

وزارة التعليم العالي والبحث العلمي
جامعة الفرات الاوسط التقنية
المعهد التقني / كربلاء
قسم تقنيات المحاسبة

محاضرات المحاسبة المتوسطة

Intermediate Accounting

لطلبة السنة الثانية

إعداد

المدرس المساعد :

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الساعات الأسبوعية			السنة الدراسية الثانية	اسم المادة محاسبة متوسطة Intermediate Accounting
المجموع ٤	العملي ٣	النظري ١		
السنة الطبعة دار الحكمة	المؤلف جمال حسن ، جميل جواد، حاتم ابراهيم	الكتاب المنهجي المعتمد المحاسبة المتوسطة ١٩٩١	لغة التدريس: الانكليزية	

اهداف المادة

الهدف العام :- تمكين الطالب من تطبيق الاسس العلمية المحاسبية لتمكينه من تقييم الوضع المالي للمؤسسة و اظهار الحسابات بشكل علمي ومنطقي لخدمة المستويات الإدارية في كافة القطاعات

الهدف الخاص: اعداد التقارير المالية المختلفة من واقع السجلات المحاسبية وتحليل عناصر المركز المالي باستخدام الاسس العلمية

Subject name	Studying language	Studying year	Weekly hours		
			class	Lab	Total
Intermediate account	English	Second year	١	٣	٤

SUBJECT OBJECTIVES:-

To teach students how to apply accounting principles in evaluating firms financial position in scientific and logical way to serve management in all fields .

SPECIFIC OBJECTIVE :-

To prepare different financial statements from accounting records and analyze the financial position based on scientific foundations .

<i>Class topics</i>	
<i>Week</i>	<i>Description</i>
1	Introduction to accounting , its nature , goals accounting system out put , accounting information users
2	Financial statements, how to prepare them , closing accounts auditing , training account , profit and loss account , balance sheet.
3	Financial statements in industrial organizations
4	Manufacturing statements and operation costs
5	Income statement
6	Operation costs and in come statement
7	Profit and loss statement preparation
8	Financial position statement
9	Cash flow statement

10	Financial statements in commercial organizations
11	Work sheet and adjustment entries
12	Debtors and establishing doubtful debt reserve
13	Cash and bank statement reconciliation
14	Operation and capital expenses , the importance of each, and the impact of mixing between them.
15	Fixed assets (types, ways, to get them), cash purchase , purchase on account , manufacturing , gifts .
16	Fixed assets depreciation , reasons and how to requester it .
17	Ways to calculate depreciation and ways of registration
18	How to deal with change of calculated depreciation when the production life changed
19	Selling fixed assets
20	Replacing fixed assets
21	Loss and profit of selling or replacing fixed assets
22	Type of investments and its conditions
23	Stocks (profits , selling , purchacing), free stocks
24	Bonds (types , purchasing with face value , conditions)
25	Selling and purchasing bonds higher them the face value
26	Selling and purchasing bonds less then the face value
27	Departments accounting (definition)
28	Transfer between departments
29	Distribute expenses between departments (required accounting records)
30	Overall review and complete the curriculum

(First week)

CONCEPTUAL FRAMEWORK

A **conceptual framework** establishes the concepts that underlie financial reporting.

A conceptual framework is a coherent system of concepts that flow from an objective.

The objective identifies the purpose of financial reporting. The other concepts provide guidance on (1) identifying the boundaries of financial reporting; (2) selecting the transactions, other events, and circumstances to be represented; (3) how they should be recognized and measured; and (4) how they should be summarized and reported.

Need for a Conceptual Framework

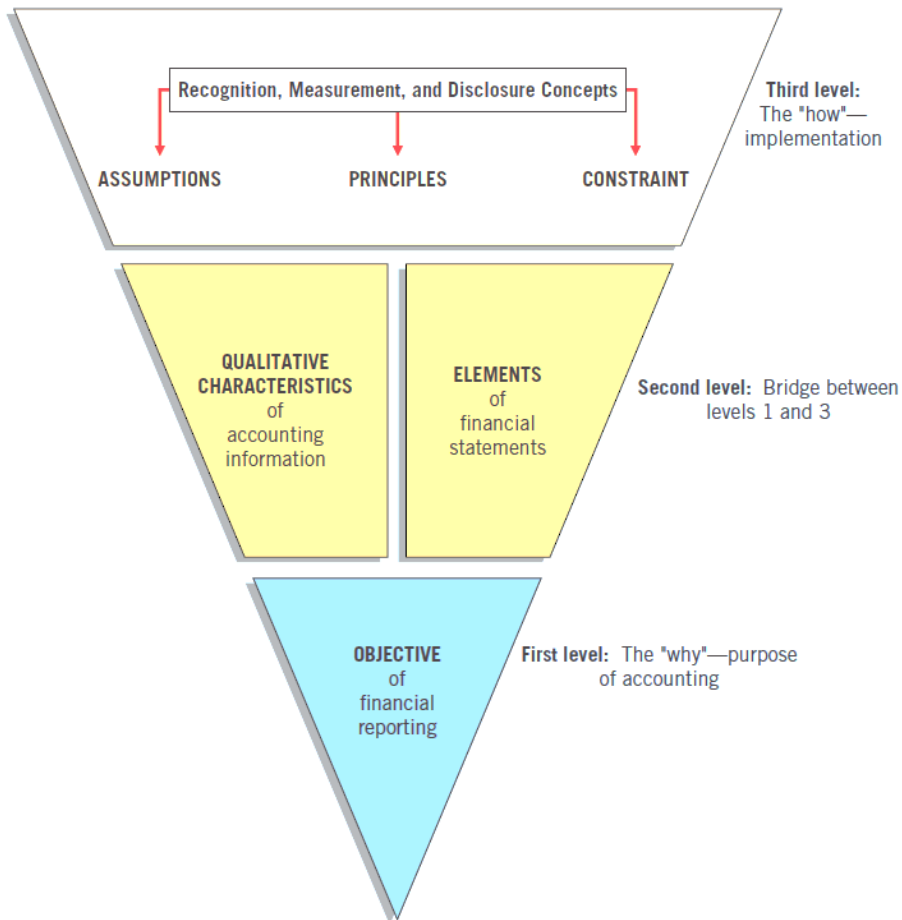
Why do we need a conceptual framework? First, to be useful, rule-making should build on and relate to an established body of concepts. A soundly developed conceptual framework thus enables the IASB to issue **more useful and consistent pronouncements over time**, and a coherent set of standards should result

Development of a Conceptual Framework

The IASB issued “Conceptual Framework for Financial Reporting 2010” (the Conceptual Framework) in 2010. The Conceptual Framework is a work in progress in that the IASB has not yet completed updating the previous version of it. Presently, the Conceptual Framework comprises an introduction and four chapters as follows.

- Chapter 1: The Objective of General Purpose Financial Reporting
- Chapter 2: The Reporting Entity (not yet issued)
- Chapter 3: Qualitative Characteristics of Useful Financial Information
- Chapter 4: The Framework (this material was developed prior to the creation of the IASB but is considered part of the Conceptual Framework until changed or updated), comprised of the following:

1. Underlying assumption—the going concern assumption;
2. The elements of financial statements;
3. Recognition of the elements of financial statements;
4. Measurement of the elements of financial statements; and
5. Concepts of capital and capital maintenance.



FIRST LEVEL: BASIC OBJECTIVE

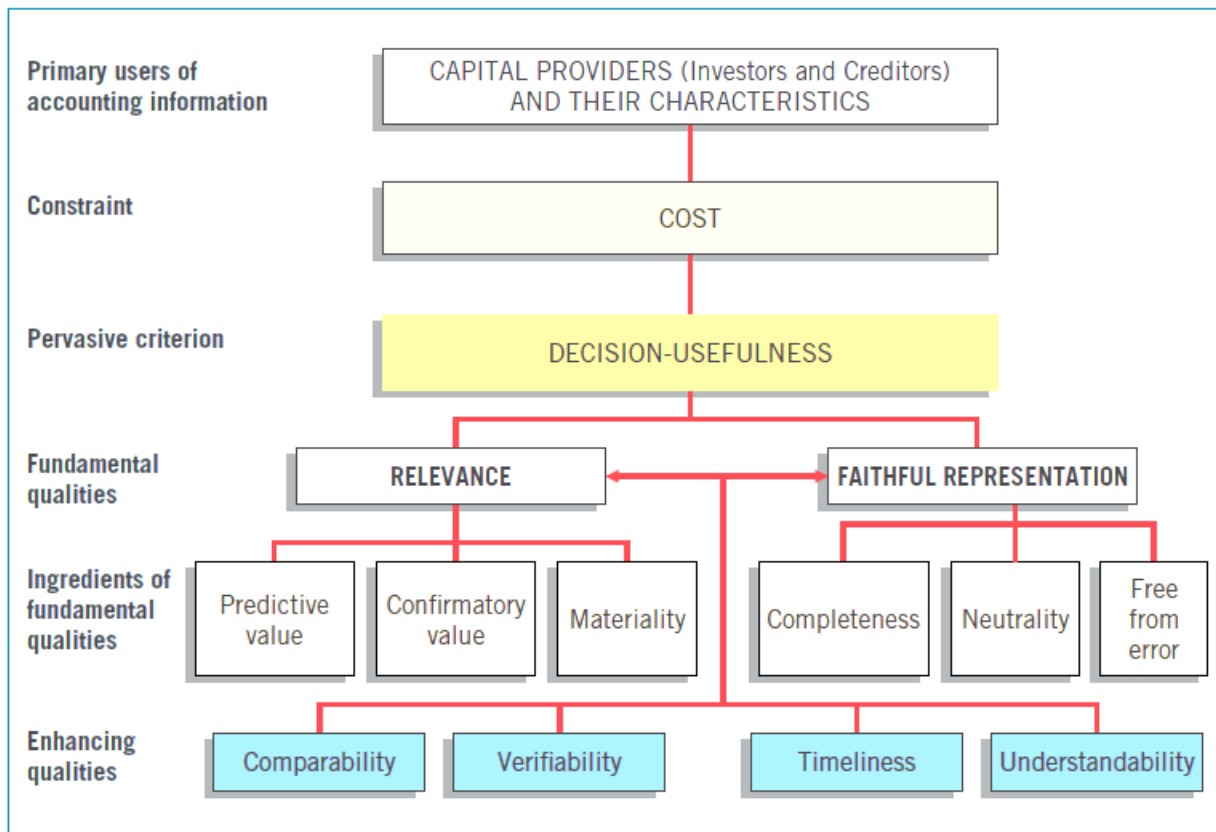
The **objective of financial reporting** is the foundation of the Conceptual Framework. Other aspects of the Conceptual Framework—qualitative characteristics, elements of financial statements, recognition, measurement, and disclosure—flow logically from the objective. Those aspects of the Conceptual Framework help to ensure that financial reporting achieves its objective.

The objective of general-purpose financial reporting is to provide financial information about the reporting entity that is **useful to present and potential equity investors, lenders, and other creditors** in making decisions about providing resources to the entity. Those decisions involve buying, selling, or holding equity and debt instruments, and providing or settling loans and other forms of credit. Information that is **decision-useful** to capital providers may also be helpful to other users of financial reporting who are not capital providers.

SECOND LEVEL: FUNDAMENTAL CONCEPTS

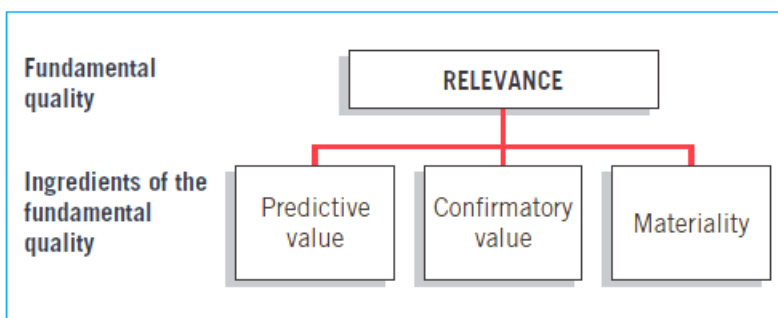
The objective (first level) focuses on the purpose of financial reporting. What, then, is the purpose of the second level? The second level provides conceptual building blocks that explain the qualitative characteristics of accounting information and define the elements of financial statements. That is, the second level forms a bridge between the **why** of accounting (the objective) and the **how** of accounting (recognition, measurement, and financial statement presentation).

Qualitative Characteristics of Accounting Information

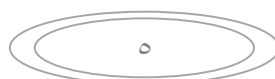


Fundamental Quality—Relevance

Relevance is one of the two fundamental qualities that make accounting information useful for decision-making. Relevance and related ingredients of this fundamental quality are shown below.



To be **relevant**, accounting information must be capable of making a difference in a decision. Information with no bearing on a decision is irrelevant. Financial information is capable of making a difference when it has predictive value, confirmatory value, or both. Financial information has **predictive value** if it has value as an input to predictive processes used by investors to form their own expectations about the future. For example, if potential investors are interested in purchasing ordinary shares in **Nippon** (JPN), they may analyze its current resources and claims to those resources, its dividend payments, and its past income performance to predict the amount, timing, and uncertainty of Nippon's future cash flows.



Relevant information also helps users confirm or correct prior expectations; it has **confirmatory value**. For example, when Nippon issues its year-end financial statements, it confirms or changes past (or present) expectations based on previous evaluations. It follows that predictive value and confirmatory value are interrelated. For example, information about the current level and structure of Nippon’s assets and liabilities helps users predict its ability to take advantage of opportunities and to react to adverse situations.

The same information helps to confirm or correct users’ past predictions about that ability.

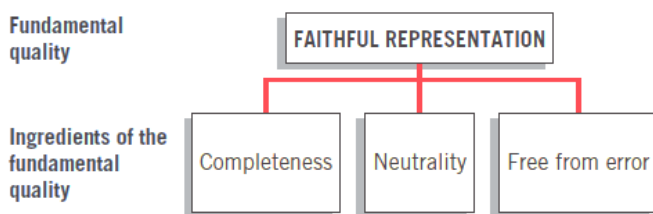
Materiality is a company-specific aspect of relevance. Information is material if omitting it or misstating it could influence decisions that users make on the basis of the reported financial information. An individual company determines whether information is material because both the nature and/or magnitude of the item(s) to which the information relates must be considered in the context of an individual company’s financial report. Information is *immaterial*, and therefore irrelevant, if it would have no impact on a decision-maker. In short, it **must make a difference** or a company need not disclose it.

Assessing materiality is one of the more challenging aspects of accounting because it requires evaluating both the **relative size and importance** of an item. However, it is difficult to provide firm guidelines in judging when a given item is or is not material. Materiality varies both with relative amount and with relative importance. For example, the two sets of numbers in Illustration 1-3 indicate relative size.

	Company A	Company B
Sales	\$10,000,000	\$100,000
Costs and expenses	9,000,000	90,000
Income from operations	<u>\$ 1,000,000</u>	<u>\$ 10,000</u>
Unusual gain	\$ 20,000	\$ 5,000

Fundamental Quality—Faithful Representation

Faithful representation is the second fundamental quality that makes accounting information useful for decision-making. Faithful representation and related ingredients of this fundamental quality are shown below.



Faithful representation means that the numbers and descriptions match what really existed or happened. Faithful representation is a necessity because most users have neither the time nor the expertise to evaluate the factual content of the information.

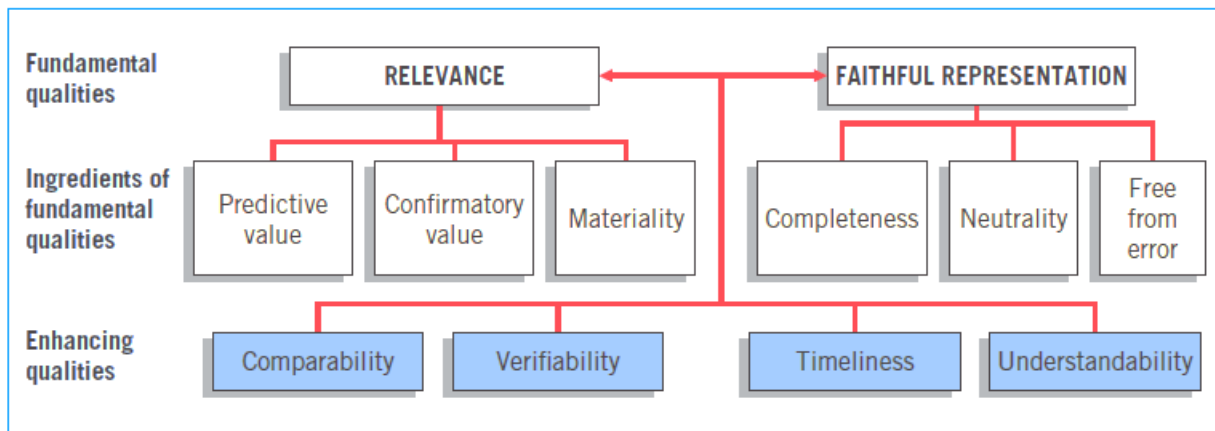
Completeness. **Completeness** means that all the information that is necessary for faithful representation is provided. An omission can cause information to be false or misleading and thus not be helpful to the users of financial reports.

Neutrality means that a company cannot select information to favor one set of interested parties over another. Providing neutral or unbiased information must be the overriding consideration.

Free from Error. An information item that is **free from error** will be a more accurate (faithful) representation of a financial item.

Enhancing Qualities

Enhancing qualitative characteristics are complementary to the fundamental qualitative characteristics. These characteristics distinguish more-useful information from less-useful information. Enhancing characteristics, shown below, are comparability, verifiability, timeliness, and understandability.



Basic Elements

An important aspect of developing any theoretical structure is the body of **basic elements** or definitions to be included in it. Accounting uses many terms with distinctive and specific meanings. These terms constitute the language of business or the jargon of accounting.

One such term is **asset**. Is it merely something we own? Or is an asset something we have the right to use, as in the case of leased equipment? Or is it anything of value used by a company to generate revenues—in which case, should we also consider the managers of a company as an asset?

ELEMENTS OF FINANCIAL STATEMENTS

The elements directly related to the measurement of financial position are assets, liabilities, and equity. These are defined as follows.

ASSET. A resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity.

LIABILITY. A present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

EQUITY. The residual interest in the assets of the entity after deducting all its liabilities. The elements of income and expenses are defined as follows.

INCOME(Revenues). Increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants.

EXPENSES. Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants.

Third Level: Recognition, Measurement, And Disclosure Concepts

The third level of the Conceptual Framework consists of concepts that implement the basic objectives of level one. These concepts explain how companies should recognize, measure, and report financial elements and events. Here, we identify the concepts as basic assumptions, principles, and a cost constraint.

- (1) **economic entity.**
- (2) **going concern.**
- (3) **monetary unit.**
- (4) **periodicity.**
- (5) **accrual basis.**

Economic Entity Assumption

The **economic entity assumption means that economic activity can be identified with a particular unit of accountability.** In other words, a company keeps its activity separate and distinct from its owners and any other business unit.

Going Concern Assumption

Most accounting methods rely on the **going concern assumption—that the company will have a long life.** Despite numerous business failures, most companies have a fairly high continuance rate. As a rule, we expect companies to last long enough to fulfill their objectives and commitments. This assumption has significant implications.

Monetary Unit Assumption

The **monetary unit assumption** means that money is the common denominator of economic activity and provides an appropriate basis for accounting measurement and analysis.

That is, the monetary unit is the most effective means of expressing to interested parties changes in capital and exchanges of goods and services. Application of this assumption depends on the even more basic assumption that quantitative data are useful in communicating economic information and in making rational economic decisions. Furthermore, accounting generally ignores price-level changes (inflation and deflation) and assumes that the unit of measure—euros, dollars, or yen—remains reasonably.

Periodicity Assumption

To measure the results of a company's activity accurately, we would need to wait until it liquidates. Decision-makers, however, cannot wait that long for such information. Users need to know a company's performance and economic status on a timely basis so that they can

evaluate and compare companies, and take appropriate actions. Therefore, companies must report information periodically.

The **periodicity** (or **time period**) **assumption** implies that a company can divide its economic activities into artificial time periods. These time periods vary, but the most common are monthly, quarterly, and yearly.

The shorter the time period, the more difficult it is to determine the proper net income for the period. A month's results usually prove less reliable than a quarter's results, and a quarter's results are likely to be less reliable than a year's results. Investors desire and demand that a company quickly process and disseminate information. Yet the quicker a company releases the information, the more likely the information will include errors.

Accrual Basis of Accounting

Companies prepare financial statements using the accrual basis of accounting. **Accrual basis accounting** means that transactions that change a company's financial statements are recorded in the periods in which the events occur. [8] For example, using the accrual basis means that companies recognize revenues when it is probable that future economic benefits will flow to the company and reliable measurement is possible (the revenue recognition principle). This is in contrast to recognition based on receipt of cash. Likewise, under the accrual basis, companies recognize expenses when incurred (the expense recognition principle) rather than when paid.

Basic Principles of Accounting

We generally use four basic **principles of accounting** to record and report transactions: (1) measurement, (2) revenue recognition, (3) expense recognition, and (4) full disclosure.

Measurement Principles

We presently have a "mixed-attribute" system in which one of two measurement principles is used. The most commonly used measurements are based on historical cost and fair value. Selection of which principle to follow generally reflects a trade-off between relevance and faithful representation.

Historical Cost. IFRS requires that companies account for and report many assets and liabilities on the basis of acquisition price. This is often referred to as the **historical cost principle**. Cost has an important advantage over other valuations: **It is generally thought to be a faithful representation of the amount paid for given item.**

Fair Value. **Fair value** is defined as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date." Fair value is therefore a market-based measure. [9] Recently, IFRS has increasingly called for use of fair value measurements in the financial statements.

This is often referred to as the **fair value principle**. Fair value information may be more useful than historical cost for certain types of assets and liabilities and in certain industries.

For example, companies report many financial instruments, including derivatives, at fair value. Certain industries, such as brokerage houses and mutual funds, prepare their basic financial statements on a fair value basis. At initial acquisition, historical cost equals fair value. In subsequent periods, as market and economic conditions change, historical cost and fair value often diverge.

Revenue Recognition Principle

When a company agrees to perform a service or sell a product to a customer, it has a **performance obligation**. When the company satisfies this performance obligation, it recognizes revenue. The **revenue recognition principle** therefore requires that companies recognize revenue in the accounting period in which the performance obligation is satisfied.

Expense Recognition Principle

Expenses are defined as outflows or other “using up” of assets or incurring of liabilities (or a combination of both) during a period as a result of delivering or producing goods and/or rendering services. It follows then that recognition of expenses is related to net changes in assets and earning revenues. In practice, the approach for recognizing expenses is, “Let the expense follow the revenues.” This approach is the **expense recognition principle**.

Full Disclosure Principle

In deciding what information to report, companies follow the general practice of providing information that is of sufficient importance to influence the judgment and decisions of an informed user. Often referred to as the **full disclosure principle**, it recognizes that the nature and amount of information included in financial reports reflects a series of judgmental trade-offs. These trade-offs strive for (1) sufficient detail to disclose matters that **make a difference** to users, yet (2) sufficient condensation to make the **information understandable**, keeping in mind costs of preparing and using it.

Users find information about financial position, income, cash flows, and investments in one of three places: (1) within the main body of financial statements, (2) in the notes to those statements, or (3) as supplementary information.

Cost Constraint

In providing information with the qualitative characteristics that make it useful, companies must consider an overriding factor that limits (constrains) the reporting. This is referred to as the **cost constraint**. That is, companies must weigh the costs of providing the information against the benefits that can be derived from using it. Rule-making bodies and governmental agencies use cost-benefit analysis before making final their informational requirements. In order to justify requiring a particular measurement or disclosure, the benefits perceived to be derived from it must exceed the costs perceived to be associated with it.

(second week)

Financial Statements in commercial companies

INCOME STATEMENT

The **income statement** is the report that **measures the success of company** operations for a given period of time. (It is also often called the statement of income or statement of earnings.¹) The business and investment community uses the income statement to determine profitability, investment value, and creditworthiness. It provides investors and creditors with information that helps them predict the **amounts, timing, and uncertainty of future cash flows**.

Usefulness of the Income Statement

The income statement helps users of financial statements predict future cash flows in a number of ways. For example, investors and creditors use the income statement information to:

1. ***Evaluate the past performance of the company.*** Examining revenues and expenses indicates how the company performed and allows comparison of its performance to its competitors.
2. ***Provide a basis for predicting future performance.*** Information about past performance helps to determine important trends that, if continued, provide information about future performance.
3. ***Help assess the risk or uncertainty of achieving future cash flows.*** Information on the various components of income—revenues, expenses, gains, and losses—highlights the relationships among them. It also helps to assess the risk of not achieving a particular level of cash flows in the future.

FORMAT OF THE INCOME STATEMENT

Elements of the Income Statement

Net income results from revenue, expense, gain, and loss transactions. The income statement summarizes these transactions. This method of income measurement, the **transaction approach**, focuses on the income-related activities that have occurred during the period.⁴ The statement can further classify income by customer, product line, or function; by operating and non-operating; and by continuing and discontinued. The two major elements of the income statement are as follows.

Revenues. Increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from shareholders.

EXPENSES. Decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, **other than those relating to distributions to shareholders.**

Intermediate Components of the Income Statement

Companies generally present some or all of the following sections and totals within the income statement

1. Sales or Revenue Section. Presents sales, discounts, allowances, returns, and other related information. Its purpose is to arrive at the net amount of sales revenue.

2. Cost of Goods Sold Section. Shows the cost of goods sold to produce the sales.

Gross Profit. Revenue less cost of goods sold.

3. Selling Expenses. Reports expenses resulting from the company's efforts to make sales.

4. Administrative or General Expenses. Reports expenses of general administration.

5. Other Income and Expense. Includes most other transactions that do not fit into the revenues and expenses categories provided above. Items such as gains and losses on sales of long-lived assets, impairments of assets, and restructuring charges are reported in this section. In addition, revenues such as rent revenue, dividend revenue, and interest revenue are often reported.

Income from Operations. Company's results from normal operations.

6. Financing Costs. A separate item that identifies the financing cost of the company, hereafter referred to as *interest expense*.

Income before Income Tax. The total income before income tax.

7. Income Tax. A short section reporting taxes levied on income before income tax.

Income from Continuing Operations. A company's results before any gain or loss on discontinued operations. If the company does not have any gain or loss on discontinued operations, this section is not reported and this amount is reported as net income.

8. Discontinued Operations. Gains or losses resulting from the disposition of a component of a company.

Net Income. The net results of the company's performance over a period of time.

9. Non-Controlling Interest. Presents an allocation of net income to the controlling shareholders and to the non-controlling interest (also referred to as *minority interest*).

10. Earnings per Share. Per share amounts that are reported.

BOC HONG COMPANY
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2015

Sales		
Sales revenue		\$3,053,081
Less: Sales discounts	\$ 24,241	
Sales returns and allowances	<u>56,427</u>	<u>80,668</u>
Net sales		2,972,413
Cost of goods sold		<u>1,982,541</u>
Gross profit		989,872
Selling expenses		
Sales salaries and commissions	\$202,644	
Sales office salaries	59,200	
Travel and entertainment	48,940	
Advertising expense	38,315	
Delivery expense	41,209	
Shipping supplies and expense	24,712	
Postage and stationery	16,788	
Telephone and Internet expense	12,215	
Depreciation of sales equipment	<u>9,005</u>	453,028
Administrative expenses		
Officers' salaries	186,000	
Office salaries	61,200	
Legal and professional services	23,721	
Utilities expense	23,275	
Insurance expense	17,029	
Depreciation of building	18,059	
Depreciation of office equipment	16,000	
Stationery, supplies, and postage	2,875	
Miscellaneous office expenses	<u>2,612</u>	<u>350,771</u>
Other income and expense		
Dividend revenue	98,500	
Rent revenue	42,910	
Gain on sale of plant assets	<u>30,000</u>	<u>171,410</u>
Income from operations		357,483
Interest on bonds and notes		<u>126,060</u>
Income before income tax		231,423
Income tax		<u>66,934</u>
Net income for the year		<u>\$ 164,489</u>
Attributable to:		
Shareholders of Boc Hong		\$ 120,000
Non-controlling interest		44,489
Earnings per share		<u>\$1.74</u>

BOC HONG COMPANY
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2015

Net sales		\$2,972,413
Cost of goods sold		<u>1,982,541</u>
Gross profit		989,872
Selling expenses (see Note D)	\$453,028	
Administrative expenses	<u>350,771</u>	803,799
Other income and expense		<u>171,410</u>
Income from operations		357,483
Interest expense		<u>126,060</u>
Income before income tax		231,423
Income tax		<u>66,934</u>
Net income for the year		<u>\$ 164,489</u>
Attributable to:		
Shareholders of Boc Hong		\$ 120,000
Non-controlling interest		44,489
Earnings per share		<u>\$1.74</u>

Note D: Selling expenses

Sales salaries and commissions	\$202,644
Sales office salaries	59,200
Travel and entertainment	48,940
Advertising expense	38,315
Delivery expense	41,209
Shipping supplies and expense	24,712
Postage and stationery	16,788
Telephone and Internet expense	12,215
Depreciation of sales equipment	<u>9,005</u>
Total selling expenses	<u>\$453,028</u>

The third and fourth week

EXERCISES

Exe.1: Starr Co. had sales revenue of £ 540,000 in 2020. Other items recorded during the year were::

Cost of goods sold £330,000

Selling expenses 120,000

Income tax 25,000

Increase in value of employees 15,000

Administrative expenses 10,000

Instructions: Prepare a single-step income statement for Starr for 2020. Starr has 100,000 shares of stock outstanding.

Income Statement
For the Year 2020

Revenues

Sales revenue \$540,00

Expense :

Cost of goods sold	\$330,000
Salaries and wages expense	15,000
Selling expense	120,000
Administrative expenses	10,000
Total expenses	(475,000)
Income before tax	65000
Income tax expense	(25,000)
Net income	\$ 40,000
Earnings per share	\$0.40*
*\$40,000 ÷ 100,000 shares.	

Exe. 2: Brisky Corporation had net sales of \$2,400,000 and interest revenue of \$31,000 during 2020. Expenses for 2020 were cost of goods sold \$1,450,000, administrative expenses \$212,000, selling expenses \$280,000, and interest expense \$45,000. Brisky's tax rate is 30%. The corporation had 100,000 shares of common stock authorized and 70,000 shares issued and outstanding during 2020.

Prepare a single-step income statement for the year ended December 31, 2020.

BRISKY CORPORATION	
Income Statement	
For the Year Ended December 31, 2020	
Revenues	
Net sales	\$2,400,000
Interest revenue	31,000
Total revenues	2,431,000
Expenses	
Cost of goods sold	\$1,450,000
Selling expenses	280,000
Administrative expenses	212,000
Interest expense	45,000
Income tax expense*	133,200
Total expenses	2,120,200
Net income	\$ 310,800
Earnings per share**	\$4.44
*(\$2,431,000 – \$1,450,000 – \$280,000 – \$212,000 – \$45,000) X 30% = \$133,200.	
**\$310,800 ÷ 70,000 shares.	

Exe.3: (Income Statement Items) Presented below are certain account balances of Paczki Products Co.

Rent revenue	\$ 6,500	Sales discounts	\$ 7,800
Interest expense	12,700	Selling expenses	99,400
Beginning retained earnings	114,400	Sales revenue	390,000
Ending retained earnings	125,000	Income tax expense	31,000
Dividend revenue	71,000	Cost of goods sold	184,400
Sales returns and allowances	12,400	Administrative expenses	82,500
Allocation to noncontrolling interest	17,000		

Instructions: From the foregoing, compute the following: (a) total net revenue, (b) net income

A)

Total net revenue:

Sales revenue	\$390,000
Less: Sales discounts	\$ 7,800
Sales returns and allowances	12,400
Net sales	369,800
Dividend revenue	71,000
Rent revenue	6,500
Total net revenue	\$447,300

(b)

Net income:

Total net revenue (from a) \$447,300 (A)

Expenses:

Cost of goods sold	\$184,400
Selling expenses	99,400
Administrative expenses	82,500
Interest expense	12,700
Total expenses	379,000
Income before income tax	68,300
Income tax	31,000
Net income	\$ 37,300

Retained Earnings Statement

Net income increases retained earnings. A net loss decreases retained earnings. Both cash and share dividends decrease retained earnings. Changes in accounting principle (generally) and prior period adjustments may increase or decrease retained earnings. Companies charge or credit these adjustments (net of tax) to the opening balance of retained earnings. Companies may show retained earnings information in different ways. For example, some companies prepare a separate retained earnings statement, as Illustration 2- shows.

CHOI INC.
RETAINED EARNINGS STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2015

Retained earnings, January 1, as reported		₩1,050,000
Correction for understatement of net income in prior period (inventory error)		50,000
Retained earnings, January 1, as adjusted		1,100,000
Add: Net income		360,000
		1,460,000
Less: Cash dividends	₩100,000	
Share dividends	200,000	300,000
Retained earnings, December 31		₩1,160,000

Ex .4: Portman Corporation has retained earnings of \$675,000 at January 1, 2020. Net income during 2020 was \$1,400,000, and cash dividends declared and paid during 2020 totaled \$75,000.

Instructions prepare a retained earnings statement for the year ended December 31, 2020. Assume an error was discovered: land costing \$80,000 (net of tax) was charged to maintenance and repairs expense in 2020.

PORTMAN CORPORATION
Retained Earnings Statement
For the Year Ended December 31, 2020

Retained earnings, January 1, as reported	\$ 675,000	
Correction for overstatement of expenses in prior period (net of tax)		80,000
Retained earnings, January 1, as adjusted	755,000	
Add: Net income	1,400,000	
		2,155,000
Less: Cash dividends		(75,000)
Retained earnings, December 31		\$2,080,000

Ex.5: Presented below is information related to Ivan Calderon Corp. for the year 2020:
Net sales \$1,300,000 Write-off of inventory due to obsolescence \$ 80,000 Cost of goods sold 780,000 Depreciation expense omitted by accident in 2019 55,000 Selling expenses 65,000 Casualty loss 50,000 Administrative expenses 48,000 Cash dividends declared and paid 45,000 Dividend revenue 20,000 Retained earnings at December 31, 2019 980,000 Interest revenue 7,000 Effective tax rate of 20% on all items.

Instructions :

- a. Prepare a multiple-step income statement for 2020. Assume that 60,000 shares of common stock are outstanding for the entire year.
- b. Prepare a separate retained earnings statement for 2020.

(a) IVAN CALDERON CORP.**Income Statement****For the Year Ended December 31, 2020**

Sales Revenue		
Net sales	\$1,300,000	
Cost of goods sold	<u>780,000</u>	
Gross profit		520,000
Operating Expenses		
Selling expenses	\$65,000	
Administrative expenses	<u>48,000</u>	(113,000)
Income from operations		407,000
Other Revenues and Gains		
Dividend revenue	20,000	
Interest revenue	<u>7,000</u>	<u>27,000</u>
		434,000
Other Expenses and Losses		
Casualty loss		50,000
Write-off of inventory due to obsolescence	<u>80,000</u>	<u>130,000</u>
Income before income tax		304,000
Income tax (\$304,000 X .20)		60,800
Net <u>income</u>		<u>\$ 243,200</u>
Per share of common stock:		
Net income (\$243,200 ÷ 60,000)		\$4.05*

(b)IVAN CALDERON CORP.**Retained Earnings Statement****For the Year Ended December 31, 2020**

Retained earnings, Jan. 1, as reported	\$ 980,000
Correction for overstatement of net income in prior period depreciation error) (net of \$11,000 tax)	(44,000)
Retained earnings, Jan. 1, as adjusted	936,000
Add: Net income	<u>243,200</u>
	1,179,200
Less: Dividends declared	45,000
Retained earnings, Dec. 31	\$1,134,200

Fifth and sixth week
Financial statements in industrial organizations

What is a Manufacturing Statement?

Definition: A manufacturing statement, also called the schedule of cost of goods manufactured or the schedule of manufacturing activities, is a summary of all of the manufacturing activities and costs. The manufacturing statement is usually split up into four different parts: direct materials, direct labor, overhead, and total manufacturing costs or cost of goods manufactured.

What Does Manufacturing Statement Mean?

Manufacturers perform many activities and incur many different costs during the manufacturing process. Each activity and cost must be recorded and compared to the manufacturing budget in order to chart the company's goals. Most manufacturers use a manufacturing statement to help keep track of the manufacturing activities and expenses.

The **statement of cost of goods manufactured** supports the cost of goods sold figure on the income statement. *The two most important numbers on this statement are the total manufacturing cost and the cost of goods manufactured.* Be careful not to confuse the terms total manufacturing cost and cost of goods manufactured with each other or with the cost of goods sold.

Total Manufacturing Cost includes the costs of all resources put into production during the period (meaning, the direct materials, direct labor and overhead applied). **Cost of goods manufactured** consists of the cost of all goods completed during the period. It includes total manufacturing costs plus the beginning work in process inventory minus the ending work in process inventory. **Cost of goods sold** are the costs of all goods SOLD during the period and includes the cost of goods manufactured plus the beginning finished goods inventory minus the ending finished goods inventory. Cost of goods sold is reported as an expense on the income statements and is the only time product costs are expensed. This chart will summarize the formulas you will need:

Direct Materials Used	Beginning Raw Materials Inventory + Raw Material Purchases – Ending Raw Materials Inventory
Total Manufacturing Cost	Direct Materials + Direct Labor + Overhead applied
Cost of Goods	Total Manufacturing Cost (Direct Materials + Direct Labor +

Manufactured	Overhead applied) + Beginning Work In Process Inventory – Ending Work in Process Inventory
Cost of Goods Sold	Beginning Finished Goods Inventory + Cost of Goods Manufactured – Ending Finished Goods Inventory

Example: The following information is available for Keystone Manufacturing Company

	March 1	March 31
Raw material inventory	\$12,000	\$10,000
Work in process inventory	2,500	4,000
Direct labor in March	75,000	
Manufacturing overhead in March	220,000	

Instruction: Prepare the cost of goods manufactured schedule for the month of March.

Solution

KEYSTONE MANUFACTURING COMPANY

Cost of Goods Manufactured Schedule For the Month Ended March 31

Work in process, March 1		\$ 2,500
Direct materials		
Raw materials, March 1	\$ 12,000	
Raw material purchases	90,000	
Total raw materials available for use	<u>102,000</u>	
Less: Raw materials, March 31	<u>10,000</u>	
Direct materials used		\$ 92,000
Direct labor		75,000
Manufacturing overhead		<u>220,000</u>
Total manufacturing costs		<u>387,000</u>
Total cost of work in process		389,500
Less: Work in process, March 31		<u>4,000</u>
Cost of goods manufactured		<u><u>\$385,500</u></u>

Ex.1: Presented below are incomplete manufacturing cost data.

	Direct Materials Used	Direct Labor Used	Factory Overhead	Total Manufacturing Costs
(1)	\$25,000	\$61,000	\$ 50,000	(A) 136000
(2)	(B) 81000	\$75,000	\$140,000	\$296,000
(3)	\$55,000	(C) 144000	\$111,000	\$310,000

Required: Determine the missing amounts for three different situations.

Exe.2: Superior Manufacturing Company has the following cost and expense data for the year

ending December 31, 2010:

Raw materials, 1/1/10 \$ 30,000	Insurance factory \$ 14,000	Raw materials, 12/31/10 \$20,000	Property taxes, factory building 6,000
Raw materials purchases 205,000	Sales (net) 1,500,000	Indirect materials 15,000	Delivery expenses 100,000
Work in process, 1/1/10 \$ 80,000	Sales commissions \$150,000	Work in process, 12/31/10 \$50,000	Indirect labor \$ 90,000
Finished goods, 1/1/10 \$110,000	Factory machinery rent \$40,000	Finished goods, 12/31/10 \$120,000	Factory utilities \$65,000
Direct labor 350,000	Depreciation, factory building 24,000	Factory manager's salary 35,000	Administrative expenses 300,000

Instructions: **(a)** Prepare a cost of goods manufactured schedule for Superior Company for 2010. **(b)** Prepare an income statement for Superior Company for 2010.

Superior MANUFACTURING COMPANY Cost of Goods Manufactured Schedule For the Month Ended April 30		
<u>Direct materials:</u>		
Raw materials, inventory 1-1	30000	
Raw materials purchases	<u>205,000</u>	
Total raw materials available for use	235,000	
Less: Raw materials, inventory 31-12	<u>(20,000)</u>	
Direct materials used		\$ 215,000
Direct labor		350,000
<u>Manufacturing overhead</u>		
Indirect labor	90,000	
Factory utilities	65,000	
Factory machinery rent	40,000	
Factory manager's salary	35,000	
Depreciation, factory building	24,000	
Indirect materials	15,000	
Insurance factory	14,000	
Property taxes, factory building	<u>6,000</u>	<u>289000</u>
Total manufacturing costs		\$854,000
Work in process, 1-1		80000
Less: Work in process, 31-12		<u>(50000)</u>
Cost of goods manufactured		<u>884000</u>

(a) **SUPERIOR MANUFACTURING COMPANY**
 Cost of Goods Manufactured Schedule
 For the Year Ended December 31, 2010

Work in process, 1/1			\$ 80,000
Direct materials			
Raw materials inventory, 1/1	\$ 30,000		
Raw materials purchases	<u>205,000</u>		
Total raw materials available for use	235,000		
Less: Raw materials inventory, 12/31	<u>20,000</u>		
Direct materials used		\$215,000	
Direct labor		350,000	
Manufacturing overhead			
Indirect labor	90,000		
Factory utilities	65,000		
Factory machinery rent	40,000		
Factory manager's salary	35,000		
Depreciation on building	24,000		
Indirect materials	15,000		
Factory insurance	14,000		
Property taxes	<u>6,000</u>		
Total manufacturing overhead		<u>289,000</u>	
Total manufacturing costs			<u>854,000</u>
Total cost of work in process			934,000
Less: Work in process, 12/31			<u>50,000</u>
Cost of goods manufactured			<u><u>\$884,000</u></u>

(b) **SUPERIOR MANUFACTURING COMPANY**
 Income Statement
 For the Year Ended December 31, 2010

Sales (net)		\$1,500,000
Cost of goods sold		
Finished goods inventory, January 1	\$110,000	
Cost of goods manufactured	<u>884,000</u>	
Cost of goods available for sale	994,000	
Less: Finished goods inventory, December 31	<u>120,000</u>	
Cost of goods sold		<u>874,000</u>
Gross profit		626,000
Operating expenses		
Administrative expenses	300,000	
Sales commissions	150,000	
Delivery expenses	<u>100,000</u>	
Total operating expenses		<u>550,000</u>
Net income		<u><u>\$ 76,000</u></u>

Ex.3: The following information is available for Kopps Manufacturing Company.

	April 1	April 30
Raw material inventory	\$10,000	\$14,000
Work in process inventory	5,000	3,500
Materials purchased in April	\$ 98,000	
Direct labor in April	60,000	
Manufacturing overhead in April	180,000	
Sales \$1200000	Sales return \$ 100000	Sales commission \$75000
Income tax %30	Rent expense \$25000	Administrative expense \$150000
Finished goods 1/30 \$350000		Finished goods 1/4 \$100000

Instructions: A- Prepare the cost of goods manufactured schedule for the month of April.
 B- Prepare income statement for the month April.

KOPPS MANUFACTURING COMPANY		
Cost of Goods Manufactured Schedule		
For the Month Ended April 30		
Work in process, April 1\$		5,000
<u>Direct materials:</u>		
Raw materials, April 1\$	10000	
Raw materials purchases	98,000	
Total raw materials available for use	108,000	
Less: Raw materials, April 30	<u>(14,000)</u>	
Direct materials used		\$ 94,000
Direct labor		60,000
Manufacturing overhead		180,000
Total manufacturing costs		<u>334,000</u>
Total cost of work in process		\$339,000
Less: Work in process, April 31		<u>(3,500)</u>
Cost of goods manufactured		<u>\$335,500</u>

KOPPS MANUFACTURING COMPANY

Income Statement

For the month Ended April 30, 2020

sales	\$1200,000		
sales returns	(<u>100,000</u>)		
Net sales			\$ 1100000
Cost of goods sold:			
Finished goods 1/4	100000		
Cost of goods manufactured	<u>335500</u>		
Cost of goods available for sale	435500		
Finished goods 1/30	(<u>350000</u>)		
Cost of goods sold			(85500)
Gross profit			1014500
<u>Operating expenses:</u>			
Sales commission	\$75000		
Administrative expenses	150000		
Rent expense	<u>25,000</u>		
Total expenses			(250000)
income before tax			764500
Income tax 764500 X 30% = \$229350			(229350)
Net Income			535150

Ex.4: The cases three following below each case independents for other:

Total Manufacturing Costs	Work in Process (1/1)	Work in Process (12/31)	Cost of Goods Manufactured
(1) (A)	\$120,000	\$82,000	\$174000
(2) \$296,000	(B)	\$98,000	\$321,000
(3) \$310,000	\$463,000	(C)	\$715,000

Instructions: Determine missing amounts in computing cost of goods manufactured.

136000- 123000- 58000

Ex.5: Jan Nab is the sole owner of Deer Park, a public camping ground near the Lake Mead National Recreation Area. Jan has compiled the following financial information as of December 31, 2010.

Revenues during 2010—camping fees \$140,000 Market value of equipment \$140,000

Revenues during 2010—general store 50,000 Notes payable 60,000

Accounts payable 11,000 Expenses during 2010 150,000

Cash on hand 23,000 Supplies on hand 2,500

Original cost of equipment 105,500

Instructions

(a) Determine Jan Nab's net income from Deer Park for 2010.

(b) Prepare a balance sheet for Deer Park as of December 31, 2010.

(a) Camping fee revenues	\$140,000
General store revenues	50,000
Total revenue	190,000
Expenses	<u>(150,000)</u>
Net income	\$ 40,000

(b) DEER PARK
Balance Sheet
December 31, 2010

Assets

Cash	\$ 23,000	
Supplies	2,500	
Equipment	105,500	
Total assets		<u>\$131,000</u>

Liabilities and Owner's Equity

Liabilities

Notes payable	\$ 60,000	
Accounts payable	11,000	
Total liabilities		71,000

Owner's equity

Jan Nab, Capital (\$131,000 – \$71,000)	<u>60,000</u>	
Total liabilities and owner's equity		<u>\$131,000</u>

The seventh, eighth and ninth week
Balance Sheet

LEARNING OBJECTIVE 1

Explain the uses, limitations, and content of the balance sheet.

The **balance sheet**, sometimes referred to as the **statement of financial position**, reports the assets, liabilities, and stockholders' equity of a business enterprise at a specific date. This financial statement provides information about the nature and amounts of investments in enterprise resources, obligations to creditors, and the owners' equity in net resources. It therefore helps in predicting the amounts, timing, and uncertainty of future cash flows.

Usefulness of the Balance Sheet

By reporting information on assets, liabilities, and stockholders' equity, the balance sheet provides a basis for computing rates of return and evaluating the capital structure of the enterprise. Analysts also use information in the balance sheet to assess a company's risk¹ and future cash flows. In this regard, analysts use the balance sheet to assess a company's liquidity, solvency, and financial flexibility.

Liquidity describes "the amount of time that is expected to elapse until an asset is realized or otherwise converted into cash or until a liability has to be paid."² Creditors are interested in short-term liquidity ratios, such as the ratio of cash (or near cash) to short term liabilities. These ratios indicate whether a company.

Solvency refers to the ability of a company to pay its debts as they mature. For example, when a company carries a high level of long-term debt relative to assets, it has lower solvency than a similar company with a low level of long-term debt. Companies with higher debt are relatively more risky because they will need more of their assets to meet their fixed obligations (interest and principal payments).

Liquidity and solvency affect a company's **financial flexibility**, which measures the “ability of an enterprise to take effective actions to alter the amounts and timing of cash flows so it can respond to unexpected needs and opportunities.

Classification in the Balance Sheet

Balance sheet accounts are **classified**. That is, balance sheets group together similar items to arrive at significant subtotals. Furthermore, the material is arranged so that important relationships are shown.

1. Assets that differ in their **type or expected function** in the company's central operations or other activities. For example, **IBM** reports merchandise inventories separately from property, plant, and equipment.
2. Assets and liabilities with **different implications for the company's financial flexibility**. For example, a company that uses assets in its operations, like **Walgreens**, should report those assets separately from assets held for investment and assets subject to restrictions, such as leased equipment.
3. Assets and liabilities with **different general liquidity characteristics**. For example, **Boeing Company** reports cash separately from inventories.

Elements of the Balance Sheet:

Assets .1
Liabilities .2
Owners' Equity .3

Assets	Liabilities and Owners' Equity
Current assets	Current liabilities
Long-term investments	Long-term debt
Property, plant, and equipment	Owners' (stockholders') equity
Intangible assets	
Other assets	

Current Assets

Current assets are cash and other assets a company expects to convert into cash, sell, or consume either in one year or in the operating cycle, whichever is longer.

Current assets are presented in the balance sheet in order of liquidity. The five major items found in the current assets section, and their bases of valuation, are shown in

Item	Basis of Valuation
Cash and cash equivalents	Fair value
Short-term investments	Generally, fair value
Receivables	Estimated amount collectible
Inventories	Lower-of-cost-or-net realizable value/market
Prepaid expenses	Cost

Noncurrent Assets

Noncurrent assets are those not meeting the definition of current assets. They include a variety of items.

Long-Term Investments often referred to simply as investments, normally consist of types:

1. Investments in securities, such as bonds, common stock, or long-term notes.
2. Investments in tangible fixed assets not currently used in operations, such as land held for speculation.
3. Investments set aside in special funds, such as pension fund, or plant expansion fund. This includes the cash surrender value of life insurance.

Property, Plant, and Equipment **Property, plant, and equipment** are tangible long-lived assets used in the regular operations of the business. These assets consist of physical property such as land, buildings, machinery, furniture, tools, With the exception of land, a company either depreciates (e.g., buildings) or depletes (e.g., timberlands or oil reserves) these assets.

Intangible Assets **Intangible assets** lack physical substance and are not financial instruments (see the “Fair Values” section later in this chapter for the definition of a financial instrument). They include patents, copyrights, franchises, goodwill, trademarks, trade names, and customer lists. A company writes off (amortizes) limited-life intangible assets over their useful lives. It periodically assesses indefinite-life intangibles (such as goodwill) for impairment. Intangibles can represent significant economic resources, yet financial analysts often ignore them, because valuation is difficult.

Other Assets The items included in the section “Other assets” vary widely in practice. Some include items such as long-term prepaid expenses, prepaid pension cost, and noncurrent receivables.

Other items that might be included are assets in special funds, deferred income taxes, property held for sale, and restricted cash or securities. A company should limit this section to include only unusual items sufficiently different from assets included in specific categories.

Liabilities

Similar to assets, companies classify liabilities as current or long-term.

Current Liabilities **Current liabilities** are the obligations that a company reasonably expects to liquidate either through the use of current assets or the creation of other current liabilities. This concept includes:

1. Payables resulting from the acquisition of goods and services: accounts payable, wages

payable, taxes payable, and so on.

2. Collections received in advance for the delivery of goods or performance of services, such as unearned rent revenue or unearned subscriptions revenue.
3. Other liabilities whose liquidation will take place within the operating cycle, such as the portion of long-term bonds to be paid in the current period or short-term obligations arising from the purchase of equipment.

Long-Term Liabilities Long-term liabilities are obligations that a company does not reasonably expect to liquidate within the normal operating cycle. Instead, it expects to pay them at some date beyond that time. The most common examples are bonds payable, notes payable, deferred income tax liabilities, lease obligations, and pension obligations.

Companies classify long-term liabilities that mature within the current operating cycle as current liabilities if payment of the obligation requires the use of current assets.

Generally, long-term liabilities are of three types:

1. Obligations arising from specific financing situations, such as the issuance of bonds, long term lease obligations, and long-term notes payable.
2. Obligations arising from the ordinary operations of the company, such as pension obligations and deferred income tax liabilities.
3. Obligations that depend on the occurrence or non-occurrence of one or more future events to confirm the amount payable, the payee, or the date payable, such as service or product warranties and other contingencies.

Owners' Equity

The **owners' equity (stockholders' equity)** section is one of the most difficult sections to prepare and understand. This is due to the complexity of capital stock agreements and the various restrictions on stockholders' equity imposed by state corporation laws, liability agreements, and boards of directors. Companies usually divide the section into six parts: For capital stock, companies must disclose the par value and the authorized, issued, and outstanding share amounts. A company usually presents the additional paid-in capital in one amount although subtotals are informative if the sources of additional capital are varied and material.

The retained earnings amount may be divided between the **unappropriated** (the amount that is usually available for dividend distribution) and **restricted** (e.g., by bond indentures or other loan Stockholders' Equity Section

1. **Capital Stock.** The par or stated value of the shares issued.
2. **Additional Paid-in Capital.** The excess of amounts paid in over the par or stated value.
3. **Retained Earnings.** The corporation's undistributed earnings.
4. **Accumulated Other Comprehensive Income.** The aggregate amount of the other comprehensive income items.
5. **Treasury Stock.** Generally, the cost of shares repurchased.

6. Noncontrolling Interest (Minority Interest). A portion of the equity of subsidiaries not wholly owned by the reporting company.

Preparation of the Balance Sheet

LEARNING OBJECTIVE 2 : Prepare a classified balance sheet.

Account Form

One common arrangement that companies use in presenting a classified balance sheet .

It lists assets, by sections, on the left side, and liabilities and stockholders' equity, by sections, on the right side. The main disadvantage is the need for a sufficiently wide space in which to present the items side by side. Often, the account form requires two facing pages.

Sanchez Company Balance Sheet December 31, 2020					
Assets				Liabilities and Stockholders' Equity	
<u>Current assets</u>				<u>Current liabilities</u>	
Cash (less cash restricted for plant expansion)	\$XXX			Notes payable (short-term)	\$XXX
Accounts receivable	\$XXX			Salaries and wages payable	XXX
Less: Allowance for doubtful accounts	XXX	XXX		Unearned subscriptions revenue	XXX
Notes receivable		XXX		Unearned rent revenue	XXX
Receivables—officers		XXX		Total current liabilities	\$XXX
Inventory				<u>Long-term debt</u>	
Finished goods	XXX			Bonds payable (due in four years)	XXX
Work in process	XXX			Discount on bonds payable	(XXX)
Raw materials	XXX	XXX		Total liabilities	XXX
Total current assets		\$XXX		<u>Stockholders' equity</u>	
<u>Long-term investments</u>				Capital stock:	
Preferred stock investments	XXX			Common stock	\$XXX
Land held for future plant site	XXX			Additional paid-in capital:	
Cash restricted for plant expansion	XXX			Paid in capital in excess of par—	
Total long-term investments		XXX		common stock	XXX
<u>Property, plant, and equipment</u>				Total paid-in capital	XXX
Buildings	XXX			Retained earnings	XXX
Less: Accumulated depreciation—				Accumulated other comprehensive	
buildings	XXX	XXX		income	XXX
<u>Intangible assets</u>				Treasury stock (at cost)	(XXX)
Copyrights		XXX		Total equity attributable to Sanchez	
Total assets		\$XXX		shareholders	XXX
				Equity attributable to noncontrolling	
				interest	XXX
				Total liabilities and stockholders' equity	\$XXX

Report Form

The **report form** lists the sections one above the other, on the same page.

Underlying Concepts : The presentation of balance sheet information meets the objective of financial reporting—to provide information about entity resources, claims to resources, and changes in them.

Scientific Products, Inc.
Balance Sheet
December 31, 2020

Assets

Current assets

Cash		\$ 42,485
Investments (available-for-sale)		28,250
Accounts receivable	\$165,824	
Less: Allowance for doubtful accounts	1,850	163,974
Notes receivable		23,000
Inventories—at average-cost		489,713
Supplies on hand		9,780
Prepaid expenses		16,252
Total current assets		\$ 773,454

Long-term investments

Equity investments		87,500
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Property, plant, and equipment

Land—at cost		125,000
Buildings—at cost	975,800	
Less: Accumulated depreciation	341,200	634,600
Total property, plant, and equipment		759,600

Intangible assets

Goodwill		100,000
Total assets		\$1,720,554

Liabilities and Stockholders' Equity

Current liabilities

Notes payable to banks		\$ 50,000
Accounts payable		197,532
Accrued interest on notes payable		500
Income taxes payable		62,520
Accrued salaries, wages, and other liabilities		9,500
Deposits received from customers		420
Total current liabilities		\$ 320,472

Long-term debt

Twenty-year 12% debentures, due January 1, 2028		500,000
Total liabilities		820,472

Stockholders' equity

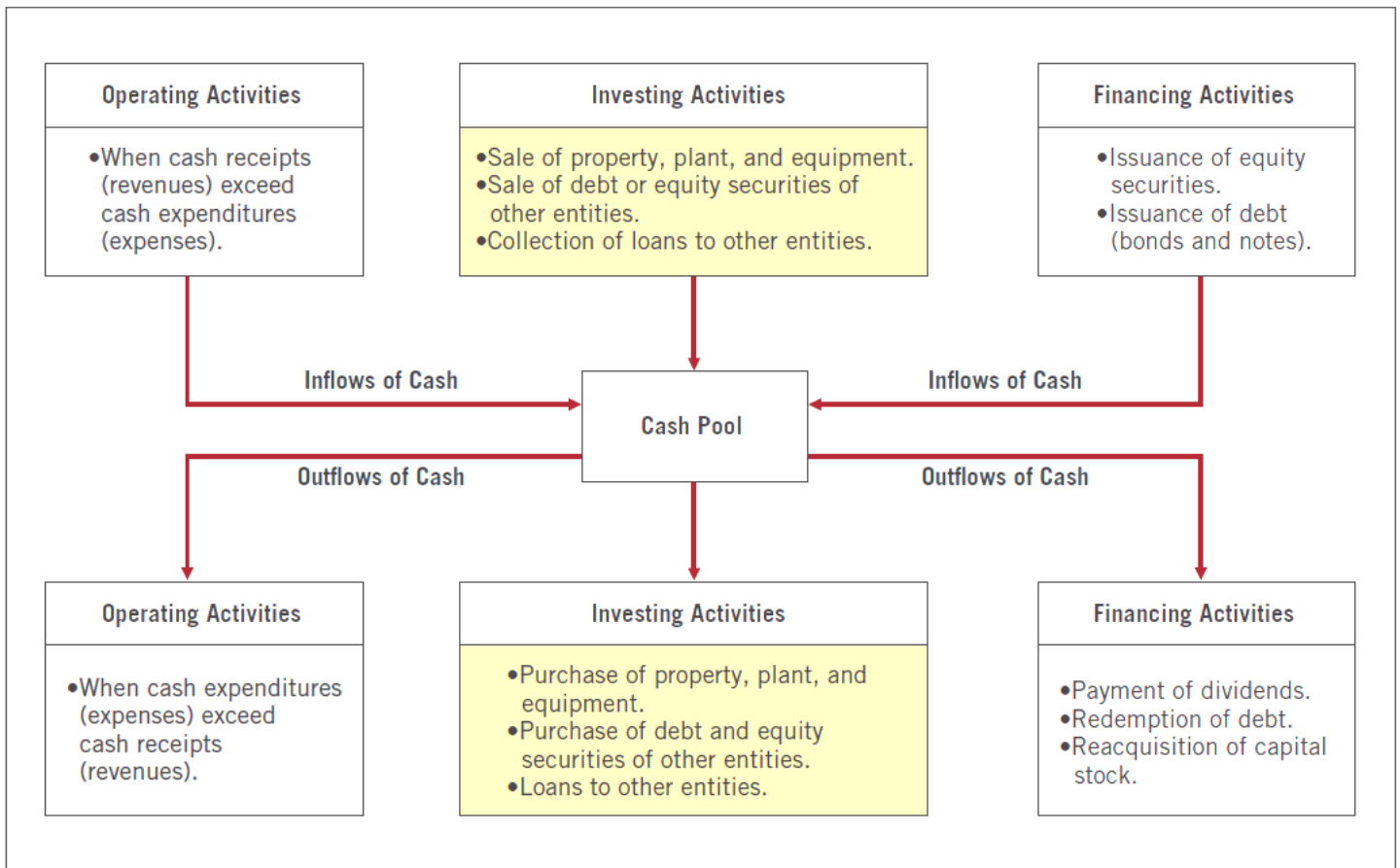
Paid in on capital stock		
Preferred, 7%, cumulative		
Authorized, issued, and outstanding, 30,000 shares of \$10 par value	\$300,000	
Common—		
Authorized, 500,000 shares of \$1 par value; issued and outstanding, 400,000 shares	400,000	
Additional paid-in capital	37,500	737,500
Retained earnings		153,182
Accumulated other comprehensive income		8,650
Less: Treasury stock		12,750
Equity attributable to Scientific Products, Inc.		886,582
Equity attributable to noncontrolling interest		13,500
Total stockholders' equity		900,082
Total liabilities and stockholders' equity		\$1,720,554

Statement of Cash Flows

LEARNING OBJECTIVE 3

Explain the purpose, content, and preparation of the statement of cash flows.

Cash Inflows and Outflows



The statement's value is that it helps users evaluate liquidity, solvency, and financial flexibility. As stated earlier, **liquidity** refers to the “nearness to cash” of assets and liabilities. **Solvency** is the firm's ability to pay its debts as they mature. **Financial flexibility** is a company's ability to respond and adapt to financial adversity and unexpected needs and opportunities.

Preparation of the Statement of Cash Flows

Sources of Information :Companies obtain the information to prepare the statement of cash flows from several sources:

(1) comparative balance sheets, (2) the current income statement, and (3) selected transaction data. The following example demonstrates how companies use these sources in preparing a statement of cash flows.

Example: On January 1, 2020, in its first year of operations, Telemarketing Inc. issued 50,000 shares of \$1 par value common stock for \$50,000 cash. The company rented its office space, furniture, and telecommunications equipment and performed marketing services throughout

the first year. In June 2020, the company purchased land for \$15,000. **Illustration Below** shows the company's comparative balance sheets at the beginning and end of 2020

Telemarketing Inc. Balance Sheets			
	<u>Dec. 31, 2020</u>	<u>Jan. 1, 2020</u>	<u>Increase/Decrease</u>
<u>Assets</u>			
Cash	\$31,000	\$-0-	\$31,000 Increase
Accounts receivable	41,000	-0-	41,000 Increase
Land	15,000	-0-	15,000 Increase
Total	<u>\$87,000</u>	<u>\$-0-</u>	
<u>Liabilities and Stockholders' Equity</u>			
Accounts payable	\$12,000	\$-0-	12,000 Increase
Common stock	50,000	-0-	50,000 Increase
Retained earnings	25,000	-0-	25,000 Increase
Total	<u>\$87,000</u>	<u>\$-0-</u>	

Telemarketing Inc. Income Statement For the Year Ended December 31, 2020	
Revenues	\$172,000
Operating expenses	<u>120,000</u>
Income before income tax	52,000
Income tax	<u>13,000</u>
Net income	<u>\$ 39,000</u>
Additional information: Dividends of \$14,000 were paid during the year.	

Preparing the Statement of Cash Flows

Preparing the statement of cash flows from these sources involves four steps:

1. Determine the net cash provided by (or used in) operating activities.
2. Determine the net cash provided by (or used in) investing and financing activities.
3. Determine the change (increase or decrease) in cash during the period.
4. Reconcile the change in cash with the beginning and the ending cash balances.

Net cash provided by operating activities is the excess of cash receipts over cash payments from operating activities. Companies determine this amount by converting net income on an accrual basis to a cash basis. To do so, they adjust net income for items that do not affect cash. This procedure requires that a company analyze not only the current year's income statement but also the comparative balance sheets and selected transaction data.

Analysis of Telemarketing’s comparative balance sheets reveals two items that will affect the computation of net cash provided by operating activities:

1. The increase in accounts receivable reflects a noncash increase of \$41,000 in revenues.
2. The increase in accounts payable reflects a noncash increase of \$12,000 in expenses.

Therefore, to arrive at net cash provided by operating activities, Telemarketing deducts from net income the increase in accounts receivable (\$41,000). That is, the increase in accounts receivable of \$41,000 results in an increase in revenue (and income) but no cash was received.

Telemarketing adds back to net income the increase in accounts payable (\$12,000). In other words, accruals of expenses of \$12,000 decreased income but no cash was paid. As a result of these adjustments, the company determines net cash provided by operating activities to be \$10,000, computed as shown in **Illustration below**.

Net income		\$ 39,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Increase in accounts receivable	\$(41,000)	
Increase in accounts payable	<u>12,000</u>	<u>(29,000)</u>
Net cash provided by operating activities		<u><u>\$ 10,000</u></u>

Next, the company determines its investing and financing activities. Telemarketing’s only **investing activity** was the land purchase. It had two **financing activities**: (1) common stock increased \$50,000 from the issuance of 50,000 shares for cash, and (2) the company paid \$14,000 cash in dividends. Knowing the amounts provided/used by operating, investing, and financing activities, the company determines the **net increase in cash**. **Illustration 5.22** presents Telemarketing’s statement of cash flows for 2020:

Telemarketing Inc. Statement of Cash Flows For the Year Ended December 31, 2020		
Cash flows from operating activities		
Net income		\$39,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Increase in accounts receivable	\$(41,000)	
Increase in accounts payable	<u>12,000</u>	<u>(29,000)</u>
Net cash provided by operating activities		10,000
Cash flows from investing activities		
Purchase of land	<u>(15,000)</u>	
Net cash used by investing activities		(15,000)
Cash flows from financing activities		
Issuance of common stock	50,000	
Payment of cash dividends	<u>(14,000)</u>	
Net cash provided by financing activities		<u>36,000</u>
Net increase in cash		31,000
Cash at beginning of year		<u>-0-</u>
Cash at end of year		<u><u>\$31,000</u></u>

Example :Cassy Corporation’s balance sheet at the end of 2019 included the following items.

Current asset	\$282,000	Current liabilities	\$180,000
Land	36,000	Bonds payable	120,000
Buildings	144,000	Common stock	216,000
Equipment	108,000	Retained earnings	52,800
Accumulated depreciation—buildings	(36,000)		
Accumulated depreciation—equipment	(13,200)		
Patents	<u>48,000</u>		
Total	\$568,800	Total	\$568,800

The following information is available for 2020.

1. Treasury stock was purchased at a cost of \$13,200.
2. Cash dividends of \$36,000 were declared and paid.
3. A long-term investment in stock was purchased for \$19,200
4. Current assets other than cash increased by \$34,800. Current liabilities increased by \$15,600.
5. Depreciation expense was \$4,800 on the building and \$10,800 on equipment.
6. Net income was \$66,000.
7. Bonds payable of \$60,000 were issued.
8. An addition to the building was completed at a cost of \$32,400.
9. Patent amortization was \$3,000.
10. Equipment (cost \$24,000 and accumulated depreciation \$9,600) was sold for \$12,000.

Instructions

- a. Prepare a balance sheet at December 31, 2020.
- b. Prepare a statement of cash flows for 2020. The cash balance at January 1, 2020, was \$5,000.

Solution

2. a.

Cassy Corporation
Balance Sheet
December 31, 2020

<u>Assets</u>		
Current assets (see Notes below)		\$355,800
Long-term investments		19,200
Property, plant, and equipment		
Land	\$ 36,000	
Buildings (\$144,000 + \$32,400)	\$176,400	
Less: Accumulated depreciation—buildings (\$36,000 + \$4,800)	<u>40,800</u>	135,600
Equipment (\$108,000 – \$24,000)	84,000	
Less: Accumulated depreciation—equipment (\$13,200 – \$9,600 + \$10,800)	<u>14,400</u>	<u>69,600</u>
Total		241,200
Intangible assets—patents (\$48,000 – \$3,000)		<u>45,000</u>
Total assets		<u><u>\$661,200</u></u>
 <u>Liabilities and Stockholders' Equity</u> 		
Current liabilities (\$180,000 + \$15,600)		\$195,600
Long-term liabilities		
Bonds payable (\$120,000 + \$60,000)		<u>180,000</u>
Total liabilities		375,600
Stockholders' equity		
Common stock	\$216,000	
Retained earnings (\$52,800 + \$66,000 – \$36,000)	<u>82,800</u>	
Total	298,800	
Less: Cost of treasury stock	<u>(13,200)</u>	
Total stockholders' equity		<u>285,600</u>
Total liabilities and stockholders' equity		<u><u>\$661,200</u></u>

2. b.

Cassy Corporation
Statement of Cash Flows
For the Year Ended December 31, 2020

Cash flows from operating activities		
Net income		\$66,000
Adjustments to reconcile net income		
to net cash provided by operating activities:		
Loss on sale of equipment [(\$24,000 – \$9,600) – \$12,000]	\$ 2,400	
Depreciation expense	15,600	
Patent amortization	3,000	
Increase in current liabilities	15,600	
Increase in current assets (other than cash)	<u>(34,800)</u>	<u>1,800</u>
Net cash provided by operating activities		67,800
Cash flows from investing activities		
Sale of equipment	12,000	
Addition to building	(32,400)	
Investment in stock	<u>(19,200)</u>	
Net cash used by investing activities		(39,600)
Cash flows from financing activities		
Issuance of bonds	60,000	
Payment of dividends	(36,000)	
Purchase of treasury stock	<u>(13,200)</u>	
Net cash provided by financing activities		<u>10,800</u>
Net increase in cash		39,000
Cash at the beginning of the year		<u>5,000</u>
Cash at the end of the year		<u><u>\$44,000</u></u>

EX.1: Harding Corporation has the following accounts included in its December 31, 2020, trial balance: Accounts Receivable \$110,000, Inventory \$290,000, Allowance for Doubtful Accounts \$8,000, Patents \$72,000, Prepaid Insurance \$9,500, Accounts Payable \$77,000, and Cash \$30,000. :

Instructions: Prepare the current assets section of the balance sheet, listing the accounts in proper sequence.

SOL.:

Ex.2: Included in Outkast Company's December 31, 2020, trial balance are the following accounts: Prepaid Rent \$5,200, Debt Investments (to be held to maturity until 2023) \$56,000,

Unearned Fees \$17,000, Land (held for investment) \$39,000, and Notes Receivable (long-term) \$42,000.

Instructions: Prepare the long-term investments section of the balance sheet.

SOL.:

Long-term investments

Debt investments	\$ 56,000
Land held for investment	39,000
Note receivables (long-term)	42,000
Total investments	

Ex.3: Lowell Company's December 31, 2020, trial balance includes the following accounts: Inventory \$120,000, Buildings \$207,000, Accumulated Depreciation—Equipment \$19,000, Equipment \$190,000, Land (held for investment) \$46,000, Accumulated Depreciation—Buildings \$45,000, Land \$71,000, and Timberland \$70,000, Equity Investments (to be sold in the next 6 months) \$21,000, Goodwill \$150,000, Prepaid Insurance \$12,000, Patents \$220,000, and Franchises \$130,000.

Instructions: Prepare the property, plant, and equipment section and intangible assets section of the balance sheet.

Property, plant, and equipment

Land	\$ 71,000
Buildings	\$207,000
Less: Accumulated depreciation (45,000)	162,000
Equipment	190,000
Less: Accumulated depreciation (19,000)	171,000
Timberland	70,000
Total property, plant, and equipment	\$474,000

Intangible assets

Goodwill	\$150,000
Patents	220,000
Franchises	130,000
Total intangible assets	\$500,000

Ex.4: Martinez Corporation engaged in the following cash transactions during 2020.

- Sale of land and building \$191,000
- Purchase of treasury stock 40,000
- Purchase of land 37,000
- Payment of cash dividend 95,000
- Purchase of equipment 53,000
- Issuance of common stock 147,000

Retirement of bonds 100,000

Instructions :Compute the net cash provided (used) by 1- investing activities. 2- financing activities..

Sol.: (1)

Sale of land and building	\$191,000
Purchase of land	
Purchase of equipment	<u>(53,000)</u>
Net cash provided by investing activities	\$101,000
(2) Issuance of common stock	\$147,000
Purchase of treasury stock	(40,000)
Payment of cash dividend	(95,000)
Retirement of bonds	<u>(100,000)</u>
Net cash used by financing activities	

Ex.5: Keyser Beverage Company reported the following items in the most recent year.

Net income \$40,000

Dividends paid 5,000

Increase in accounts receivable 10,000

Increase in accounts payable 7,000

Purchase of equipment (capital expenditure) 8,000

Depreciation expense 4,000

Issue of notes payable 20,000

Instructions :Compute net cash provided by operating activities, the net change in cash during the year.

Cash Flow Statement

Operating Activities

Net income		\$40,000
Depreciation expense	\$ 4,000	
Increase in accounts receivable	(10,000)	
Increase in accounts payable	<u>7,000</u>	<u>1,000</u>
Net cash provided by operating activities		41,000

Investing Activities

Purchase of equipment (8,000)

Financing Activities

Issue notes payable		20,000
Dividends paid		(5,000)
Net cash flow from financing activities	<u>15,000</u>	
Net increase in cash (\$41,000 – \$8,000 + \$15,000)		<u>\$48,000</u>

Feb. 1 Cash 12,400
 Notes Receivable 12,000
 Interest Receivable 300
 Interest Revenue ($\$12,000 \times 10\% \times 1/12$) 100

Ex.3: Prepare the following adjusting entries at August 31 for **Walgreens**.

1. Interest on notes payable of \$300 is accrued.
2. Services performed but unbilled total \$1,400.
3. Salaries and wages earned by employees of \$700 have not been recorded.
4. Bad debt expense for year is \$900.

Use the following account titles: Service Revenue, Accounts Receivable, Interest Expense, Interest Payable, Salaries and Wages Expense, Salaries and Wages Payable, Allowance for Doubtful Accounts, and Bad Debt Expense.

Sol. : Aug. 31

Interest Expense 300
 Interest Payable 300

Accounts Receivable 1,400
 Service Revenue 1,400
 Salaries and Wages Expense 700
 Salaries and Wages Payable 700

Bad Debt Expense 900
 Allowance for Doubtful Accounts 900

Ex.4 homework: (Adjusting Entries) Karen Weller, D.D.S., opened a dental practice on January 1, 2020. During the first month of operations, the following transactions occurred.

1. Performed services for patients who had dental plan insurance. At January 31, \$750 of such services was performed but not yet billed to the insurance companies.
2. Utility expenses incurred but not paid prior to January 31 totaled \$520.
3. Purchased dental equipment on January 1 for \$80,000, paying \$20,000 in cash and signing a \$60,000, 3-year note payable. The equipment depreciates \$400 per month. Interest is \$500 per month.
4. Purchased a one-year malpractice insurance policy on January 1 for \$12,000.
5. Purchased \$1,600 of dental supplies. On January 31, determined that \$500 of supplies were on hand.

Instructions

Prepare the adjusting entries on January 31. (Omit explanations.) Account titles are Accumulated Depreciation—Equipment, Depreciation Expense, Service Revenue, Accounts Receivable, Insurance Expense, Interest Expense, Interest Payable, Prepaid Insurance, Supplies, Supplies Expense, Utilities Expenses, and Accounts Payable.

2.
 Utilities Expenses 520

Accounts Payable 520

3.

Depreciation Expense 400

Accumulated Depreciation – Equipment 400

Interest Expense 500

Interest Payable 500

4.

Insurance Expense ($\$12,000 \times 1/12$) 1,000

Prepaid Insurance 1,000

5.

Supplies Expense ($\$1,600 - \500) 1,100

Supplies 1,100

twelfth week **Worksheet**

What is an Accounting Worksheet?

An accounting worksheet is a tool used to help bookkeepers and accountants complete the accounting cycle and prepare year-end reports like unadjusted trial balances, adjusting journal entries, adjusted trial balances, and financial statements.

Format

The accounting worksheet is essentially a spreadsheet that tracks each step of the accounting cycle. The spreadsheet typically has five sets of columns that start with the unadjusted trial balance accounts and end with the financial statements. In other words, an accounting worksheet is basically a spreadsheet that shows all of the major steps in the accounting cycle side by side.

Each step lists its debits and credits with totals calculated at the bottom. Just like the trial balances, the work sheet also has a heading that consists of the company name, title of the report, and time period the report documents.

Worksheet Columns

Trial Balance Columns -Adjustments Columns – Adjusted Trial Balance Columns – Income statement – Balance sheet

Uptown Cabinet Corp.
Ten-Column Worksheet
For the Year Ended December 31, 2020

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Cash	1,200				1,200				1,200	
Notes receivable	16,000				16,000				16,000	
Accounts receivable	41,000				41,000				41,000	
Allowance for doubtful accounts		2,000	(b) 1,000			3,000				3,000
Inventory	40,000				40,000				40,000	
Prepaid insurance	900		(c) 360		540				540	
Equipment	67,000				67,000				67,000	
Accumulated depreciation—equipment		12,000	(a) 6,700			18,700				18,700
Notes payable		20,000				20,000				20,000
Accounts payable		13,500				13,500				13,500
Bonds payable		30,000				30,000				30,000
Common stock		50,000				50,000				50,000
Retained earnings, Jan. 1, 2020		16,200				16,200				16,200
Dividends	2,000				2,000				2,000	
Sales revenue		400,000				400,000	400,000			
Cost of goods sold	316,000				316,000		316,000			
Salaries and wages expense (sales)	20,000				20,000		20,000			
Advertising expense	10,200				10,200		10,200			
Salaries and wages expense (general)	19,000				19,000		19,000			
Telephone and Internet expense	600				600		600			
Rent expense	4,800		(e) 500		4,300		4,300			
Property tax expense	3,300		(f) 2,000		5,300		5,300			
Interest expense	1,700				1,700		1,700			
Totals	543,700	543,700								
Depreciation expense			(a) 6,700		6,700		6,700			
Bad debt expense			(b) 1,000		1,000		1,000			
Insurance expense			(c) 360		360		360			
Interest receivable			(d) 800		800				800	
Interest revenue				(d) 800		800		800		
Prepaid rent			(e) 500		500				500	
Property taxes payable				(f) 2,000		2,000				2,000
Income tax expense			(g) 3,440		3,440		3,440			
Income taxes payable				(g) 3,440		3,440				3,440
Totals			14,800	14,800	557,640	557,640	388,600	400,800		
Net income							12,200			12,200
Totals							400,800	400,800	169,040	169,040

Adjustments Entered on the Worksheet

Items (a) through (g) below serve as the basis for the adjusting entries made in the worksheet for Uptown shown in Illustration .1.

- a. Depreciation of equipment at the rate of 10 percent per year based on original cost of \$67,000.
- b. Estimated bad debts of \$1,000, based on an aging of Accounts Receivable.
- c. Insurance expired during the year \$360.
- d. Interest accrued on notes receivable as of December 31, \$800.

- e. The Rent Expense account contains \$500 rent paid in advance, which is applicable to next year.
 - f. Property taxes accrued December 31, \$2,000.
 - g. Income taxes payable estimated \$3,440.
- The adjusting entries shown on the December 31, 2020, worksheet are as follows.

- a. Depreciation Expense 6,700
 Accumulated Depreciation—Equipment 6,700
- b. Bad Debt Expense 1,000
 Allowance for Doubtful Accounts 1,000
- c. Insurance Expense 360
 Prepaid Insurance 360
- d. Interest Receivable 800
 Interest Revenue 800
- e. Prepaid Rent 500
 Rent Expense 500
- f. Property Tax Expense 2,000
 Property Taxes Payable 2,000
- g. Income Tax Expense 3,440
 Income Taxes Payable 3,440

Ex.5: Jurassic Park Co. prepares monthly financial statements from a worksheet. Selected portions of the January worksheet showed the following data.

Jurassic Park Co.						
Worksheet (partial)						
For the Month Ended Jan. 31, 2020						
Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Supplies	3,256			(a) 1,500	1,756	
Accumulated Depreciation—Equipment		6,682		(b) 257		6,939
Interest Payable		100		(c) 50		150
Supplies Expense			(a) 1,500		1,500	
Depreciation Expense			(b) 257		257	
Interest Expense			(c) 50		50	

During February, no events occurred that affected these accounts. But at the end of February, the following information was available.

- (a) Supplies on hand \$715
- (b) Monthly depreciation \$257
- (c) Accrued interest \$ 50

Instructions

Reproduce the data that would appear in the February worksheet, and indicate the amounts that would be shown in the February income statement.

Jurassic Park Co.												
Worksheet (partial)												
For Month Ended February 28, 2020												
Account Titles	Trial Balance		Adjustments				Adjusted Trial Balance		Income Statement ^a		Balance Sheet	
	Dr.	Cr.	Dr.		Cr.		Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Supplies	1,756				(a)	1,041	715				715	
Accumulated depreciation – equipment		6,939			(b)	257		7,196				7,196
Interest payable		150			(c)	50		200				200
Supplies expense	1,500		(a)	1,041			2,541		2,541			
Depreciation expense	257		(b)	257			514		514			
Interest expense	50		(c)	50			100		100			

The following accounts and amounts would be shown in the February income statement:

Supplies expense \$2,541

Depreciation expense 514

Interest expense 100

thirteenth week

Cash and bank statement reconciliation

Reconciliation of Bank Balances

At the end of each calendar month, the bank supplies each customer with a **bank statement** (a copy of the bank's account with the customer) together with the customer's checks that the bank paid during the month. If neither the bank nor the customer made any errors, if all deposits made and all checks drawn by the customer reached the bank within the same month, and if no unusual transactions occurred that affected either the company's or the bank's record of cash, the balance of cash reported by the bank to the customer equals that shown in the customer's own records. This condition seldom occurs due to one or more of the reconciling items presented below.

Reconciling Items

1. Deposits in Transit. End-of-month deposits of cash recorded on the depositor's books in one month are received and recorded by the bank in the following month.

2. Outstanding Checks. Checks written by the depositor are recorded when written but may not be recorded by (may not "clear") the bank until the next month.

3. Bank Charges. Charges recorded by the bank against the depositor's balance for such items as bank services, printing checks, **not-sufficient funds (NSF) checks**, and safe deposit box rentals. The depositor may not be aware of these charges until the receipt of the bank statement.

4. Bank Credits. Collections or deposits by the bank for the benefit of the depositor that may be unknown to the depositor until receipt of the bank statement. Examples are note collection for the depositor and interest earned on interest-bearing checking accounts.

5. Bank or Depositor Errors. Errors on either the part of the bank or the part of the Depositor cause the bank balance to disagree with the depositor's book balance.

Hence, a company expects differences between its record of cash and the bank's record.

Therefore, it must reconcile the two to determine the nature of the differences between the two amounts.

A **bank reconciliation** is a schedule explaining any differences between the bank's and the company's records of cash. If the difference results only from transactions not yet recorded by the bank, the company's record of cash is considered correct. But, if some part of the difference arises from other items, either the bank or the company must adjust its records.

A company may prepare two forms of a bank reconciliation. One form reconciles from the bank statement balance to the book balance or vice versa. The other form reconciles both the bank balance and the book balance to a correct cash balance. Most companies use this latter form. **Illustration 7A.1** shows a sample of that form and its common reconciling items.

Balance per bank statement (end of period)		\$\$\$
Add: Deposits in transit	\$\$	
Undeposited receipts (cash on hand)	\$\$	
Bank errors that understate the bank statement balance	\$\$	\$\$
		\$\$\$
Deduct: Outstanding checks	\$\$	
Bank errors that overstate the bank statement balance	\$\$	\$\$
Correct cash balance		\$\$\$
Balance per depositor's books		\$\$\$
Add: Bank credits and collections not yet recorded in the books	\$\$	
Book errors that understate the book balance	\$\$	\$\$
		\$\$\$
Deduct: Bank charges not yet recorded in the books	\$\$	
Book errors that overstate the book balance	\$\$	\$\$
Correct cash balance		\$\$\$

Example 1: Nugget Mining Company's books show a cash balance at the Denver National Bank on November 30, 2020, of \$20,502. The bank statement covering the month of November shows an ending balance of \$22,190. An examination of Nugget's accounting records and November bank statement identified the following reconciling items.

1. A deposit of \$3,680 that Nugget mailed November 30 does not appear on the bank statement.

2. Checks written in November but not charged to the November bank statement are:

Check #7327 \$ 150

 #7348 \$4,820

 #7349 \$ 31

3. Nugget has not yet recorded the \$600 of interest collected by the bank on November 20 for Sequoia Co. bonds held by the bank for Nugget.

4. Bank service charges of \$18 are not yet recorded on Nugget's books.

5. The bank returned one of Nugget's customer's checks for \$220 with the bank statement, marked "NSF." The bank treated this bad check as a disbursement.

6. Nugget discovered that it incorrectly recorded check #7322, written in November for \$131 in payment of an account payable, as \$311.

7. A check for Nugent Oil Co. in the amount of \$175 that the bank incorrectly charged to Nugget accompanied the statement.

Instructions: 1-Nugget reconciled the bank and book balances to the correct cash balance of \$21,044.

2-journal entries required to adjust and correct Nugget's books

Nugget Mining Company
Bank Reconciliation
Denver National Bank, November 30, 2020

Balance per bank statement (end of period)			\$22,190
Add: Deposit in transit	(1)	\$3,680	
Bank error—incorrect check charged to account by bank	(7)	175	3,855
			26,045
Deduct: Outstanding checks	(2)		5,001
Correct cash balance			\$21,044
Balance per books			\$20,502
Add: Interest collected by the bank	(3)	\$ 600	
Error in recording check #7322	(6)	180	780
			21,282
Deduct: Bank service charges	(4)	18	
NSF check returned	(5)	220	238
Correct cash balance			\$21,044

2-

Cash 600

Interest Revenue 600

(To record interest on Sequoia Co. bonds, collected by bank)

Cash 180

Accounts Payable 180

(To correct error in recording amount of check #7322)

Office Expense (bank charges) 18

Cash 18

(To record bank service charges for November)

Accounts Receivable 220

Cash 220

(To record customer's check returned NSF)

After posting the entries, Nugget's cash account will have a balance of \$21,044. Nugget should return the Nugget Oil Co. check to Denver National Bank, informing the bank of the error.

Exe.1: Sally Kist owns Linen Kist Fabrics. Sally asks you to explain how she should treat the following reconciling items when reconciling the company's bank account:

- (1) a debit memorandum for an NSF check.
- (2) a credit memorandum for a note collected by the bank.
- (3) outstanding checks.
- (4) a deposit in transit.

Solution

Sally should treat the reconciling items as follows.

- (1) NSF check: Deduct from balance per books.
- (2) Collection of note: Add to balance per books.
- (3) Outstanding checks: Deduct from balance per bank.
- (4) Deposit in transit: Add to balance per bank.

Exe.13-2: Poorten Company's bank statement for May 2010 shows the following data.

The cash balance per books at May 31 is \$13,319.

Your review of the data reveals the following.

1. The NSF check was from Copple Co., a customer \$175.
2. The note collected by the bank was a \$500, 3-month, 12% note. The bank charged a \$10 collection fee. No interest has been accrued.
3. Outstanding checks at May 31 total \$2,410.
4. Deposits in transit at May 31 total \$1,752.
5. A Poorten Company check for \$352, dated May 10, cleared the bank on May 25. The company recorded this check, which was a payment on account, for \$325.

Instructions

- (a) Prepare a bank reconciliation at May 31.**
- (b) Journalize the entries required by the reconciliation.**

(a)

POORTEN COMPANY

Bank Reconciliation

May 31, 2010

Cash balance per bank statement		\$14,280
Add: Deposits in transit		<u>1,752</u>
		16,032
Less: Outstanding checks		<u>2,410</u>
Adjusted cash balance per bank		<u><u>\$13,622</u></u>
Cash balance per books		\$13,319
Add: Collection of note receivable \$500, plus \$15 interest, less collection fee \$10		<u>505</u>
		13,824
Less: NSF check	\$175	
Error in recording check	<u>27</u>	<u>202</u>
Adjusted cash balance per books		<u><u>\$13,622</u></u>

(b)

May 31	Cash	505	
	Miscellaneous Expense	10	
	Notes Receivable		500
	Interest Revenue		15
	(To record collection of note by bank)		
31	Accounts Receivable—Coppie Co.	175	
	Cash		175
	(To record NSF check from Coppie Co.)		
31	Accounts Payable	27	
	Cash		27
	(To correct error in recording check)		

Exe.3:(Bank Reconciliation and Adjusting Entries) Angela Lansbury Company deposits all receipts and makes all payments by check. The following information is available from the cash records.

Month of July Results

	<u>Per Bank</u>	<u>Per Books</u>
Balance July 31	\$8,650	\$9,250
July deposits	5,000	7350
July checks	2,000	3,100
July note collected (not included in July deposits)	1,000	—
July bank service charge	15	—
July NSF check from a customer, returned by the bank (recorded by bank as a charge)	335	—

Instructions : a. Prepare a bank reconciliation going from balance per bank and balance per book to correct cash balance.

b. Prepare the general journal entry or entries to correct the Cash account.

(a) Angela Lansbury Company Bank Reconciliation July 31		
Balance per bank statement, July 31		\$8,650
Add: Deposits in transit		2,350
Deduct: Outstanding checks		<u>(1,100)</u>
Correct cash balance, July 31		\$9,900
Balance per books, July 31		\$9,250
Add: Collection of note		1,000
Less: Bank service charge	\$ 15	
NSF check	<u>335</u>	<u>(350)</u>
Correct cash balance, July 31		<u>\$9,900</u>

(b)

Cash (\$1,000 - \$15 - \$335)	650	
Office Expenses—bank service charges	15	
Accounts Receivable	335	
Notes Receivable		1,000

Exe.4: Logan Bruno Company has just received the August 31, 2020, bank statement, which is summarized below.

County National Bank	Disbursements	Receipts	Balance
Balance, August 1	-----	----	\$ 9,369
Deposits during August	-----	\$32,200	41,569
Note collected for depositor, including \$40 interest	-----	1,040	42,609
Checks cleared during August	\$34,500	----	8,109
Bank service charges	20		8,089
Balance, August 31			8,089

1- The general ledger Cash account **\$10,147** for the month of August.

2- Deposits in transit at August 31 are \$3,800, and checks outstanding at August 31 total \$1,050.

3-Cash on hand at August 31 is \$310. The bookkeeper improperly entered one check in the books at \$146.50 which was written for \$164.50 for supplies (expense); it cleared the bank during the month of August.

Instructions

a. Prepare a bank reconciliation dated August 31, 2020, proceeding to a correct balance.

b. Prepare any entries necessary to make the books correct and complete.



(a) Logan Bruno Company
Bank Reconciliation, August 31, 2020
County National Bank

Balance per bank statement, August 31, 2020		<u>\$ 8089</u>
Add: Cash on hand	\$ 310	
Deposits in transit	<u>3,800</u>	<u>4,110</u>
		12,199
Deduct: Outstanding checks		<u>(1,050)</u>
Correct cash balance		<u>\$11,149</u>
Balance per books, August 31, 2020 (\$10,050 + \$35,000 – \$34,903)		<u>\$10,147</u>
Add: Note (\$1,000a) and interest (\$40b) collected		<u>1,040</u>
		11,187
Deduct: Bank service charges	\$ 20	
Understated check for supplies (\$164.50 - \$146.50)	<u>18</u>	<u>(38)</u>
Correct cash balance		<u>\$11,149</u>

(b)

Cash 1,040
 Notes Receivable 1,000
 Interest Revenue 40
 (To record collection of note and interest)

Ex.: The trial balance before adjustment for Slamar Company shows the following balances.

	Debit	Credit
Net sales		\$860,000
Accounts receivable	338,000	
Allowance for doubtful accounts		\$4,240

Consider the following independent situations:

1. To obtain additional cash, Slamar factors without recourse \$50,000 of accounts receivable with Pierce Finance. The finance charge is 11% of the amount factored.
2. To obtain a 1-year loan of \$75,000, Slamar assigns \$80,000 of specific receivable accounts to Milo Financial. The finance charge is 9% of the loan; the cash is received and the accounts turned over to Milo Financial.
3. The company wants to maintain Allowance for Doubtful Accounts at 6% of gross accounts receivable.

Instructions : Using the data above, give the journal entries required to record situations 1–3.

Solution

1. Cash 44,500
 Loss on Sale of Receivables (\$50,000 × .11) 5,500
 Accounts Receivable 50,000
2. Cash 68,250

Interest Expense ($\$75,000 \times .09$) 6,750

Notes Payable 75,000

3. Bad Debt Expense 16,040

Allowance for Doubtful Accounts [$(\$338,000 \times .06) - \$4,240$] 16,040

fourteenth week

Fixed assets (types, ways, to get them), cash purchase , purchase on account , manufacturing , gifts .

he major characteristics of property, plant, and equipment are as follows.

1. *They are acquired for use in operations and not for resale.*
2. *They are long-term in nature and usually depreciated.*
3. *They possess physical substance.*

Acquisition of Property, Plant, and Equipment

Most companies use historical cost as the basis for valuing property, plant, and equipment .

Historical cost measures the cash or cash equivalent price of obtaining the asset and bringing it to the location and condition necessary for its intended use.

1. Historical cost involves actual, not hypothetical, transactions and so is the most reliable.
2. Companies should not anticipate gains and losses but should recognize gains and losses only when the asset is sold.

Cost of Land

All expenditures made to acquire land and ready it for use are considered part of the land cost. Thus, when **Wal-Mart Stores, Inc.** or **Home Depot** purchases land on which to build a new store, its land costs typically include:

- (1) the purchase price;
- (2) closing costs, such as title to the land, attorney's fees, and recording fees;
- (3) costs incurred in getting the land in condition for its intended use, such as grading, filling, draining, and clearing;
- (4) assumption of any liens, mortgages, or encumbrances on the property;
- (5) any additional land improvements that have an indefinite life.

Cost of Buildings

The cost of buildings should include all expenditures related directly to their acquisition or construction. These costs include (1) materials, labor, and overhead costs incurred during construction, and (2) professional fees and building permits. Generally, companies contract others to construct their buildings. Companies consider all costs incurred, from excavation to completion, as part of the building costs.

But how should companies account for an old building that is on the site of a newly proposed building? Is the cost of removal of the old building a cost of the land or a cost of the new building? Recall that **if a company purchases land with an old building on it, then the cost of demolition less its salvage value is a cost of getting the land ready for its intended use**

and relates to the land rather than to the new building. In other words, all costs of getting an asset ready for its intended use are costs of that asset.

Cost of Equipment

The term “equipment” in accounting includes delivery equipment, office equipment, machinery, furniture and fixtures, furnishings, factory equipment, and similar fixed assets. The cost of such assets includes the purchase price, freight and handling charges incurred, insurance on the equipment while in transit, cost of special foundations if required, assembling and installation costs, and costs of conducting trial runs. Costs thus include all expenditures incurred in acquiring the equipment and preparing it for use.

Self-Constructed Assets

Occasionally, companies construct their own assets. Determining the cost of such machinery and other fixed assets can be a problem. Without a purchase price or contract price, the company must allocate costs and expenses to arrive at the cost of the **self-constructed asset**.

Materials and direct labor used in construction pose no problem. A company can trace these costs directly to work and material orders related to the fixed assets constructed. However, the assignment of indirect costs of manufacturing creates special problems. These indirect costs, called **overhead** or burden, include power, heat, light, insurance, property taxes on factory buildings and equipment, factory supervisory labor, depreciation of fixed assets, and supplies.

Companies can handle indirect costs in one of two ways:

1. Assign no fixed overhead to the cost of the constructed asset. The major argument for this treatment is that indirect overhead is generally fixed in nature. It does not increase as a result of a company constructing its own plant or equipment. This approach assumes that the company will have the same costs regardless of whether it constructs the asset or not. Therefore, to charge a portion of the overhead costs to the equipment will normally reduce current expenses and consequently overstate income of the current period. However, the company would assign to the cost of the constructed asset variable overhead costs that increase as a result of the construction.

2. Assign a portion of all overhead to the construction process. This approach, called a **full-costing approach**, follows the belief that costs should attach to all products and assets manufactured or constructed. Under this approach, a company assigns a portion of all overhead to the construction process, as it would to normal production. Advocates say that failure to allocate overhead costs understates the initial cost of the asset and results in an inaccurate future allocation.

Companies should assign to the asset a **pro rata portion** of the fixed overhead to determine its cost. Companies use this treatment extensively because many believe that it results in a better recognition of these costs in periods benefited.

If the allocated overhead results in recording construction costs in excess of the costs that an outside independent producer would charge, the company should record the excess overhead as a period loss rather than capitalize it. This avoids capitalizing the asset at more than its probable fair value.

Lump-Sum Purchases

A special problem of valuing fixed assets arises when a company purchases a group of plant assets at a single **lump-sum price**. When this common situation occurs, the company allocates the total cost among the various assets on the basis of their relative fair values. The assumption is that costs will vary in direct proportion to fair value. This is the same principle that companies apply to allocate a lump-sum cost among different inventory items.

To determine fair value, a company should use valuation techniques that are appropriate in the circumstances. In some cases, a single valuation technique will be appropriate. In other cases, multiple valuation approaches might have to be used.

Cash purchase

Example 1: Hayes Manufacturing Company acquires real estate at a cash cost of \$100,000. The property contains an old warehouse that is razed at a net cost of \$6,000 (\$7,500 in costs less \$1,500 proceeds from salvaged materials). Additional expenditures are the attorney's fee, \$1,000, and the real estate broker's commission, \$8,000. The cost of the land is \$115,000, computed as follows.

Land

Cash price of property	\$100,000
Net removal cost of warehouse	6,000
Attorney's fee	1,000
Real estate broker's commission	8,000
Cost of land	\$115,000

Journal entry :

Land \$115,000
Cash \$115,000.

Example 2: Merten Company purchases factory machinery at a cash price of \$50,000. Related expenditures are for sales taxes \$3,000, insurance during shipping \$500, and installation and testing \$1,000. The cost of the factory machinery is \$54,500, computed as follows.

Factory Machinery

Cash price	\$50,000
Sales taxes	3,000
Insurance during shipping	500
Installation and testing	<u>1,000</u>
Cost of factory machinery	\$54,500

Merten makes the following summary entry to record the purchase and related expenditures:

Factory Machinery 54,500
Cash 54,500

(To record purchase of factory machine)

Example 3: Lenard Company purchases a delivery truck at a cash price of \$22,000. Related expenditures consist of sales taxes \$1,320, painting and lettering \$500, motor vehicle license \$80, and a three-year accident insurance policy \$1,600. The cost of the delivery truck is \$23,820, computed as follows.

Delivery Truck

Cash price	\$22,000
Sales taxes	1,320
Painting and lettering	500

Cost of delivery truck \$23,820

Lenard treats the cost of the motor vehicle license as an expense, and the cost of the insurance policy as a prepaid asset. Thus, Lenard makes the following entry to record the purchase of the truck and related expenditures:

Delivery Truck	23,820	
License Expense	80	
Prepaid Insurance	1,600	
Cash		25,500

(To record purchase of delivery truck and related expenditures)

Example 4: Norduct Homes, Inc. decides to purchase several assets of a small heating concern, Comfort Heating, for \$80,000. Comfort Heating is in the process of liquidation. Its assets sold are as follows.

	Book Value	Fair Value
Inventory	\$30,000	\$ 25,000
Land	20,000	25,000
Building	<u>35,000</u>	<u>50,000</u>
	\$85,000	\$100,000

Norduct Homes allocates the \$80,000 purchase price on the basis of the relative fair values (assuming specific identification of costs is impracticable) as shown in

Illustration 15.1.

Inventory	$\frac{\$25,000}{\$100,000} \times \$80,000 = \$20,000$
Land	$\frac{\$25,000}{\$100,000} \times \$80,000 = \$20,000$
Building	$\frac{\$50,000}{\$100,000} \times \$80,000 = \$40,000$

Issuance of Stock

When companies acquire property by issuing securities, such as common stock, the par or stated value of such stock fails to properly measure the property cost. If trading of the stock is active, **the market price of the stock issued is a fair indication of the cost of the property acquired. The stock is a good measure of the current cash equivalent price.** For example, Upgrade Living Co. decides to purchase some adjacent land for expansion of its carpeting



and cabinet operation. In lieu of paying cash for the land, the company issues to Deedland Company 5,000 shares of common stock (par value \$10) that have a fair value of \$12 per share. Upgrade Living Co. records the following entry.

Land (5,000 × \$12) 60,000

Common Stock (5,000 × \$10) 50,000

Paid-in Capital in Excess of Par—Common Stock 10,000

If the company cannot determine the market price of the common stock exchanged, it establishes the fair value of the property. It then uses the value of the property as the basis for recording the asset and issuance of the common stock.

Exe.1: The following expenditures relating to plant assets were made by Spaulding Company during the first 2 months of 2010.

1. Paid \$5,000 of accrued taxes at time plant site was acquired.
2. Paid \$200 insurance to cover possible accident loss on new factory machinery while the machinery was in transit.
3. Paid \$850 sales taxes on new delivery truck.
4. Paid \$17,500 for parking lots and driveways on new plant site.
5. Paid \$250 to have company name and advertising slogan painted on new delivery truck.
6. Paid \$8,000 for installation of new factory machinery.
7. Paid \$900 for one-year accident insurance policy on new delivery truck.
8. Paid \$75 motor vehicle license fee on the new truck.

Instructions : journalizing above transaction.

1. Land 5000

Cash 5000

2. Factory Machinery 200

Cash 200

3. Delivery Equipment 850

Cash 850

4. Land Improvements 17500

Cash 17500

5. Delivery Equipment 900

Cash 900

6. Factory Machinery 8000

Cash 8000

7. Prepaid Insurance 900

Cash 900

8. License Expense 75

Cash 75

Exe.2: African Lakes Company purchased a delivery truck. The total cash payment was \$27,900, including the following items.

Negotiated purchase price \$24,000

Installation of special shelving 1,100

Painting and lettering 900
 Motor vehicle license 100
 Annual insurance policy 500
 Sales tax 1,300
 Total paid \$27,900

Instructions : 1-Explain how each of these costs would be accounted for.
 2- record journal entry.

Sol.

Negotiated purchase price	\$24,000
Installation of special shelving	1,100
Painting and lettering.....	900
Sales tax	1,300
Total paid	\$27,300

Thus, the cost of the truck is \$27,300. The payments for the motor vehicle license and for the insurance are operating costs and are expensed in the first year of the truck's life.

Delivery Truck	27300
License Expense	100
Prepaid Insurance	500
Cash	27,900

Exe.3;Trudy Company incurred the following costs.

1. Sales tax on factory machinery purchased \$5,000
2. Painting of and lettering on truck immediately upon purchase 700
3. Installation and testing of factory machinery 2,000
4. Real estate broker's commission on land purchased 3,500
5. Insurance premium paid for first year's insurance on new truck 880
6. Cost of landscaping on property purchased 7,200
7. Cost of paving parking lot for new building constructed 17,900
8. Cost of clearing, draining, and filling land 13,300
9. Architect's fees on self-constructed building 10,000

Instructions : journalizing above transaction.

Sol.:

1. Factory Machinery 5,000
 Cash 5000

2. Truck 700
 Cash 700

1. Factory Machinery 2000
 Cash 2000

2. Land 3500

Cash 3500

3. Prepaid Insurance 880

Cash 880

4. Land Improvements 7200

Cash 7200

5. Land Improvements 10000

6. Cash 10000

7. Land

9. Building

Exe.4: Garcia Corporation purchased a truck by issuing an \$80,000, 4-year, zero-interest-bearing note to Equinox Inc. The market rate of interest for obligations of this nature is 10%.

Instructions :Prepare the journal entry to record the purchase of this truck.

Sol.:

Trucks (\$80,000 X .68301 (PVF 4, 10%)) 54,641
Discount on Notes Payable 25,359
Notes Payable 80,000

Exe.5: Mohave Inc. purchased land, building, and equipment from Laguna Corporation for a cash payment of \$315,000. The estimated fair values of the assets are land \$60,000, building \$220,000, and equipment \$80,000.

Instructions :A- what amounts should each of the three assets be recorded?

B- Prepare the journal entry to record the purchase of this truck.

Sol.: A-

	Fair Value	% of Total		Cost	Recorded Amount
Land	\$ 60,000	60/360	X	\$315,000	\$ 52,500
Building	220,000	220/360	X	\$315,000	192,500
Equipment	80,000	80/360	X	\$315,000	70,000
	<u>\$360,000</u>				<u>\$315,000</u>

B-

Land 52500
Building 192500
Equipment 70000

Cash 315000

Exe.6: Fielder Company obtained land by issuing 2,000 shares of its \$10 par value common stock. The land was recently appraised at \$85,000. The common stock is actively traded at \$40 per share.

Instructions : Prepare the journal entry to record the acquisition of the land.

Land (2,000 X \$40)	80,000	
Common Stock (2,000 X \$10)		20,000
Paid-in Capital in Excess of Par [2,000 x (\$40 - \$10)]		60,000

Exe.7: Kelly Clarkson Corporation operates a retail computer store. To improve delivery services to customers, the company purchases four new trucks on April 1, 2020. The terms of acquisition for each truck are described below.

1. Truck #1 has a list price of \$15,000 and is acquired for a cash payment of \$13,900.

2. Truck #2 has a list price of \$16,000. It is acquired in exchange for a computer system that Clarkson carries in inventory. The computer system cost \$12,000 and is normally sold by Clarkson for \$15,200.

Clarkson uses a perpetual inventory system.

3. Truck #2 has a list price of \$14,000. It is acquired in exchange for 1,000 shares of common stock in Clarkson Corporation. The stock has a par value per share of \$10 and a market price of \$13 per share.

Instructions

Prepare the appropriate journal entries for the above transactions for Clarkson Corporation.

1. Trucks 13,900.00
 Cash 13,900.00

2. Trucks 15,200.00
 Cost of Goods Sold 12,000.00
 Inventory 12,000.00
 Sales Revenue 15,200.00

3. Trucks 13,000.00*
 Common Stock **10,000.00
 Paid-in Capital in Excess of Par – Common Stock ***3,000.00

* (1,000 shares X \$13 = \$13,000)

** (1,000 shares x \$10)

*** [1,000 shares x (\$13 - \$10)]

١٦ Fixed assets depreciation , reasons and how to requester it .

Ways to calculate depreciation and ways of registration ١٧

Depreciation

Most individuals at one time or another purchase and trade in an automobile. The automobile dealer and the buyer typically discuss what the trade-in value of the old car is. Also, they may talk about what the trade-in value of the new car will be in several years. In both cases, a decline in value is considered to be an example of depreciation.

To accountants, however, depreciation is not a matter of valuation. Rather, **depreciation is a means of cost allocation. Depreciation is the accounting process of allocating the cost of tangible assets to expense in a systematic and rational manner to those periods expected to benefit from the use of the asset.** For example, a company like **Goodyear** (one of the world's largest tire manufacturers) does not depreciate assets on the basis of a decline in their fair value. Instead, it depreciates assets through systematic charges to expense. This approach is employed because the value of the asset may fluctuate between the time the asset is purchased and the time it is sold or junked. Attempts to measure these interim value changes have not been well received because values are difficult to measure objectively.

Therefore, Goodyear charges the asset's cost to depreciation expense over its estimated life. It makes no attempt to value the asset at fair value between acquisition and disposition. Companies use the cost allocation approach because it recognizes the expense in the periods expected to benefit from the use of the asset and because fluctuations in fair value are uncertain and difficult to measure.

When companies write off the cost of long-lived assets over a number of periods, they typically use the term **depreciation**. They use the term **depletion** to describe the reduction in the cost of natural resources (such as timber, gravel, oil, and coal) over a period of time. The expiration of intangible assets, such as patents or copyrights, is called **amortization** (discussed in Chapter 12).

Factors Involved in the Depreciation Process

Before establishing a pattern of charges to revenue, a company must answer three basic questions:

1. What depreciable base is to be used for the asset?
2. What is the asset's useful life?
3. What method of cost apportionment is best for this asset?

The answers to these questions involve combining several estimates into one single figure.

Note the calculations assume perfect knowledge of the future, which is never attainable.

Depreciable Base for the Asset The base established for depreciation is a function of two factors: the original cost, and salvage or disposal value. We discussed historical cost in Chapter 10. **Salvage value** is the estimated amount that a company will receive when it sells the asset or removes it from service. It is the amount to which a company writes down or depreciates the asset during its useful life. If an asset has a cost of \$10,000 and a salvage value of \$1,000, its **depreciation base** is \$9,000 as shown in **Illustration 11.1**.

Original cost \$10,000

Less: Salvage value 1,000

Depreciation base \$ 9,000

From a practical standpoint, companies often assign a zero salvage value. Some long-lived assets, however, have substantial salvage values.

Estimation of Service Lives

The service life of an asset often differs from its physical life. A piece of machinery may be physically capable of producing a given product for many years beyond its service life. But a company may not use the equipment for all that time because the cost of producing the product in later years may be too high. For example, the old Slater cotton mill in Pawtucket, Rhode Island, is preserved in remarkable physical condition as an historic landmark in U.S. industrial development, although its service life was terminated many years ago.¹

Companies retire assets for two reasons: **physical factors** (such as casualty or expiration of physical life) and **economic factors** (obsolescence). Physical factors are the wear and tear, decay, and casualties that make it difficult for the asset to perform indefinitely. These physical

factors set the outside limit for the service life of an asset.

We can classify the economic or functional factors into three categories:

- 1. Inadequacy** results when an asset ceases to be useful to a company because the demands of the firm have changed. An example would be the need for a larger building to handle increased production. Although the old building may still be sound, it may have become inadequate for the company's purpose.
- 2. Supersession** is the replacement of one asset with another more efficient and economical asset. Examples would be the replacement of the mainframe computer with a PC network, or the replacement of the Boeing 767 with the Boeing 787.
- 3. Obsolescence** is the catchall for situations not involving inadequacy and supersession. Because the distinction between these categories appears artificial, it is probably best to consider economic factors collectively instead of trying to make distinctions that are not clear-cut.

To illustrate the concepts of physical and economic factors, consider a new nuclear power plant. Which is more important in determining the useful life of a nuclear power plant—physical factors or economic factors?

The limiting factors seem to be (1) ecological considerations, (2) competition from other power sources, and (3) safety concerns. Physical life does not appear to be the primary factor affecting useful life. Although the plant's physical life may be far from over, the plant may become obsolete in 10 years.

For a house, physical factors undoubtedly are more important than the economic or functional factors relative to useful life. Whenever the physical nature of the asset primarily determines useful life, maintenance plays an extremely vital role. The better the maintenance, the longer the life of the asset.

In most cases, a company estimates the useful life of an asset based on its past experience with the same or similar assets. Others use sophisticated statistical methods to establish a useful life for accounting purposes. And in some cases, companies select arbitrary service lives. In a highly industrial economy such as that of the United States, where research and innovation are so prominent, technological factors have as much effect, if not more, on service lives of tangible plant assets as physical factors do.

Methods of Depreciation

The third factor involved in the depreciation process is the **method** of cost apportionment. The profession requires that the depreciation method employed be “systematic and rational”. Companies may use a number of depreciation methods, as follows.

1. Activity method (units of use or production).
2. Straight-line method.
3. Decreasing-charge methods (accelerated):
 - a. Sum-of-the-years-digits.
 - b. Declining-balance method.
4. Special depreciation methods:
 - a. Group and composite methods.
 - b. Hybrid or combination methods.

Example1 : that Stanley Coal Mines recently purchased an additional crane for digging purposes. **Illustration 11.2** contains the pertinent data concerning this purchase.

Cost of crane \$500,000

Estimated useful life 5 years

Estimated salvage value \$50,000

Productive life in hours 30,000 hours

Activity Method

The **activity method** (also called the **variable-charge** or **units-of-production approach**) assumes that depreciation is a **function of use or productivity, instead of the passage of time**. A company considers the life of the asset in terms of either the **output** it provides (units it produces) or an **input** measure such as the number of hours it works. Conceptually, the proper cost association relies on output instead of hours used, but often the output is not easily measurable. In such cases, an input measure such as machine hours is a more appropriate method of measuring the dollar amount of depreciation charges for a given accounting period.

The crane poses no particular depreciation problem. Stanley can measure the usage (hours) relatively easily. If Stanley uses the crane for 4,000 hours the first year, the depreciation charge is as shown in **Illustration 11.3**.

$$\frac{(\text{Cost less Salvage Value}) \times \text{Hours This Year}}{\text{Total Estimated Hours}} = \text{Depreciation Charge}$$

$$\frac{(\$500,000 - \$50,000) \times 4,000}{30,000} = \$60,000$$

Straight-Line Method

The **straight-line method** considers depreciation as a **function of time rather than a function of usage** (see **Underlying Concepts**). Companies widely use this method because of its simplicity. The straight-line procedure is often the most conceptually appropriate, too. When creeping obsolescence is the primary reason for a limited service life, the decline in usefulness may be constant from period to period. Stanley computes the depreciation charge for the crane as shown in **Illustration 11.4**.

$$\frac{\text{Cost less Salvage Value}}{\text{Estimated Service Life}} = \text{Depreciation Charge}$$

$$\frac{\$500,000 - \$50,000}{5} = \$90,000$$

The major objection to the straight-line method is that it rests on two tenuous assumptions: (1) the asset's economic usefulness is the same each year, and (2) the maintenance and repair expense is essentially the same each period.

One additional problem that occurs in using the straight-line method—as well as some others—is that distortions in the rate of return analysis (income/assets) develop. **Illustration 11.5** indicates how the rate of return increases, given constant revenue flows, because the asset's book value decreases.

Year	Depreciation Expense	Undepreciated Asset Balance (book value)	Income (after depreciation expense)	Rate of Return (Income ÷ Assets)
0		\$500,000		
1	\$90,000	410,000	\$100,000	24.4%
2	90,000	320,000	100,000	31.3
3	90,000	230,000	100,000	43.5
4	90,000	140,000	100,000	71.4
5	90,000	50,000	100,000	200.0

Decreasing-Charge Methods

The **decreasing-charge methods** provide for a higher depreciation cost in the earlier years and lower charges in later periods (see **Underlying Concepts**). Because these methods allow for higher early-year charges than in the straight-line method, they are often called **accelerated depreciation methods**.

What is the main justification for this approach? The rationale is that companies should charge more depreciation in earlier years because the asset is most productive in its earlier years. Furthermore, the accelerated methods provide a constant cost because the depreciation charge is lower in the later periods, at the time when the repair and maintenance costs are often higher. Generally, companies use one of two decreasing-charge methods: the sum-of-the-years'-digits method or the declining-balance method.

Sum-of-the-Years'-Digits The **sum-of-the-years'-digits method** results in a decreasing depreciation charge based on a decreasing fraction of depreciable cost (original cost less salvage value). Each fraction uses the sum of the years as a denominator ($5 + 4 + 3 + 2 + 1 = 15$). The numerator is the number of years of estimated life remaining as of the beginning of the year. In this method, the numerator decreases year by year, and the denominator remains constant ($5/15$, $4/15$, $3/15$, $2/15$, and $1/15$). At the end of the asset's useful life, the balance remaining should equal the salvage value. **Illustration 11.6** shows this method of computation.

Year	Depreciation Base	Remaining Life in Years	Depreciation Fraction	Depreciation Expense	Book Value, End of Year
1	\$450,000	5	5/15	\$150,000	\$350,000
2	450,000	4	4/15	120,000	230,000
3	450,000	3	3/15	90,000	140,000
4	450,000	2	2/15	60,000	80,000
5	450,000	1	1/15	30,000	50,000 ^a
		<u>15</u>	<u>15/15</u>	<u>\$450,000</u>	

^aSalvage value.

Declining-Balance Method The **declining-balance method** utilizes a depreciation rate (expressed as a percentage) that is some multiple of the straight-line method. For example, the double-declining rate for a 10-year asset is 20 percent (double the straight-line rate, which is 1/10 or 10 percent). Companies apply the constant rate to the declining book value each year.

Unlike other methods, the declining-balance method **does not deduct the salvage value** in computing the depreciation base. The declining-balance rate is multiplied by the book value of the asset at the beginning of each period. Since the depreciation charge reduces the book value of the asset each period, applying the constant-declining-balance rate to a successively lower book value results in lower depreciation charges each year. This process continues until the book value of the asset equals its estimated salvage value. At that time, the company discontinues depreciation.

Companies use various multiples in practice. For example, the **double-declining balance method** depreciates assets at twice (200 percent) the straight-line rate. **Illustration 11.7** shows Stanley's depreciation charges if using the double-declining approach.

Year	Book Value of Asset, Beginning of Year	Rate on Declining Balance ^a	Depreciation Expense	Balance Accumulated Depreciation	Book Value, End of Year
1	\$500,000	40%	\$200,000	\$200,000	\$300,000
2	300,000	40	120,000	320,000	180,000
3	180,000	40	72,000	392,000	108,000
4	108,000	40	43,200	435,200	64,800
5	64,800	40	14,800 ^b	450,000	50,000

^aBased on twice the straight-line rate of 20% ($\$90,000 \div \$450,000 = 20\%$; $.20 \times 2 = 40\%$).

^bLimited to \$14,800 because book value should not be less than salvage value.

Companies often switch from the declining-balance method to the straight-line method near the end of the assets useful life to ensure that they depreciate the asset only to its salvage value.

Other Depreciation Issues

We still need to discuss several special issues related to depreciation:

1. How should companies compute depreciation for partial periods?
2. Does depreciation provide for the replacement of assets?
3. How should companies handle revisions in depreciation rates?

Depreciation and Partial Periods

Companies seldom purchase plant assets on the first day of a fiscal period or dispose of them on the last day of a fiscal period. A practical question is: How much depreciation should a company charge for the partial periods involved?

In computing depreciation expense for partial periods, companies must determine the depreciation expense for the full year and then prorate this depreciation expense between the two periods involved. This process should continue throughout the useful life of the asset.

Example2: that Steeltex Company purchases an automated drill machine with a five-year life for \$45,000 (no salvage value) on June 10, 2019. The company's fiscal year ends December 31. Steeltex therefore charges depreciation for only $6\frac{2}{3}$ months during that year. The total depreciation for a full year (assuming straight-line depreciation) is \$9,000 ($\$45,000/5$). The depreciation for the first, partial year is therefore:

$$\frac{6\frac{2}{3}}{12} \times \$9,000 = \$5,000$$

The partial-period calculation is relatively simple when Steeltex uses straight-line depreciation. But how is partial-period depreciation handled when it uses an accelerated method such as sum-of-the-years'-digits or double-declining-balance? As an illustration, assume that Steeltex purchased another machine for \$10,000 on July 1, 2019, with an estimated useful life of five years and no salvage value. **Illustration 11.11** shows the depreciation figures for 2019, 2020, and 2021.

	<u>Sum-of-the-Years'-Digits</u>	<u>Double-Declining-Balance</u>
1st full year	$(5/15 \times \$10,000) = \$3,333.33$	$(.40 \times \$10,000) = \$4,000$
2nd full year	$(4/15 \times 10,000) = 2,666.67$	$(.40 \times 6,000) = 2,400$
3rd full year	$(3/15 \times 10,000) = 2,000.00$	$(.40 \times 3,600) = 1,440$
Depreciation from July 1, 2019, to December 31, 2019		
	$6/12 \times \$3,333.33 = \underline{\underline{\$1,666.67}}$	$6/12 \times \$4,000 = \underline{\underline{\$2,000}}$
Depreciation for 2020		
	$6/12 \times \$3,333.33 = \$1,666.67$	$6/12 \times \$4,000 = \$2,000$
	$6/12 \times 2,666.67 = \underline{1,333.33}$	$6/12 \times 2,400 = \underline{1,200}$
	<u><u>\$3,000.00</u></u>	<u><u>\$3,200</u></u>
		<u>or $(\\$10,000 - \\$2,000) \times .40 = \underline{\underline{\\$3,200}}$</u>
Depreciation for 2021		
	$6/12 \times \$2,666.67 = \$1,333.33$	$6/12 \times \$2,400 = \$1,200$
	$6/12 \times 2,000.00 = \underline{1,000.00}$	$6/12 \times 1,440 = \underline{720}$
	<u><u>\$2,333.33</u></u>	<u><u>\$1,920</u></u>
		<u>or $(\\$10,000 - \\$5,200) \times .40 = \underline{\underline{\\$1,920}}$</u>

Exe. 1: Fernandez Corporation purchased a truck at the beginning of 2020 for \$50,000. The truck is estimated to have a salvage value of \$2,000 and a useful life of 160,000 miles. It was driven 23,000 miles in 2020 and 31,000 miles in 2021.

Instructions: 1- Compute depreciation expense using the units-of-production method for 2020 and 2021.

2-record journal entry would Fernandez Corporation make at December 31, 2020.

$$2020: \frac{(\$50,000 - \$2,000) \times 23,000}{160,000} = \underline{\underline{\$6,900}}$$

$$2021: \frac{(\$50,000 - \$2,000) \times 31,000}{160,000} = \underline{\underline{\$9,300}}$$

2- Depreciation Expense 6900

Accumulated Depreciation 6900

(To record annual depreciation)

Exe. 2: On January 1, 2010, Pine Grove Country Club purchased a new riding mower for \$15,000. The mower is expected to have an 8-year life with a \$1,000 salvage value.

Instructions : record journal entry would Pine Grove make at December 31, 2010, if it uses straight-line depreciation?

$$\text{Depreciation expense} = \frac{\text{Cost} - \text{Salvage}}{\text{Useful life}} = \frac{\$15,000 - \$1,000}{8 \text{ years}} = \$1,750$$

The entry to record the first year's depreciation would be:

Depreciation Expense 1,750

Accumulated Depreciation 1,750
(To record annual depreciation on mower)

Exe.3: Kelm Company purchased a new machine on October 1, 2010, at a cost of \$120,000. The company estimated that the machine will have a salvage value of \$12,000. The machine is expected to be used for 10,000 working hours during its 5-year life.

Instructions

Compute the depreciation expense under the following methods for the year indicated.

- (a) Straight-line for 2010.
 - (b) Units-of-activity for 2010, assuming machine usage was 1,700 hours.
 - (c) Declining-balance using double the straight-line rate for 2010 and 2011.
- (a) **Straight-line method:**

$$\left(\frac{\$120,000 - \$12,000}{5} \right) = \$21,600 \text{ per year.}$$

$$\text{2010 depreciation} = \$21,600 \times 3/12 = \underline{\$5,400.}$$

- (b) **Units-of-activity method:**

$$\left(\frac{\$120,000 - \$12,000}{10,000} \right) = \$10.80 \text{ per hour.}$$

$$\text{2010 depreciation} = 1,700 \text{ hours} \times \$10.80 = \underline{\$18,360.}$$

- (c) **Declining-balance method:**

$$\text{2010 depreciation} = \$120,000 \times 40\% \times 3/12 = \underline{\$12,000.}$$

$$\text{Book value January 1, 2011} = \$120,000 - \$12,000 = \underline{\$108,000.}$$

$$\text{2011 depreciation} = \$108,000 \times 40\% = \underline{\$43,200.}$$

Exe.4: Lockard Company purchased machinery on January 1, 2020, for \$80,000. The machinery is estimated to have a salvage value of \$8,000 after a useful life of 8 years.

Instructions: (a) Compute 2020 depreciation expense using the straight-line method.

(b) Compute 2020 depreciation expense using the straight-line method assuming the machinery was purchased on September 1, 2020.

- ١٩ Selling fixed assets
- ٢٠ Replacing fixed assets
- ٢١ Loss and profit of selling or replacing fixed assets

Ritenour Manufacturing has an old factory machine that cost \$50,000. The machine has accumulated depreciation of \$28,000 and a fair value of \$26,000. Ritenour has decided to sell the machine.

- (a) What entry would Ritenour make to record the sale of the truck for \$26,000 cash?
 - (b) What entry would Ritenour make to record the sale of the truck for \$15,000 cash?
- (a) Sale of truck for cash at a gain:

Cash	26,000
Accumulated Depreciation—Truck	28,000
Truck	50,000
Gain on Disposal	4,000

(b) Sale of truck for cash at a loss:

Cash	15,000
Loss on Disposal	7,000
Accumulated Depreciation—Truck	28,000
Truck	50,000

1^ How to deal with change of calculated depreciation when the production life changed

week twenty-two Operation and capital expenses

Operation and capital expenses , the importance of each, and the impact of mixing between them.

Costs Subsequent to Acquisition

After installing plant assets and readying them for use, a company incurs additional costs that range from ordinary repairs to significant additions. The major problem is allocating these costs to the proper time periods. **In general, costs incurred to achieve greater future benefits should be capitalized, whereas expenditures that simply maintain a given level of services should be expensed.** In order to capitalize costs, one of three conditions must be present:

1. The useful life of the asset must be increased.
2. The quantity of units produced from the asset must be increased.
3. The quality of the units produced must be enhanced.

For example, a company like **Boeing** should expense expenditures that do not increase an asset's future benefits. That is, it expenses immediately ordinary repairs that maintain the existing condition of the asset or restore it to normal operating efficiency.

Companies expense most expenditures below an established arbitrary minimum amount, say, \$100 or \$500. Although conceptually this treatment may be incorrect, expediency demands it. Otherwise, companies would set up depreciation schedules for an item such as a wastepaper basket . The distinction between a **capital expenditure (asset)** and a **revenue expenditure (expense)** is not always clear-cut. Yet, in most cases, **consistent application of a capital/ expense policy** is more important than attempting to provide general theoretical guidelines for each transaction. Generally, companies incur four major types of expenditures relative to existing assets.

Capital expenditures : Expenditures that increase the company's investment in productive facilities.

Major Types of Expenditures

Additions. Increase or extension of existing assets.

Improvements and Replacements. Substitution of an improved asset for an existing one.

Rearrangement and Reinstallation. Movement of assets from one location to another.

Repairs. Expenditures that maintain assets in condition for operation.

Additions

Additions should present no major accounting problems. By definition, **companies capitalize any addition to plant assets because a new asset is created.** For example, the addition of a wing to a hospital, or of an air conditioning system to an office, increases the service potential of that facility. Companies should capitalize such expenditures and record expense with the revenues that will result in future periods.

One problem that arises in this area is the accounting for any changes related to the existing structure as a result of the addition. Is the cost incurred to tear down an old wall, to make room for the addition, a cost of the addition or an expense or loss of the period? The answer is that it depends on the original intent. If the company had anticipated building an addition later, then this cost of removal is a proper cost of the addition. But if the company had not anticipated this development, it should properly report the removal as a loss in the current period on the basis of inefficient planning. Normally, the company retains the carrying amount of the old wall in the accounts, although theoretically the company should remove it.

Improvements and Replacements

Companies substitute one asset for another through **improvements** and **replacements**.

What is the difference between an improvement and a replacement? An **improvement (betterment)** is the substitution of a **better asset** for the one currently used (say, a concrete floor for a wooden floor). A **replacement**, on the other hand, is the substitution of a **similar asset** (a wooden floor for a wooden floor).

Many times improvements and replacements result from a general policy to modernize or rehabilitate an older building or piece of equipment. The problem is differentiating these types of expenditures from normal repairs. Does the expenditure increase the **future service potential** of the asset? Or does it merely **maintain the existing level** of service?

Frequently, the answer is not clear-cut. Good judgment is required to correctly classify these expenditures.

If the expenditure increases the future service potential of the asset, a company should capitalize it. The accounting is therefore handled in one of three ways, depending on the circumstances:

1. Use the substitution approach. Conceptually, the **substitution approach** is correct if the carrying amount of the old asset is available. It is then a simple matter to remove the cost of the old asset and replace it with the cost of the new asset.

Example 1 : Instinct Enterprises decides to replace the pipes in its plumbing system.

A plumber suggests that the company use plastic tubing in place of the cast iron pipes and copper tubing. The old pipe and tubing have a book value of \$15,000 (cost of \$150,000 less accumulated depreciation of \$135,000), and a scrap value of \$1,000. The plastic tubing costs \$125,000. If Instinct pays \$124,000 for the new tubing after exchanging the old tubing, it makes the following entry:

Plant Assets (plumbing system)	125,000
Accumulated Depreciation—Plant Assets	135,000
Loss on Disposal of Plant Assets	14,000
Plant Assets	150,000
Cash (\$125,000 – \$1,000)	124,000

The problem is determining the book value of the old asset. Generally, the components of a given asset depreciate at different rates. However, generally no separate accounting is made. For example, the tires, motor, and body of a truck depreciate at different rates, but most companies use one rate for the entire truck. Companies can set separate depreciation rates, but it is often impractical. If a company cannot determine the carrying amount of the old asset, it adopts one of two other approaches.

2. Capitalize the new cost. Another approach capitalizes the improvement and keeps the carrying amount of the old asset on the books. The justification for this approach is that the item is sufficiently depreciated to reduce its carrying amount almost to zero. Although this assumption may not always be true, the differences are often insignificant. Companies usually handle improvements in this manner.

3. Charge to accumulated depreciation. In cases when a company does not improve the quantity or quality of the asset itself but instead extends its useful life, the company debits the expenditure to Accumulated Depreciation rather than to an asset account. The theory behind this approach is that the replacement extends the useful life of the asset and thereby recaptures some or all of the past depreciation. The net carrying amount of the asset is the same whether debiting the asset or accumulated depreciation.

Rearrangement and Reinstallation

Companies incur **rearrangement and reinstallation costs** to benefit future periods. An example is the rearrangement and reinstallation of machines to facilitate future production.

If a company like **The Coca-Cola Company** can determine or estimate the original installation cost and the accumulated depreciation to date, it handles the rearrangement and reinstallation cost as a replacement. If not, which is generally the case, Coca-Cola should capitalize the new costs (if material in amount) as an asset to be amortized over future periods expected to benefit. If these costs are immaterial, if they cannot be separated from other operating expenses, or if their future benefit is questionable, the company should immediately expense them.

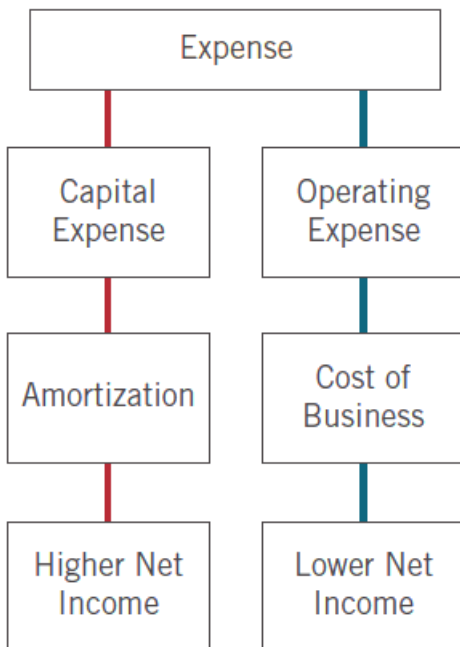
Repairs

A company makes **ordinary repairs** to maintain plant assets in operating condition. It charges ordinary repairs to an expense account in the period incurred, on the basis that **it is the primary period benefited**. Maintenance charges that occur regularly include replacing minor parts, lubricating and adjusting equipment, repainting, and cleaning. A company treats these as ordinary operating expenses.

It is often difficult to distinguish a repair from an improvement or replacement. The major consideration is whether the expenditure benefits more than one year or one operating cycle, whichever is longer. If a **major repair** (such as an overhaul) occurs, several periods will benefit. A company should handle the cost as an addition, improvement, or replacement.¹¹

An interesting question is whether a company can accrue planned maintenance overhaul costs *before* the actual costs are incurred. For example, assume that **Southwest Airlines** schedules major overhauls of its planes every three years. Should Southwest be permitted to accrue these costs and related liability over the three-year period? Some argue that this accrue-in-advance approach better matches expenses to revenues and reports Southwest's obligation for these costs. However, reporting a liability is inappropriate. To whom does Southwest owe? In other words, Southwest has no obligation to an outside party until it has to pay for the

overhaul costs, and therefore it has no liability. As a result, companies are not permitted to accrue in advance for planned major overhaul costs either for interim or annual periods.



Exe. 1: Indicate which of the following costs should be expensed when incurred.

- a. \$13,000 paid to rearrange and reinstall machinery.
- b. \$200,000 paid for addition to building.
- c. \$200 paid for tune-up and oil change on delivery truck.
- d. \$7,000 paid to replace a wooden floor with a concrete floor.
- e. \$2,000 paid for a major overhaul on a truck, which extends the useful life.

Sol.:

Only cost (c), which represents a maintenance charge that occurs regularly is expensed when incurred. It is a revenue expenditure. All other costs are capital expenditures.

Exe. 2: State whether the following items of expenditure would be treated as (a) capital expenditure or (b) revenue expenditure or (c) deferred revenue: expenditure:

1. Carriage paid on goods purchased \$ 25
2. \$ 2,000 spent on repairs of machinery
3. \$ 5,000 spent on white washing
4. \$ 8,000 paid for import duty and cartage on the purchase of machinery from West
5. Germany
6. \$ 14,000 spent on spreading new tiles on factory floor
7. \$ 4,000 paid as brokerage in connection with the purchase of land
8. \$ 60,000 spent on construction of railway siding
9. \$ 1,55,000 spent on uniforms to staff A second hand machine was bought for \$ 10,000 and an amount of \$ 6,000 was spent on its overhauling.

Solution

1. It is a revenue expenditure as it is related to the goods purchased for resale.
2. It is a revenue expenditure as it relates to the maintenance of a fixed asset.
3. Same as no.
4. It is a capital expenditure as it is spent in connection with "the purchase 'of a fixed asset.
5. It is a revenue expenditure as it is treated as a sort of repairs not leading to any increase in the earning capacity of a fixed asset.
6. It is a capital expenditure as it is incurred in connection with the purchase of land.
7. It is a capital expenditure as it is incurred on the construction of railway siding, a fixed asset.
8. It is a revenue expenditure. But, if the uniforms are meant for use over two or more years (woollen uniform) this expenditure can be treated as deferred revenue.
9. It is a capital expenditure as it is incurred on making the newly bought second hand machinery operational.