	\$10,000 x 9% x (30 days in Dec / 360 days in year)		
	To record accrued interest on note at year end		
Mar 1	Notes Payable (principal amount)	10,000	
	Interest Payable (from Dec 31 entry)	75	
	Interest Expense \$10,000 x 9% x (60 days remaining in note / 360 days in year)	150	
	Cash (10,000 + 75 + 150)		10,225
	To record principal and interest paid on bank loan		



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

Concept Self-check

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 a loan payable similar to a bond? How is it different?
6. How is a finance lease similar to a long-term loan from a bank? How is it different?

Comprehension Problems

CP 10-1

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 10-2

An extract from the trial balance of Selby Corp. at December 31, 2018 is reproduced below:

<i>Account</i>	<i>Amount in unadjusted trial balance</i>	<i>Amount in adjusted trial balance</i>
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 10-3

During an early payroll period, an employer has a salaries and wages expense of \$60,000. Show the payroll journal entry for the period if social security is withheld at the rate of 6.2%, Medicare at 1.45%, federal income taxes at 15%, State income taxes at 2%, and union dues of 1.8%.

Required: Show the required journal entry.



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CP 10-4

Smith Co. has the following selected accounts after posting adjusting entries:

Accounts Payable	\$ 35,000
Notes Payable, 3-month	90,000
Accumulated Depreciation—Equipment	12,000
FICA Taxes Payable	23,000
Notes Payable, 5-year, 8%	25,000
Payroll Tax Expense	8,000
Interest Payable	5,000
Mortgage Payable	350,000
Sales Taxes Payable	23,000

Required: Prepare the current liability section of Smith Company's balance sheet.

CP 10-5

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 10-6

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 10-7

Kourani Co. borrows \$250,000 cash on November 1, 2011, by signing a 90-day, 9% note with a face value of \$250,000.

Required: Prepare journal entries to record

1. issuance of the note,
 2. accrual of interest at the end of 2011
 3. payment of the note at maturity.
-

CP 10-8

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.



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CP 10-9

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 10-10

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 balance sheet 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 10-1

Latex Paint Corporation started operations on January 1, 2018. It had the following transactions during the year.

- 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:

<i>Gross</i>	<i>Deductions</i>				<i>Net</i>
<i>pay</i>	<i>Income</i>	<i>Employ.</i>	<i>Gov't</i>	<i>Total</i>	<i>pay</i>
	<i>taxes</i>	<i>insur.</i>	<i>pension</i>	<i>deduct.</i>	
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.



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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 10-2

Murphy Co. entered into the following transactions involving short-term liabilities in 2014 and 2015.

Apr. 20 Purchased \$38,500 of merchandise on credit from Pagan, terms are 1y10, ny30. Murphy uses the perpetual inventory system.

May 19 Replaced the April 20 account payable to Pagan with a 90-day, \$30,000 note bearing 9% annual interest along with paying \$8,500 in cash.

July 8 Borrowed \$60,000 cash from TD Bank by signing a 120-day, 10% interest-bearing note with a face value of \$60,000.

___?___ Paid the amount due on the note to Pagan at the maturity date.

___?___ Paid the amount due on the note to TD Bank at the maturity date.

Nov. 28 Borrowed \$21,000 cash from PNC Bank by signing a 60-day, 8% interest-bearing note with a face value of \$21,000.

Dec. 31 Recorded an adjusting entry for accrued interest on the note to PNC Bank.

___?___ Paid the amount due on the note to PNC Bank at the maturity date.

Required

Prepare journal entries for all the preceding transactions and events for years 2014 and 2015.

P 10-3

The following unadjusted trial balance has been taken from the records of Mudryk Wholesalers Corp. at December 31, 2018:

<i>No.</i>	<i>Account</i>	<i>Unadjusted TB</i>		<i>Adjustments</i>		<i>Adjusted TB</i>	
		<i>Debit</i>	<i>Credit</i>	<i>Debit</i>	<i>Credit</i>	<i>Debit</i>	<i>Credit</i>
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					
		<u>849,000</u>	<u>849,000</u>				



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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 balance sheet at December 31. Consider salary, benefits, and warranty expenses to be selling expenses. No shares were issued during the year.

P 10-4

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					
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>Year ended</i>	<i>Beginning loan balance</i>	<i>Interest expense</i>	<i>(D - B) Reduction of loan payable</i>	<i>Total loan payment</i>	<i>(A - C) Ending loan balance</i>
Dec. 31 2019					
2020					
2021					
2022					

3. Prepare the journal entry to record the last loan payment.
4. Prepare a partial balance sheet showing the loan liability at December 31, 2020.



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P 10-5

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					
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>Year ended</i>	<i>Beginning</i>	<i>(A x 6%)</i>	<i>(D - B)</i>	<i>Total</i>	<i>(A - C)</i>
<i>Dec. 31</i>	<i>lease</i>	<i>interest</i>	<i>Reduction of</i>	<i>lease</i>	<i>Ending lease</i>
	<i>balance</i>	<i>expense</i>	<i>finance lease</i>	<i>payment</i>	<i>balance</i>
2019					
2020					
2021					

3. Prepare the partial balance sheet of East Corp. at December 31, 2020 showing the finance lease balance assuming the December 31 lease payment has been made.