

Acquisition and Disposition of Property, Plant, and Equipment



LEARNING OBJECTIVES

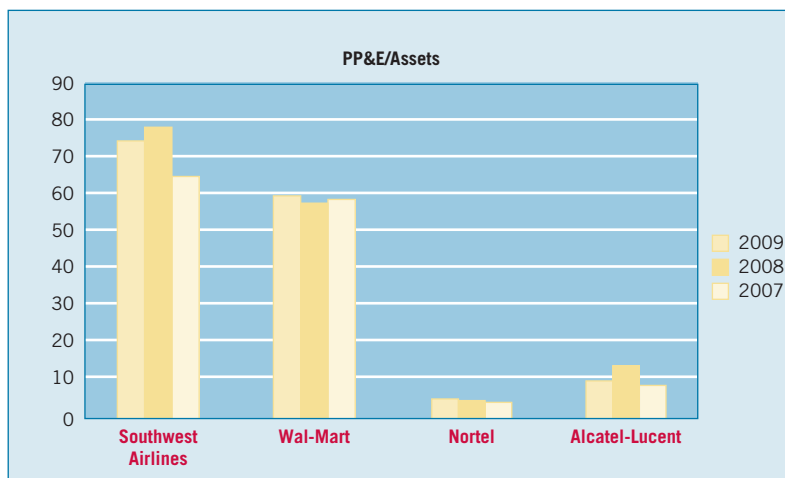
After studying this chapter, you should be able to:

- 1 Describe property, plant, and equipment.
- 2 Identify the costs to include in initial valuation of property, plant, and equipment.
- 3 Describe the accounting problems associated with self-constructed assets.
- 4 Describe the accounting problems associated with interest capitalization.
- 5 Understand accounting issues related to acquiring and valuing plant assets.
- 6 Describe the accounting treatment for costs subsequent to acquisition.
- 7 Describe the accounting treatment for the disposal of property, plant, and equipment.

Where Have All the Assets Gone?

Investments in long-lived assets, such as property, plant, and equipment, are important elements in many companies' balance sheets. As the chart below indicates, major companies, such as **Southwest Airlines** and **Wal-Mart**, recently reported property, plant, and equipment (PP&E) as a percent of total assets ranging from 56 percent up to nearly 75 percent.

However, for various strategic reasons, many companies are now shedding property, plant, and equipment. Instead, they are paying others to manufacture and assemble products—functions they previously performed in their own facilities. Companies are also reducing fixed assets by outsourcing warehousing and distribution. Such logistics outsourcing can cut companies' own costs for keeping and managing inventories, and spare them the need to invest in advanced tracking technologies increasingly required by retailers. In a recent year more than 80 percent of the country's 100 biggest companies used third-party logistics providers. As a result, some companies such as **Nortel** and **Alcatel-Lucent** are decreasing their investment in long-lived assets, as the below chart shows.





Nortel is a good example of these strategies. It has sold and outsourced certain facilities in order to reduce its direct manufacturing activities and costs. Nortel also sold its training and headset businesses. Further, it has aggressively outsourced other operations to reduce costs. Reductions in these areas will enable Nortel and other outsourcing companies to concentrate on their core operations and better manage investments in property, plant, and equipment.

See the **International Perspectives** on pages 556, 560, 564, 568, and 573.

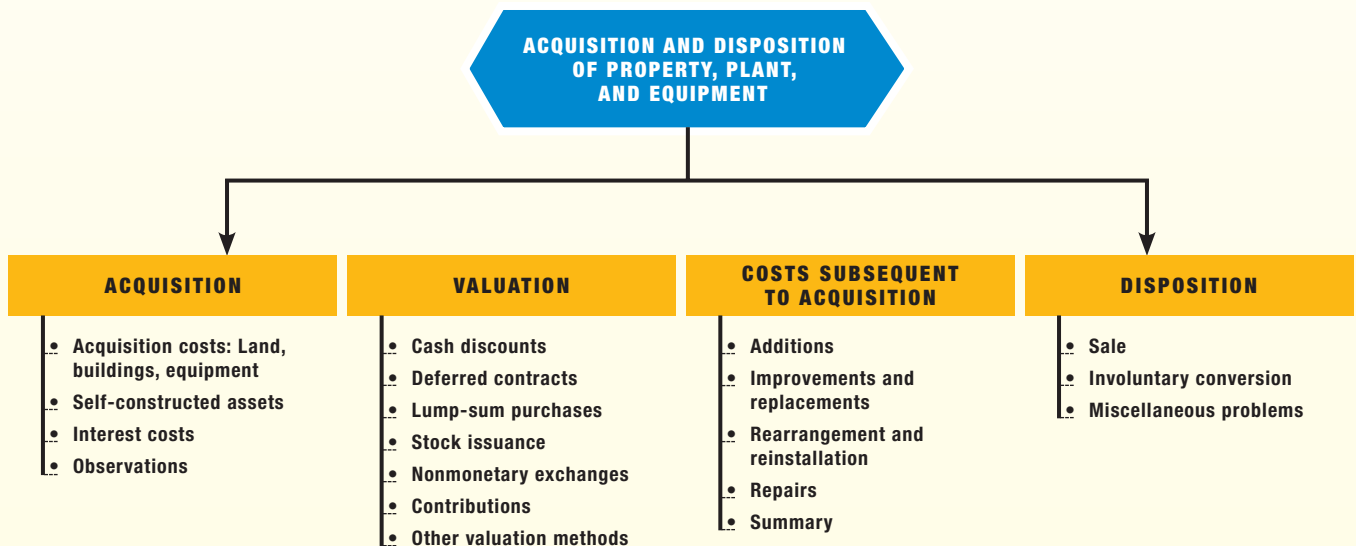
IFRS Insights related to property, plant, and equipment are presented in Chapter 11.

Source: Adapted from Chapter 1 in Grady Means and David Schneider, *MetaCapitalism: The e-Business Revolution and the Design of 21st-Century Companies and Markets* (New York: John Wiley and Sons, 2000); and Kris Maher, "Global Goods Jugglers," *Wall Street Journal Online* (July 5, 2005).

PREVIEW OF CHAPTER 10

As we indicate in the opening story, a company like **Southwest Airlines** has a substantial investment in property, plant, and equipment.

Conversely, other companies, such as **Nortel**, have a minor investment in these types of assets. In this chapter, we discuss the proper accounting for the acquisition, use, and disposition of property, plant, and equipment. The content and organization of the chapter are as follows.



PROPERTY, PLANT, AND EQUIPMENT

LEARNING OBJECTIVE 1

Describe property, plant, and equipment.

Companies like **Boeing**, **Target**, and **Starbucks** use assets of a durable nature. Such assets are called **property, plant, and equipment**. Other terms commonly used are **plant assets** and **fixed assets**. We use these terms interchangeably. Property, plant, and equipment include land, building structures (offices, factories, warehouses), and equipment (machinery, furniture, tools). The major characteristics of property, plant, and equipment are as follows.

- 1. They are acquired for use in operations and not for resale.** Only assets used in normal business operations are classified as property, plant, and equipment. For example, an idle building is more appropriately classified separately as an investment. Land developers or subdividers classify land as inventory.
- 2. They are long-term in nature and usually depreciated.** Property, plant, and equipment yield services over a number of years. Companies allocate the cost of the investment in these assets to future periods through periodic depreciation charges. The exception is land, which is depreciated only if a material decrease in value occurs, such as a loss in fertility of agricultural land because of poor crop rotation, drought, or soil erosion.
- 3. They possess physical substance.** Property, plant, and equipment are tangible assets characterized by physical existence or substance. This differentiates them from intangible assets, such as patents or goodwill. Unlike raw material, however, property, plant, and equipment do not physically become part of a product held for resale.

Underlying Concepts

Fair value is relevant to inventory but less so for property, plant, and equipment which, consistent with the going-concern assumption, are held for use in the business, not for sale like inventory.

ACQUISITION OF PROPERTY, PLANT, AND EQUIPMENT

LEARNING OBJECTIVE 2

Identify the costs to include in initial valuation 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. For example, companies like **Kellogg Co.** consider the purchase price, freight costs, sales taxes, and installation costs of a productive asset as part of the asset's cost. It then allocates these costs to future periods through depreciation. Further, Kellogg **adds to the asset's original cost** any related costs incurred **after the asset's acquisition**, such as additions, improvements, or replacements, **if they provide future service potential**. Otherwise, Kellogg expenses these costs immediately.¹

Subsequent to acquisition, companies should not write up property, plant, and equipment to reflect fair value when it is above cost. The main reasons for this position are as follows.

- 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.

Even those who favor fair value measurement for inventory and financial instruments often take the position that property, plant, and equipment should not be

INTERNATIONAL PERSPECTIVE



Under international accounting standards, historical cost is the benchmark (preferred) treatment for property, plant, and equipment. However, companies may also use revalued amounts. If using revaluation, companies must revalue the class of assets regularly.

¹Additional costs to be included in the cost of property, plant, and equipment are those related to asset retirement obligations (AROs). These costs, such as those related to decommissioning nuclear facilities or reclamation or restoration of a mining facility, reflect a legal requirement to retire the asset at the end of its useful life. The expected costs are recorded in the asset cost and depreciated over the useful life. (See Chapter 13.)

revalued. The major concern is the difficulty of developing a reliable fair value for these types of assets. For example, how does one value a **General Motors** automobile manufacturing plant or a nuclear power plant owned by **Consolidated Edison**?

However, if the fair value of the property, plant, and equipment is less than its carrying amount, the asset may be written down. These situations occur when the asset is impaired (discussed in Chapter 11) and in situations where the asset is being held for sale. A long-lived asset classified as held for sale should be measured at the lower of its carrying amount or fair value less cost to sell. In that case, a reasonable valuation for the asset can be obtained, based on the sales price. A long-lived asset is not depreciated if it is classified as held for sale. This is because such assets are not being used to generate revenues. [1]



See the FASB Codification section (page 581).

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** 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; and (5) any additional land improvements that have an indefinite life.

For example, when Home Depot purchases land for the purpose of constructing a building, it considers all costs incurred up to the excavation for the new building as land costs. **Removal of old buildings—clearing, grading, and filling—is a land cost because this activity is necessary to get the land in condition for its intended purpose.** Home Depot treats any proceeds from getting the land ready for its intended use, such as salvage receipts on the demolition of an old building or the sale of cleared timber, as **reductions in the price of the land.**

In some cases, when Home Depot purchases land, it may assume certain obligations on the land such as back taxes or liens. In such situations, the cost of the land is the cash paid for it, plus the encumbrances. In other words, if the purchase price of the land is \$50,000 cash, but Home Depot assumes accrued property taxes of \$5,000 and liens of \$10,000, its land cost is \$65,000.

Home Depot also might incur **special assessments** for local improvements, such as pavements, street lights, sewers, and drainage systems. It should charge these costs to the Land account because they are relatively permanent in nature. That is, after installation, they are maintained by the local government. In addition, Home Depot should charge any permanent improvements it makes, such as landscaping, to the Land account. It records separately any **improvements with limited lives**, such as private driveways, walks, fences, and parking lots, as Land Improvements. These costs are depreciated over their estimated lives.

Generally, land is part of property, plant, and equipment. However, if the major purpose of acquiring and holding land is speculative, a company more appropriately classifies the land as an **investment**. If a real estate concern holds the land for resale, it should classify the land as **inventory**.

In cases where land is held as an investment, what accounting treatment should be given for taxes, insurance, and other direct costs incurred while holding the land? Many believe these costs should be capitalized. The reason: They are not generating revenue from the investment at this time. Companies generally use this approach except when the asset is currently producing revenue (such as rental property).

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,

Gateway to the Profession
Expanded Discussion of Alternative Valuation Methods

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

LEARNING OBJECTIVE 3

Describe the accounting problems associated with 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 constructing one’s 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**, is appropriate if one believes that costs 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 matching of costs with revenues.

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.²

Interest Costs During Construction

The proper accounting for interest costs has been a long-standing controversy. Three approaches have been suggested to account for the interest incurred in financing the construction of property, plant, and equipment:

4 LEARNING OBJECTIVE
Describe the accounting problems associated with interest capitalization.

1. **Capitalize no interest charges during construction.** Under this approach, interest is considered a cost of financing and not a cost of construction. Some contend that if a company had used stock (equity) financing rather than debt, it would not incur this cost. The major argument against this approach is that the use of cash, whatever its source, has an associated implicit interest cost, which should not be ignored.
2. **Charge construction with all costs of funds employed, whether identifiable or not.** This method maintains that the cost of construction should include the cost of financing, whether by cash, debt, or stock. Its advocates say that all costs necessary to get an asset ready for its intended use, including interest, are part of the asset's cost. Interest, whether actual or imputed, is a cost, just as are labor and materials. A major criticism of this approach is that imputing the cost of equity capital (stock) is subjective and outside the framework of a historical cost system.
3. **Capitalize only the actual interest costs incurred during construction.** This approach agrees in part with the logic of the second approach—that interest is just as much a cost as are labor and materials. But this approach capitalizes only interest costs incurred through debt financing. (That is, it does not try to determine the cost of equity financing.) Under this approach, a company that uses debt financing will have an asset of higher cost than a company that uses stock financing. Some consider this approach unsatisfactory because they believe the cost of an asset should be the same whether it is financed with cash, debt, or equity.

Illustration 10-1 shows how a company might add interest costs (if any) to the cost of the asset under the three capitalization approaches.

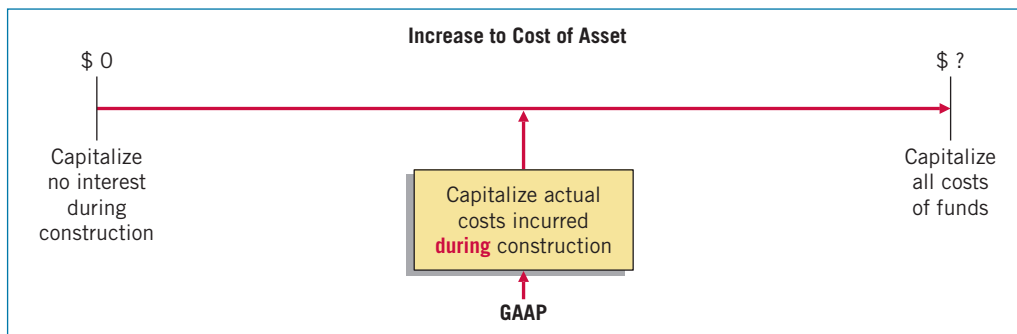


ILLUSTRATION 10-1
Capitalization of Interest Costs

²The Accounting Standards Executive Committee (AcSEC), in an exposure draft related to property, plant, and equipment, argues against allocation of overhead. Instead, it supports capitalization of only direct costs (costs directly related to the specific activities involved in the construction process). AcSEC was concerned that the allocation of overhead costs may lead to overly aggressive allocations and therefore misstatements of income. In addition, not reporting these costs as period costs during the construction period may affect comparisons of period costs and resulting net income from one period to the next. See Accounting Standards Executive Committee, "Accounting for Certain Costs and Activities Related to Property, Plant, and Equipment," Exposure Draft (New York: AICPA, June 29, 2001).

GAAP requires the third approach—capitalizing actual interest (with modification). This method follows the concept that the **historical cost of acquiring an asset includes all costs (including interest) incurred to bring the asset to the condition and location necessary for its intended use**. The rationale for this approach is that during construction, the asset is not generating revenues. Therefore, a company should defer (capitalize) interest costs. [2] Once construction is complete, the asset is ready for its intended use and a company can earn revenues. At this point the company should report interest as an expense and match it to these revenues. It follows that the company should expense any interest cost incurred in purchasing an asset that is ready for its intended use.

Underlying Concepts

The objective of capitalizing interest is to obtain a measure of acquisition cost that reflects a company's total investment in the asset and to charge that cost to future periods benefited.

To implement this general approach, companies consider three items:

1. Qualifying assets.
2. Capitalization period.
3. Amount to capitalize.

Qualifying Assets

To qualify for interest capitalization, assets must require a period of time to get them ready for their intended use. A company capitalizes interest costs starting with the first expenditure related to the asset. Capitalization continues until the company substantially readies the asset for its intended use.

Assets that qualify for interest cost capitalization include assets under construction for a company's own use (including buildings, plants, and large machinery) and assets intended for sale or lease that are constructed or otherwise produced as discrete projects (e.g., ships or real estate developments).

Examples of assets that do not qualify for interest capitalization are (1) assets that are in use or ready for their intended use, and (2) assets that the company does not use in its earnings activities and that are not undergoing the activities necessary to get them ready for use. Examples of this second type include land remaining undeveloped and assets not used because of obsolescence, excess capacity, or need for repair.

INTERNATIONAL PERSPECTIVE



Recently, IFRS changed to require companies to capitalize borrowing costs related to qualifying assets. These changes were made as part of the IASB's and FASB's convergence project.

Capitalization Period

The **capitalization period** is the period of time during which a company must capitalize interest. It begins with the presence of three conditions:

1. Expenditures for the asset have been made.
2. Activities that are necessary to get the asset ready for its intended use are in progress.
3. Interest cost is being incurred.

Interest capitalization **continues as long as these three conditions are present**. The capitalization period ends when the asset is substantially complete and ready for its intended use.

Amount to Capitalize

The amount of interest to capitalize is limited to the lower of actual interest cost incurred during the period or avoidable interest. **Avoidable interest** is the amount of interest cost during the period that a company could theoretically avoid if it had not made expenditures for the asset. If the actual interest cost for the period is \$90,000

and the avoidable interest is \$80,000, the company capitalizes only \$80,000. Or, if the actual interest cost is \$80,000 and the avoidable interest is \$90,000, it still capitalizes only \$80,000. In no situation should interest cost include a cost of capital charge for stockholders' equity. Furthermore, GAAP requires interest capitalization for a qualifying asset only if its effect, compared with the effect of expensing interest, is material. [3]

To apply the avoidable interest concept, a company determines the potential amount of interest that it may capitalize during an accounting period by multiplying the interest rate(s) by the **weighted-average accumulated expenditures** for qualifying assets during the period.

Weighted-Average Accumulated Expenditures. In computing the weighted-average accumulated expenditures, a company weights the construction expenditures by the amount of time (fraction of a year or accounting period) that it can incur interest cost on the expenditure.

To illustrate, assume a 17-month bridge construction project with current-year payments to the contractor of \$240,000 on March 1, \$480,000 on July 1, and \$360,000 on November 1. The company computes the weighted-average accumulated expenditures for the year ended December 31 as follows.

| Expenditures | | × | Capitalization Period* | = | Weighted-Average Accumulated Expenditures |
|--------------|--------------------|---|---------------------------|---|--|
| Date | Amount | | | | |
| March 1 | \$ 240,000 | | 10/12 | | \$200,000 |
| July 1 | 480,000 | | 6/12 | | 240,000 |
| November 1 | 360,000 | | 2/12 | | 60,000 |
| | <u>\$1,080,000</u> | | | | <u>\$500,000</u> |

*Months between date of expenditure and date interest capitalization stops or end of year, whichever comes first (in this case December 31).

ILLUSTRATION 10-2
Computation of
Weighted-Average
Accumulated
Expenditures

To compute the weighted-average accumulated expenditures, a company weights the expenditures by the amount of time that it can incur interest cost on each one. For the March 1 expenditure, the company associates 10 months' interest cost with the expenditure. For the expenditure on July 1, it incurs only 6 months' interest costs. For the expenditure made on November 1, the company incurs only 2 months of interest cost.

Interest Rates. Companies follow these principles in selecting the appropriate interest rates to be applied to the weighted-average accumulated expenditures:

1. For the portion of weighted-average accumulated expenditures that is less than or equal to any amounts borrowed specifically to finance construction of the assets, **use the interest rate incurred on the specific borrowings.**
2. For the portion of weighted-average accumulated expenditures that is greater than any debt incurred specifically to finance construction of the assets, **use a weighted average of interest rates incurred on all other outstanding debt during the period.**³

³The interest rate to be used may rely exclusively on an average rate of all the borrowings, if desired. For our purposes, we use the specific borrowing rate followed by the average interest rate because we believe it to be more conceptually consistent. Either method can be used; GAAP does not provide explicit guidance on this measurement. For a discussion of this issue and others related to interest capitalization, see Kathryn M. Means and Paul M. Kazenski, "SFAS 34: Recipe for Diversity," *Accounting Horizons* (September 1988); and Wendy A. Duffy, "A Graphical Analysis of Interest Capitalization," *Journal of Accounting Education* (Fall 1990).

Illustration 10-3 shows the computation of a weighted-average interest rate for debt greater than the amount incurred specifically to finance construction of the assets.

ILLUSTRATION 10-3
Computation of
Weighted-Average
Interest Rate

| | <u>Principal</u> | <u>Interest</u> |
|---------------------------------------|------------------------|--------------------|
| 12%, 2-year note | \$ 600,000 | \$ 72,000 |
| 9%, 10-year bonds | 2,000,000 | 180,000 |
| 7.5%, 20-year bonds | 5,000,000 | 375,000 |
| | <u>\$7,600,000</u> | <u>\$627,000</u> |
| Weighted-average interest rate | Total interest | \$627,000 |
| | Total principal | \$7,600,000 |
| | = 8.25% | |

Comprehensive Example of Interest Capitalization

To illustrate the issues related to interest capitalization, assume that on November 1, 2011, Shalla Company contracted Pfeifer Construction Co. to construct a building for \$1,400,000 on land costing \$100,000 (purchased from the contractor and included in the first payment). Shalla made the following payments to the construction company during 2012.

| <u>January 1</u> | <u>March 1</u> | <u>May 1</u> | <u>December 31</u> | <u>Total</u> |
|------------------|----------------|--------------|--------------------|--------------|
| \$210,000 | \$300,000 | \$540,000 | \$450,000 | \$1,500,000 |

Pfeifer Construction completed the building, ready for occupancy, on December 31, 2012. Shalla had the following debt outstanding at December 31, 2012.

| <u>Specific Construction Debt</u> | | |
|--|--|-----------|
| 1. 15%, 3-year note to finance purchase of land and construction of the building, dated December 31, 2011, with interest payable annually on December 31 | | \$750,000 |
| <u>Other Debt</u> | | |
| 2. 10%, 5-year note payable, dated December 31, 2008, with interest payable annually on December 31 | | \$550,000 |
| 3. 12%, 10-year bonds issued December 31, 2007, with interest payable annually on December 31 | | \$600,000 |

Shalla computed the weighted-average accumulated expenditures during 2012 as shown in Illustration 10-4.

ILLUSTRATION 10-4
Computation of
Weighted-Average
Accumulated
Expenditures

| <u>Expenditures</u> | | | <u>Current-Year Capitalization Period</u> | <u>Weighted-Average Accumulated Expenditures</u> |
|---------------------|--------------------|---|---|--|
| <u>Date</u> | <u>Amount</u> | × | <u>Period</u> | = |
| January 1 | \$ 210,000 | | 12/12 | \$210,000 |
| March 1 | 300,000 | | 10/12 | 250,000 |
| May 1 | 540,000 | | 8/12 | 360,000 |
| December 31 | 450,000 | | 0 | 0 |
| | <u>\$1,500,000</u> | | | <u>\$820,000</u> |

Note that the expenditure made on December 31, the last day of the year, does not have any interest cost.

Shalla computes the avoidable interest as shown in Illustration 10-5.

ILLUSTRATION 10-5
Computation of Avoidable Interest

| | | | | |
|--|---|--|---|--------------------|
| Weighted-Average Accumulated Expenditures | × | Interest Rate | = | Avoidable Interest |
| \$750,000 | | .15 (construction note) | | \$112,500 |
| 70,000 ^a | | .1104 (weighted average of other debt) ^b | | 7,728 |
| <u>\$820,000</u> | | | | <u>\$120,228</u> |

^aThe amount by which the weighted-average accumulated expenditures exceeds the specific construction loan.
^bWeighted-average interest rate computation:

| | Principal | Interest |
|--------------------|--------------------|------------------|
| 10%, 5-year note | \$ 550,000 | \$ 55,000 |
| 12%, 10-year bonds | 600,000 | 72,000 |
| | <u>\$1,150,000</u> | <u>\$127,000</u> |

Weighted-average interest rate = $\frac{\text{Total interest}}{\text{Total principal}} = \frac{\$127,000}{\$1,150,000} = 11.04\%$

The company determines the actual interest cost, which represents the maximum amount of interest that it may capitalize during 2012, as shown in Illustration 10-6.

ILLUSTRATION 10-6
Computation of Actual Interest Cost

| | | |
|------------------------|-------------------|-------------------------|
| Construction note | \$750,000 × .15 = | \$112,500 |
| 5-year note | \$550,000 × .10 = | 55,000 |
| 10-year bonds | \$600,000 × .12 = | 72,000 |
| Actual interest | | <u>\$239,500</u> |

The interest cost that Shalla capitalizes is the lesser of \$120,228 (avoidable interest) and \$239,500 (actual interest), or \$120,228.

Shalla records the following journal entries during 2012:

| | | |
|--|----------------|---------|
| January 1 | | |
| Land | 100,000 | |
| Buildings (or Construction in Process) | 110,000 | |
| Cash | | 210,000 |
| March 1 | | |
| Buildings | 300,000 | |
| Cash | | 300,000 |
| May 1 | | |
| Buildings | 540,000 | |
| Cash | | 540,000 |
| December 31 | | |
| Buildings | 450,000 | |
| Cash | | 450,000 |
| Buildings (Capitalized Interest) | 120,228 | |
| Interest Expense (\$239,500 – \$120,228) | 119,272 | |
| Cash (\$112,500 + \$55,000 + \$72,000) | | 239,500 |

**Gateway to
the Profession**
*Tutorial on Interest
Capitalization*

Shalla should write off capitalized interest cost as part of depreciation over the useful life of the assets involved and not over the term of the debt. It should disclose the total interest cost incurred during the period, with the portion charged to expense and the portion capitalized indicated.

At December 31, 2012, Shalla discloses the amount of interest capitalized either as part of the nonoperating section of the income statement or in the notes accompanying the financial statements. We illustrate both forms of disclosure, in Illustrations 10-7 and 10-8 (page 564).

ILLUSTRATION 10-7
Capitalized Interest
Reported in the Income
Statement

| | | |
|----------------------------|----------------|----------------|
| Income from operations | | XXXX |
| Other expenses and losses: | | |
| Interest expense | \$239,500 | |
| Less: Capitalized interest | <u>120,228</u> | <u>119,272</u> |
| Income before income taxes | | XXXX |
| Income taxes | | <u>XXX</u> |
| Net income | | <u>XXXX</u> |

ILLUSTRATION 10-8
Capitalized Interest
Disclosed in a Note

Note 1: Accounting Policies. *Capitalized Interest.* During 2012, total interest cost was \$239,500, of which \$120,228 was capitalized and \$119,272 was charged to expense.

WHAT'S IN YOUR INTEREST?

What do the numbers mean?

The requirement to capitalize interest can significantly impact financial statements. For example, when earnings of building manufacturer **Jim Walter's Corporation** dropped from \$1.51 to \$1.17 per share, the company offset 11 cents per share of the decline by capitalizing the interest on coal mining projects and several plants under construction.

How do statement users determine the impact of interest capitalization on a company's bottom line? They examine the notes to the financial statements. Companies with material interest capitalization must disclose the amounts of capitalized interest relative to total interest costs. For example, **Anadarko Petroleum Corporation** capitalized nearly 30 percent of its total interest costs in a recent year and provided the following footnote related to capitalized interest.

Financial Footnotes

Total interest costs incurred during the year were \$82,415,000. Of this amount, the Company capitalized \$24,716,000. Capitalized interest is included as part of the cost of oil and gas properties. The capitalization rates are based on the Company's weighted-average cost of borrowings used to finance the expenditures.

Special Issues Related to Interest Capitalization

Two issues related to interest capitalization merit special attention:

1. Expenditures for land.
2. Interest revenue.

Expenditures for Land. When a company purchases land with the intention of developing it for a particular use, interest costs associated with those expenditures qualify for interest capitalization. If it purchases land as a site for a structure (such as a plant site), **interest costs capitalized during the period of construction are part of the cost of the plant, not the land.** Conversely, if the company develops land for lot sales, it includes any capitalized interest cost as part of the acquisition cost of the developed land. However, it should **not** capitalize interest costs involved in purchasing land held **for speculation** because the asset is ready for its intended use.

INTERNATIONAL PERSPECTIVE



IFRS requires that interest revenue earned on specific borrowings should offset interest costs capitalized. The rationale is that the interest revenue earned is directly related to the interest cost incurred on the specific borrowing.

Interest Revenue. Companies frequently borrow money to finance construction of assets. They temporarily invest the excess borrowed funds in interest-bearing securities until they need the funds to pay for construction. During the early stages of construction, interest revenue earned may exceed the interest cost incurred on the borrowed funds.

Should companies offset interest revenue against interest cost when determining the amount of interest to capitalize as part of the construction cost of assets? In general, **companies should not net or offset interest revenue against interest cost.**

Temporary or short-term investment decisions are not related to the interest incurred as part of the acquisition cost of assets. Therefore, companies should capitalize the interest incurred on qualifying assets whether or not they temporarily invest excess funds in short-term securities. Some criticize this approach because a company can defer the interest cost but report the interest revenue in the current period.

Observations

The interest capitalization requirement is still debated. From a conceptual viewpoint, many believe that, for the reasons mentioned earlier, companies should either capitalize **no interest cost** or **all interest costs**, actual or imputed.

VALUATION OF PROPERTY, PLANT, AND EQUIPMENT

Like other assets, **companies should record property, plant, and equipment at the fair value of what they give up or at the fair value of the asset received, whichever is more clearly evident.** However, the process of asset acquisition sometimes obscures fair value. For example, if a company buys land and buildings together for one price, how does it determine separate values for the land and buildings? We examine these types of accounting problems in the following sections.

5 LEARNING OBJECTIVE

Understand accounting issues related to acquiring and valuing plant assets.

Cash Discounts

When a company purchases plant assets subject to cash discounts for prompt payment, how should it report the discount? If it takes the discount, the company should consider the discount as a reduction in the purchase price of the asset. But should the company reduce the asset cost even if it does not take the discount?

Two points of view exist on this question. One approach considers the discount—whether taken or not—as a reduction in the cost of the asset. The rationale for this approach is that the real cost of the asset is the cash or cash equivalent price of the asset. In addition, some argue that the terms of cash discounts are so attractive that failure to take them indicates management error or inefficiency.

Proponents of the other approach argue that failure to take the discount should not always be considered a loss. The terms may be unfavorable, or it might not be prudent for the company to take the discount. At present, companies use both methods, though most prefer the former method.

Deferred-Payment Contracts

Companies frequently purchase plant assets on long-term credit contracts, using notes, mortgages, bonds, or equipment obligations. **To properly reflect cost, companies account for assets purchased on long-term credit contracts at the present value of the consideration exchanged between the contracting parties at the date of the transaction.**

For example, Greathouse Company purchases an asset today in exchange for a \$10,000 zero-interest-bearing note payable four years from now. The company would not record the asset at \$10,000. Instead, the present value of the \$10,000 note establishes the exchange price of the transaction (the purchase price of the asset). Assuming an appropriate interest rate of 9 percent at which to discount this single payment of \$10,000 due four years from now, Greathouse records this asset at \$7,084.30 ($\$10,000 \times .70843$). [See Table 6-2 (page 357) for the present value of a single sum, $PV = \$10,000 (PVE_{4,9\%})$.]

When no interest rate is stated, or if the specified rate is unreasonable, the company imputes an appropriate interest rate. The objective is to approximate the interest rate that the buyer and seller would negotiate at arm's length in a similar borrowing transaction. In imputing an interest rate, companies consider such factors as the borrower's credit rating, the amount and maturity date of the note, and prevailing interest rates. **The company uses the cash exchange price of the asset acquired (if determinable) as the basis for recording the asset and measuring the interest element.**

To illustrate, Sutter Company purchases a specially built robot spray painter for its production line. The company issues a \$100,000, five-year, zero-interest-bearing note to Wrigley Robotics, Inc. for the new equipment. The prevailing market rate of interest for obligations of this nature is 10 percent. Sutter is to pay off the note in five \$20,000 installments, made at the end of each year. Sutter cannot readily determine the fair value of this specially built robot. Therefore, Sutter approximates the robot's value by establishing the fair value (present value) of the note. Entries for the date of purchase and dates of payments, plus computation of the present value of the note, are as follows.

| Date of Purchase | | |
|---|---------------------------------|---------|
| Equipment | 75,816* | |
| Discount on Notes Payable | 24,184 | |
| Notes Payable | | 100,000 |
| *Present value of note = \$20,000 ($PVF-OA_{5,10\%}$) | | |
| | = \$20,000 (3.79079); Table 6-4 | |
| | = \$75,816 | |
| End of First Year | | |
| Interest Expense | 7,582 | |
| Notes Payable | 20,000 | |
| Cash | | 20,000 |
| Discount on Notes Payable | | 7,582 |

Interest expense in the first year under the effective-interest approach is \$7,582 $[(\$100,000 - \$24,184) \times 10\%]$. The entry at the end of the second year to record interest and principal payment is as follows.

| End of Second Year | | |
|---------------------------|--------|--------|
| Interest Expense | 6,340 | |
| Notes Payable | 20,000 | |
| Cash | | 20,000 |
| Discount on Notes Payable | | 6,340 |

Interest expense in the second year under the effective-interest approach is \$6,340 $[(\$100,000 - \$24,184) - (\$20,000 - \$7,582)] \times 10\%$.

If Sutter did not impute an interest rate for deferred-payment contracts, it would record the asset at an amount greater than its fair value and overstate depreciation expense. In addition, Sutter would understate interest expense in the income statement for all periods involved.

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.⁴

To illustrate, 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:

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

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

| | | |
|-----------|--|-----------------|
| 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 |

ILLUSTRATION 10-9
Allocation of Purchase Price—Relative Fair Value Basis

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 | | 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.

⁴The valuation approaches that should be used are the market, income, or cost approach, or a combination of these approaches. The *market approach* uses observable prices and other relevant information generated by market transactions involving comparable assets. The *income approach* uses valuation techniques to convert future amounts (for example, cash flows or earnings) to a single present value amount (discounted). The *cost approach* is based on the amount that currently would be required to replace the service capacity of an asset (often referred to as current replacement cost). In determining the fair value, the company should assume the highest and best use of the asset. [4]

Exchanges of Nonmonetary Assets

The proper accounting for exchanges of nonmonetary assets, such as property, plant, and equipment, is controversial.⁵ Some argue that companies should account for these types of exchanges based on the fair value of the asset given up or the fair value of the asset received, with a gain or loss recognized. Others believe that they should account for exchanges based on the recorded amount (book value) of the asset given up, with no gain or loss recognized. Still others favor an approach that recognizes losses in all cases, but defers gains in special situations.

Ordinarily companies account for the exchange of **nonmonetary assets** on the basis of **the fair value of the asset given up or the fair value of the asset received, whichever is clearly more evident.** [5] Thus, companies should recognize immediately any gains or losses on the exchange. The rationale for immediate recognition is that most transactions have **commercial substance**, and therefore gains and losses should be recognized.

INTERNATIONAL PERSPECTIVE



The FASB recently changed its accounting for exchanges to converge with IFRS. Previously, the FASB used a “similar in nature” criterion for exchanged assets to determine whether gains should be recognized. With use of the commercial substance test, GAAP and IFRS are now very similar.

Meaning of Commercial Substance

As indicated above, fair value is the basis for measuring an asset acquired in a non-monetary exchange if the transaction has commercial substance. An exchange has **commercial substance** if the future cash flows change as a result of the transaction. That is, if the two parties’ economic positions change, the transaction has commercial substance.

For example, Andrew Co. exchanges some of its equipment for land held by Roddick Inc. It is likely that the timing and amount of the cash flows arising for the land will differ significantly from the cash flows arising from the equipment. As a result, both Andrew Co. and Roddick Inc. are in different economic positions. Therefore, the exchange has commercial substance, and the companies recognize a gain or loss on the exchange.

What if companies exchange similar assets, such as one truck for another truck? Even in an exchange of similar assets, a change in the economic position of the company can result. For example, let’s say the useful life of the truck received is significantly longer than that of the truck given up. The cash flows for the trucks can differ significantly. As a result, the transaction has commercial substance, and the company should use fair value as a basis for measuring the asset received in the exchange.

However, it is possible to exchange similar assets but not have a significant difference in cash flows. That is, the company is in the same economic position as before the exchange. In that case, the company recognizes a loss but generally defers a gain.



As we will see in the examples below, use of fair value generally results in recognizing a gain or loss at the time of the exchange. Consequently, companies must determine if the transaction has commercial substance. To make this determination, they must carefully evaluate the cash flow characteristics of the assets exchanged.⁶

Illustration 10-10 summarizes asset exchange situations and the related accounting.

⁵Nonmonetary assets are items whose price in terms of the monetary unit may change over time. Monetary assets—cash and short- or long-term accounts and notes receivable—are fixed in terms of units of currency by contract or otherwise.

⁶The determination of the commercial substance of a transaction requires significant judgment. In determining whether future cash flows change, it is necessary to do one of two things: (1) Determine whether the risk, timing, and amount of cash flows arising for the asset received differ from the cash flows associated with the outbound asset. Or, (2) evaluate whether cash flows are affected with the exchange versus without the exchange. Also note that if companies cannot determine fair values of the assets exchanged, then they should use recorded book values in accounting for the exchange.

ILLUSTRATION 10-10
Accounting for Exchanges

|   | Type of Exchange | Accounting Guidance |
|---|---|--|
| → ← | Exchange has commercial substance. | Recognize gains and losses immediately. |
| → ← | Exchange lacks commercial substance—no cash received. | Defer gains; recognize losses immediately. |
| → ← | Exchange lacks commercial substance—cash received. | Recognize partial gain; recognize losses immediately.* |

*If cash is 25% or more of the fair value of the exchange, recognize entire gain because earnings process is complete.

As Illustration 10-10 indicates, companies immediately recognize losses they incur on all exchanges. The accounting for gains depends on whether the exchange has commercial substance. If the exchange has commercial substance, the company recognizes the gain immediately. However, the profession modifies the rule for immediate recognition of a gain when an exchange lacks commercial substance: If the company receives no cash in such an exchange, it defers recognition of a gain. If the company receives cash in such an exchange, it recognizes part of the gain immediately.

To illustrate the accounting for these different types of transactions, we examine various loss and gain exchange situations.

Exchanges—Loss Situation

When a company exchanges nonmonetary assets and a loss results, the company recognizes the loss immediately. The rationale: Companies should not value assets at more than their cash equivalent price; if the loss were deferred, assets would be overstated. Therefore, companies recognize a loss immediately whether the exchange has commercial substance or not.

For example, Information Processing, Inc. trades its used machine for a new model at Jerrod Business Solutions Inc. The exchange has commercial substance. The used machine has a book value of \$8,000 (original cost \$12,000 less \$4,000 accumulated depreciation) and a fair value of \$6,000. The new model lists for \$16,000. Jerrod gives Information Processing a trade-in allowance of \$9,000 for the used machine. Information Processing computes the cost of the new asset as follows.

| | |
|---|------------------------|
| List price of new machine | \$16,000 |
| Less: Trade-in allowance for used machine | <u>9,000</u> |
| Cash payment due | 7,000 |
| Fair value of used machine | <u>6,000</u> |
| Cost of new machine | <u>\$13,000</u> |

ILLUSTRATION 10-11
Computation of Cost of New Machine

Information Processing records this transaction as follows.

| | | |
|------------------------------------|--------|--------|
| Equipment | 13,000 | |
| Accumulated Depreciation—Equipment | 4,000 | |
| Loss on Disposal of Equipment | 2,000 | |
| Equipment | | 12,000 |
| Cash | | 7,000 |

We verify the loss on the disposal of the used machine as follows.

| | |
|---|-----------------------|
| Fair value of used machine | \$6,000 |
| Less: Book value of used machine | <u>8,000</u> |
| Loss on disposal of used machine | <u>\$2,000</u> |

ILLUSTRATION 10-12
Computation of Loss on Disposal of Used Machine

Why did Information Processing not use the trade-in allowance or the book value of the old asset as a basis for the new equipment? The company did not use the trade-in allowance because it included a price concession (similar to a price discount). Few individuals pay list price for a new car. Dealers such as Jerrod often inflate trade-in allowances on the used car so that actual selling prices fall below list prices. To record the car at list price would state it at an amount in excess of its cash equivalent price because of the new car’s inflated list price. Similarly, use of book value in this situation would overstate the value of the new machine by \$2,000.⁷

Exchanges—Gain Situation

Has Commercial Substance. Now let’s consider the situation in which a nonmonetary exchange has commercial substance and a gain is realized. In such a case, a company usually records the cost of a nonmonetary asset acquired in exchange for another nonmonetary asset at the **fair value of the asset given up**, and immediately recognizes a gain. The company should use the **fair value of the asset received** only if it is more clearly evident than the fair value of the asset given up.

To illustrate, Interstate Transportation Company exchanged a number of used trucks plus cash for a semi-truck. The used trucks have a combined book value of \$42,000 (cost \$64,000 less \$22,000 accumulated depreciation). Interstate’s purchasing agent, experienced in the secondhand market, indicates that the used trucks have a fair value of \$49,000. In addition to the trucks, Interstate must pay \$11,000 cash for the semi-truck. Interstate computes the cost of the semi-truck as follows.

ILLUSTRATION 10-13
Computation of
Semi-Truck Cost

| | |
|--------------------------------|------------------------|
| Fair value of trucks exchanged | \$49,000 |
| Cash paid | 11,000 |
| Cost of semi-truck | <u>\$60,000</u> |

Interstate records the exchange transaction as follows.

| | | |
|---------------------------------|--------|--------|
| Trucks (semi) | 60,000 | |
| Accumulated Depreciation—Trucks | 22,000 | |
| Trucks (used) | | 64,000 |
| Gain on Disposal of Trucks | | 7,000 |
| Cash | | 11,000 |

The gain is the difference between the fair value of the used trucks and their book value. We verify the computation as follows.

ILLUSTRATION 10-14
Computation of Gain on
Disposal of Used Trucks

| | | |
|--|---------------|------------------------|
| Fair value of used trucks | | \$49,000 |
| Cost of used trucks | \$64,000 | |
| Less: Accumulated depreciation | <u>22,000</u> | |
| Book value of used trucks | | <u>(42,000)</u> |
| Gain on disposal of used trucks | | <u>\$ 7,000</u> |

In this case, Interstate is in a different economic position, and therefore the transaction has commercial substance. Thus, it **recognizes a gain**.

Lacks Commercial Substance—No Cash Received. We now assume that the Interstate Transportation Company exchange lacks commercial substance. That is, the economic

⁷Recognize that for Jerrod (the dealer), the asset given up in the exchange is considered inventory. As a result, Jerrod records a sale and related cost of goods sold. The used machine received by Jerrod is recorded at fair value.

position of Interstate did not change significantly as a result of this exchange. In this case, Interstate defers the gain of \$7,000 and reduces the basis of the semi-truck. Illustration 10-15 shows two different but acceptable computations to illustrate this reduction.

| | | | | |
|----------------------------|------------------------|----|----------------------------|------------------------|
| Fair value of semi-truck | \$60,000 | OR | Book value of used trucks | \$42,000 |
| Less: Gain deferred | <u>7,000</u> | | Plus: Cash paid | <u>11,000</u> |
| Basis of semi-truck | <u>\$53,000</u> | | Basis of semi-truck | <u>\$53,000</u> |

ILLUSTRATION 10-15
Basis of Semi-Truck—Fair Value vs. Book Value

Interstate records this transaction as follows.

| | | |
|---------------------------------|--------|--------|
| Trucks (semi) | 53,000 | |
| Accumulated Depreciation—Trucks | 22,000 | |
| Trucks (used) | | 64,000 |
| Cash | | 11,000 |

If the exchange lacks commercial substance, the company recognizes the gain (reflected in the basis of the semi-truck) through lower depreciation expense or when it later sells the semi-truck, not at the time of the exchange.

Lacks Commercial Substance—Some Cash Received. When a company receives cash (sometimes referred to as “boot”) in an exchange that lacks commercial substance, it may immediately recognize a portion of the gain.⁸ Illustration 10-16 shows the general formula for gain recognition when an exchange includes some cash.

$$\frac{\text{Cash Received (Boot)}}{\text{Cash Received (Boot) + Fair Value of Other Assets Received}} \times \text{Total Gain} = \text{Recognized Gain}$$

ILLUSTRATION 10-16
Formula for Gain Recognition, Some Cash Received

To illustrate, assume that Queenan Corporation traded in used machinery with a book value of \$60,000 (cost \$110,000 less accumulated depreciation \$50,000) and a fair value of \$100,000. It receives in exchange a machine with a fair value of \$90,000 plus cash of \$10,000. Illustration 10-17 shows calculation of the total gain on the exchange.

| | |
|---------------------------------------|-------------------------|
| Fair value of machine exchanged | \$100,000 |
| Less: Book value of machine exchanged | <u>60,000</u> |
| Total gain | <u>\$ 40,000</u> |

ILLUSTRATION 10-17
Computation of Total Gain

Generally, when a transaction lacks commercial substance, a company defers any gain. But because Queenan received \$10,000 in cash, it recognizes a partial gain. The portion of the gain a company recognizes is the ratio of monetary assets (cash in this case) to the total consideration received. Queenan computes the partial gain as follows.

$$\frac{\$10,000}{\$10,000 + \$90,000} \times \$40,000 = \$4,000$$

ILLUSTRATION 10-18
Computation of Gain Based on Ratio of Cash Received to Total Consideration Received

⁸When the monetary consideration is significant, i.e., **25 percent or more** of the fair value of the exchange, both parties consider the transaction a **monetary exchange**. Such “monetary” exchanges rely on the fair values to measure the gains or losses that are recognized in their entirety. [6]

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Because Queenan recognizes only a gain of \$4,000 on this transaction, it defers the remaining \$36,000 (\$40,000 – \$4,000) and reduces the basis (recorded cost) of the new machine. Illustration 10-19 shows the computation of the basis.

ILLUSTRATION 10-19 Computation of Basis

| | | | | |
|-----------------------------|------------------------|----|-------------------------------------|--|
| Fair value of new machine | \$90,000 | OR | Book value of old machine | \$60,000 |
| Less: Gain deferred | <u>36,000</u> | | Portion of book value presumed sold | <u>6,000*</u> |
| Basis of new machine | <u>\$54,000</u> | | Basis of new machine | <u>\$54,000</u> |
| | | | | $\frac{\$10,000}{\$100,000} \times \$60,000 = \$6,000$ |

Queenan records the transaction with the following entry.

| | | |
|------------------------------------|--------|---------|
| Cash | 10,000 | |
| Machinery (new) | 54,000 | |
| Accumulated Depreciation—Machinery | 50,000 | |
| Machinery (old) | | 110,000 |
| Gain on Disposal of Machinery | | 4,000 |

The rationale for the treatment of a partial gain is as follows: Before a nonmonetary exchange that includes some cash, a company has an unrecognized gain, which is the difference between the book value and the fair value of the old asset. When the exchange occurs, a portion of the fair value is converted to a more liquid asset. The ratio of this liquid asset to the total consideration received is the portion of the total gain that the company realizes. Thus, the company recognizes and records that amount.

Illustration 10-20 presents in summary form the accounting requirements for recognizing gains and losses on exchanges of nonmonetary assets.⁹

ILLUSTRATION 10-20 Summary of Gain and Loss Recognition on Exchanges of Nonmonetary Assets

1. Compute the total gain or loss on the transaction. This amount is equal to the difference between the fair value of the asset given up and the book value of the asset given up.
2. If a loss is computed in step 1, always recognize the entire loss.
3. If a gain is computed in step 1,
 - (a) and the exchange has commercial substance, recognize the entire gain.
 - (b) and the exchange lacks commercial substance,
 - (1) and no cash is involved, no gain is recognized.
 - (2) and some cash is given, no gain is recognized.
 - (3) and some cash is received, the following portion of the gain is recognized:

$$\frac{\text{Cash Received (Boot)}}{\text{Cash Received (Boot) + Fair Value of Other Assets Received}} \times \text{Total Gain}^*$$

*If the amount of cash exchanged is 25% or more, both parties recognize entire gain or loss.

Companies disclose in their financial statements nonmonetary exchanges during a period. Such disclosure indicates the nature of the transaction(s), the method of accounting for the assets exchanged, and gains or losses recognized on the exchanges. [7]

⁹Adapted from an article by Robert Capettini and Thomas E. King, "Exchanges of Nonmonetary Assets: Some Changes," *The Accounting Review* (January 1976).

ABOUT THOSE SWAPS

In a press release, Roy Olofson, former vice president of finance for **Global Crossing**, accused company executives of improperly describing the company's revenue to the public. He said the company had improperly recorded long-term sales immediately rather than over the term of the contract, had improperly booked as cash transactions swaps of capacity with other carriers, and had fired him when he blew the whistle.

The accounting for the swaps involves exchanges of similar network capacity. Companies have said they engage in such deals because swapping is quicker and less costly than building segments of their own networks, or because such pacts provide redundancies to make their own networks more reliable. In one expert's view, an exchange of similar network capacity is the equivalent of trading a blue truck for a red truck—it shouldn't boost a company's revenue.

But Global Crossing and **Qwest**, among others, counted as revenue the money received from the other company in the swap. (In general, in transactions involving leased capacity, the companies booked the revenue over the life of the contract.) Some of these companies then treated their own purchases as capital expenditures, which were not run through the income statement. Instead, the spending led to the addition of assets on the balance sheet (and an inflated bottom line).

The SEC questioned some of these capacity exchanges, because it appeared they were a device to pad revenue. This reaction was not surprising, since revenue growth was a key factor in the valuation of companies such as Global Crossing and Qwest during the craze for tech stocks in the late 1990s and 2000.

Source: Adapted from Henny Sender, "Telecoms Draw Focus for Moves in Accounting," Wall Street Journal (March 26, 2002), p. C7.

What do the numbers mean?

Accounting for Contributions

Companies sometimes receive or make contributions (donations or gifts). Such contributions, **nonreciprocal transfers**, transfer assets in one direction. A contribution is often some type of asset (such as cash, securities, land, buildings, or use of facilities), but it also could be the forgiveness of a debt.

When companies acquire assets as donations, a strict cost concept dictates that the valuation of the asset should be zero. However, a departure from the cost principle seems justified; the only costs incurred (legal fees and other relatively minor expenditures) are not a reasonable basis of accounting for the assets acquired. To record nothing is to ignore the economic realities of an increase in wealth and assets. Therefore, companies use the **fair value of the asset** to establish its value on the books.

What then is the proper accounting for the credit in this transaction? Some believe the credit should be made to Donated Capital (an additional paid-in capital account). This approach views the increase in assets from a donation as contributed capital, rather than as earned revenue.

Others argue that companies should report donations as revenues from contributions. Their reasoning is that only the owners of a business contribute capital. At issue in this approach is whether the company should report revenue immediately or over the period that the asset is employed. For example, to attract new industry a city may offer land, but the receiving enterprise may incur additional costs in the future (e.g., transportation or higher state income taxes) because the location is not the most desirable. As a consequence, some argue that company should defer the revenue and recognize it as the costs are incurred.

The FASB's position is that **in general, companies should recognize contributions received as revenues in the period received.** [8]¹⁰ Companies measure contributions at the fair value of the assets received. [9] To illustrate, Max Wayer Meat Packing, Inc. has

INTERNATIONAL PERSPECTIVE



IFRS provides detailed guidance on how to account for contributions and government grants.

¹⁰GAAP is silent on how to account for the transfers of assets from governmental units to business enterprises. However, we believe that the basic requirements should hold also for these types of contributions. Therefore, companies should record all assets at fair value and all credits as revenue.

recently accepted a donation of land with a fair value of \$150,000 from the Memphis Industrial Development Corp. In return Max Wayer Meat Packing promises to build a packing plant in Memphis. Max Wayer's entry is:

| | | |
|----------------------|---------|---------|
| Land | 150,000 | |
| Contribution Revenue | | 150,000 |

When a company contributes a nonmonetary asset, it should record the amount of the donation as an expense at the fair value of the donated asset. If a difference exists between the fair value of the asset and its book value, the company should recognize a gain or loss. To illustrate, Kline Industries donates land to the city of Los Angeles for a city park. The land cost \$80,000 and has a fair value of \$110,000. Kline Industries records this donation as follows:

| | | |
|--------------------------|---------|--------|
| Contribution Expense | 110,000 | |
| Land | | 80,000 |
| Gain on Disposal of Land | | 30,000 |

In some cases, companies promise to give (pledge) some type of asset in the future. Should companies record this promise immediately or when they give the assets? If the promise is **unconditional** (depends only on the passage of time or on demand by the recipient for performance), the company should report the contribution expense and related payable immediately. If the promise is **conditional**, the company recognizes expense in the period benefited by the contribution, generally when it transfers the asset.

Other Asset Valuation Methods

The exception to the historical cost principle for assets acquired through donation is based on fair value. Another exception is the **prudent cost** concept. This concept states that if for some reason a company ignorantly paid too much for an asset originally, it is theoretically preferable to charge a loss immediately.

For example, assume that a company constructs an asset at a cost much greater than its present economic usefulness. It would be appropriate to charge these excess costs as a loss to the current period, rather than capitalize them as part of the cost of the asset. In practice, the need to use the prudent cost approach seldom develops. Companies typically either use good reasoning in paying a given price or fail to recognize that they have overpaid.

What happens, on the other hand, if a company makes a bargain purchase or internally constructs a piece of equipment at a cost savings? Such savings should not result in immediate recognition of a gain under any circumstances.

COSTS SUBSEQUENT TO ACQUISITION

LEARNING OBJECTIVE 6
Describe the accounting treatment for 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.

Underlying Concepts

Expensing long-lived ashtrays and waste baskets is an application of the materiality constraint.

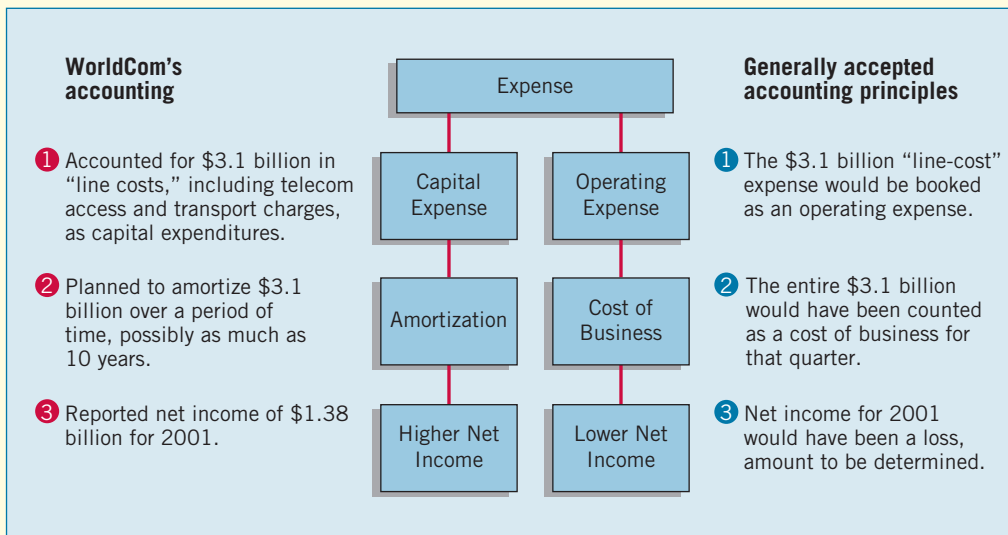
Companies expense most expenditures below an established arbitrary minimum amount, say, \$100 or \$500. Although, conceptually, this treatment may be incorrect, expediency demands it. Otherwise, companies would set up depreciation schedules for such items as wastepaper baskets and ashtrays.

DISCONNECTED

It all started with a check of the books by an internal auditor for **WorldCom Inc.** The telecom giant’s newly installed chief executive had asked for a financial review, and the auditor was spot-checking records of capital expenditures. She found the company was using an unorthodox technique to account for one of its biggest expenses: charges paid to local telephone networks to complete long-distance calls.

Instead of recording these charges as operating expenses, WorldCom recorded a significant portion as capital expenditures. The maneuver was worth hundreds of millions of dollars to WorldCom’s bottom line. It effectively turned a loss for all of 2001 and the first quarter of 2002 into a profit. The graph below compares WorldCom’s accounting to that under GAAP. Soon after this discovery, WorldCom filed for bankruptcy.

What do the numbers mean?



Source: Adapted from Jared Sandberg, Deborah Solomon, and Rebecca Blumenstein, "Inside WorldCom's Unearthing of a Vast Accounting Scandal," *Wall Street Journal* (June 27, 2002), p. A1.

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.

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 match them against 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.

To illustrate, 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 **Eastman Kodak** 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, Eastman Kodak 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. **[10]**

¹¹AcSEC has proposed (see footnote 2) that companies expense as incurred costs involved for planned major expenditures unless they represent an *additional* component or the *replacement* of an existing component.

Summary of Costs Subsequent to Acquisition

Illustration 10-21 summarizes the accounting treatment for various costs incurred subsequent to the acquisition of capitalized assets.

ILLUSTRATION 10-21 Summary of Costs Subsequent to Acquisition of Property, Plant, and Equipment

| Type of Expenditure | Normal Accounting Treatment |
|--|--|
| Additions Improvements and replacements | Capitalize cost of addition to asset account. (a) Carrying value known: Remove cost of and accumulated depreciation on old asset, recognizing any gain or loss. Capitalize cost of improvement/replacement. (b) Carrying value unknown: <ol style="list-style-type: none"> If the asset's useful life is extended, debit accumulated depreciation for cost of improvement/replacement. If the quantity or quality of the asset's productivity is increased, capitalize cost of improvement/replacement to asset account. |
| Rearrangement and reinstallation | (a) If original installation cost is known , account for cost of rearrangement/reinstallation as a replacement (carrying value known). (b) If original installation cost is unknown and rearrangement/reinstallation cost is material in amount and benefits future periods, capitalize as an asset. (c) If original installation cost is unknown and rearrangement/reinstallation cost is not material or future benefit is questionable , expense the cost when incurred. |
| Repairs | (a) Ordinary: Expense cost of repairs when incurred. (b) Major: As appropriate, treat as an addition, improvement, or replacement. |

DISPOSITION OF PROPERTY, PLANT, AND EQUIPMENT

LEARNING OBJECTIVE 7
Describe the accounting treatment for the disposal of property, plant, and equipment.

A company, like **Intel**, may retire plant assets voluntarily or dispose of them by sale, exchange, involuntary conversion, or abandonment. Regardless of the type of disposal, depreciation must be taken up to the date of disposition. Then, Intel should remove all accounts related to the retired asset. Generally, the book value of the specific plant asset does not equal its disposal value. As a result, a gain or loss develops.

The reason: Depreciation is an estimate of cost allocation and not a process of valuation. **The gain or loss is really a correction of net income** for the years during which Intel used the fixed asset.

Intel should show gains or losses on the disposal of plant assets in the income statement along with other items from customary business activities. However, if it sold, abandoned, spun off, or otherwise disposed of the "operations of a component of a business," then it should report the results separately in the discontinued operations section of the income statement (as discussed in Chapter 4). That is, Intel should report any gain or loss from disposal of a business component with the related results of discontinued operations.

Sale of Plant Assets

Companies record depreciation for the period of time between the date of the last depreciation entry and the date of sale. To illustrate, assume that Barret Company recorded depreciation on a machine costing \$18,000 for 9 years at the rate of \$1,200 per year. If it sells the machine in the middle of the tenth year for \$7,000, Barret records depreciation to the date of sale as:

| | |
|---|-----|
| Depreciation Expense ($\$1,200 \times \frac{1}{2}$) | 600 |
| Accumulated Depreciation—Machinery | 600 |

The entry for the sale of the asset then is:

| | | |
|-------------------------------------|--------|--------|
| Cash | 7,000 | |
| Accumulated Depreciation—Machinery | 11,400 | |
| [($\$1,200 \times 9$) + $\$600$] | | |
| Machinery | | 18,000 |
| Gain on Disposal of Machinery | | 400 |

The book value of the machinery at the time of the sale is \$6,600 ($\$18,000 - \$11,400$). Because the machinery sold for \$7,000, the amount of the gain on the sale is \$400.

Involuntary Conversion

Sometimes an asset's service is terminated through some type of **involuntary conversion** such as fire, flood, theft, or condemnation. Companies report the difference between the amount recovered (e.g., from a condemnation award or insurance recovery), if any, and the asset's book value as a gain or loss. They treat these gains or losses like any other type of disposition. In some cases, these gains or losses may be reported as extraordinary items in the income statement, **if the conditions of the disposition are unusual and infrequent in nature.**

To illustrate, Camel Transport Corp. had to sell a plant located on company property that stood directly in the path of an interstate highway. For a number of years the state had sought to purchase the land on which the plant stood, but the company resisted. The state ultimately exercised its right of eminent domain, which the courts upheld. In settlement, Camel received \$500,000, which substantially exceeded the \$200,000 book value of the plant and land (cost of \$400,000 less accumulated depreciation of \$200,000). Camel made the following entry.

| | | |
|---------------------------------------|---------|---------|
| Cash | 500,000 | |
| Accumulated Depreciation—Plant Assets | 200,000 | |
| Plant Assets | | 400,000 |
| Gain on Disposal of Plant Assets | | 300,000 |

If the conditions surrounding the condemnation are judged to be unusual and infrequent, Camel's gain of \$300,000 is reported as an extraordinary item.

Some object to the recognition of a gain or loss in certain *involuntary* conversions. For example, the federal government often condemns forests for national parks. The paper companies that owned these forests must report a gain or loss on the condemnation. However, companies such as **Georgia-Pacific** contend that no gain or loss should be reported because they must replace the condemned forest land immediately and so are in the same economic position as they were before. The issue is whether condemnation and subsequent purchase should be viewed as one or two transactions. GAAP requires "that a gain or loss be recognized when a nonmonetary asset is involuntarily converted to monetary assets even though an enterprise reinvests or is obligated to reinvest the monetary assets in replacement nonmonetary assets." **[11]**

Miscellaneous Problems

If a company scraps or abandons an asset without any cash recovery, it recognizes a loss equal to the asset's book value. If scrap value exists, the gain or loss that occurs is the difference between the asset's scrap value and its book value. If an asset still can be used even though it is fully depreciated, it may be kept on the books at historical cost less depreciation.

Companies must disclose in notes to the financial statements the amount of fully depreciated assets in service. For example, **Petroleum Equipment Tools Inc.** in its annual report disclosed, "The amount of fully depreciated assets included in property, plant, and equipment at December 31 amounted to approximately \$98,900,000."

KEY TERMS

additions, 576
 avoidable interest, 560
 capital expenditure, 575
 capitalization period, 560
 commercial
 substance, 568
 fixed assets, 556
 historical cost, 556
 improvements
 (betterments), 576
 involuntary
 conversion, 579
 lump-sum price, 566
 major repairs, 577
 nonmonetary assets, 568
 nonreciprocal
 transfers, 573
 ordinary repairs, 577
 plant assets, 556
 property, plant, and
 equipment, 556
 prudent cost, 574
 rearrangement and
 reinstallation costs, 577
 replacements, 576
 revenue expenditure, 575
 self-constructed asset, 558
 weighted-average
 accumulated
 expenditures, 561

SUMMARY OF LEARNING OBJECTIVES

1 Describe property, plant, and equipment. The 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 subject to depreciation. (3) They possess physical substance.

2 Identify the costs to include in initial valuation of property, plant, and equipment. The costs included in initial valuation of property, plant, and equipment are as follows.

Cost of land: Includes all expenditures made to acquire land and to ready it for use. 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; and (5) any additional land improvements that have an indefinite life.

Cost of buildings: Includes 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.

Cost of equipment: 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.

3 Describe the accounting problems associated with self-constructed assets. Indirect costs of manufacturing create special problems because companies cannot easily trace these costs directly to work and material orders related to the constructed assets. Companies might handle these costs in one of two ways: (1) Assign no fixed overhead to the cost of the constructed asset, or (2) assign a portion of all overhead to the construction process. Companies use the second method extensively.

4 Describe the accounting problems associated with interest capitalization. Only actual interest (with modifications) should be capitalized. The rationale for this approach is that during construction, the asset is not generating revenue and therefore companies should defer (capitalize) interest cost. Once construction is completed, the asset is ready for its intended use and revenues can be earned. Any interest cost incurred in purchasing an asset that is ready for its intended use should be expensed.

5 Understand accounting issues related to acquiring and valuing plant assets. The following issues relate to acquiring and valuing plant assets: (1) *Cash discounts:* Whether taken or not, they are generally considered a reduction in the cost of the asset; the real cost of the asset is the cash or cash equivalent price of the asset. (2) *Deferred-payment contracts:* Companies account for assets purchased on long-term credit contracts at the present value of the consideration exchanged between the contracting parties. (3) *Lump-sum purchase:* Allocate the total cost among the various assets on the basis of their relative fair values. (4) *Issuance of stock:* If the stock is actively traded, the market price of the stock issued is a fair indication of the cost of the property acquired. If the market price of the common stock exchanged is not determinable, establish the fair value of the property and use it as the basis for recording the asset and issuance of the common stock. (5) *Exchanges of nonmonetary assets.* The accounting for exchanges of nonmonetary assets depends on whether the exchange has commercial substance. See Illustrations 10-10 (page 569) and 10-20 (page 572) for summaries of how to account for exchanges. (6) *Contributions:* Record at the fair value of the asset received, and credit revenue for the same amount.

6 Describe the accounting treatment for costs subsequent to acquisition. Illustration 10-21 (page 578) summarizes how to account for costs subsequent to acquisition.

7 Describe the accounting treatment for the disposal of property, plant, and equipment. Regardless of the time of disposal, companies take depreciation up to the date of disposition, and then remove all accounts related to the retired asset. Gains or losses on the retirement of plant assets are shown in the income statement along with other items that arise from customary business activities. Gains or losses on involuntary conversions, if unusual and infrequent, may be reported as extraordinary items.



FASB CODIFICATION

FASB Codification References

- [1] FASB ASC 360-10-35-43. [Predecessor literature: “Accounting for the Impairment or Disposal of Long-lived Assets,” *Statement of Financial Accounting Standards No. 144* (Norwalk, Conn.: FASB, 2001), par. 34.]
- [2] FASB ASC 835-20-05. [Predecessor literature: “Capitalization of Interest Cost,” *Statement of Financial Accounting Standards No. 34* (Stamford, Conn.: FASB, 1979).]
- [3] FASB ASC 835-20-15-4. [Predecessor literature: “Determining Materiality for Capitalization of Interest Cost,” *Statement of Financial Accounting Standards No. 42* (Stamford, Conn.: FASB, 1980), par. 10.]
- [4] FASB ASC 820-10-35. [Predecessor literature: “(Predecessor literature: “Fair Value Measurement,” *Statement of Financial Accounting Standards No. 157* (Norwalk, Conn.: FASB, September 2006), paras. 13–18.)]
- [5] FASB ASC 845-10-30. [Predecessor literature: “Accounting for Nonmonetary Transactions,” *Opinions of the Accounting Principles Board No. 29* (New York: AICPA, 1973), par. 18, and “Exchanges of Nonmonetary Assets, an Amendment of APB Opinion No. 29,” *Statement of Financial Accounting Standards No. 153* (Norwalk, Conn.: FASB, 2004).]
- [6] FASB ASC 845-10-25-6. [Predecessor literature: “Interpretations of APB Opinion No. 29,” EITF Abstracts No. 01-02 (Norwalk, Conn.: FASB, 2002).]
- [7] FASB ASC 845-10-50-1. [Predecessor literature: “Accounting for Nonmonetary Transactions,” *Opinions of the Accounting Principles Board No. 29* (New York: AICPA, 1973), par. 28, and “Exchanges of Nonmonetary Assets, an Amendment of APB Opinion No. 29,” *Statement of Financial Accounting Standards No. 153* (Norwalk, Conn.: FASB, 2004).]
- [8] FASB ASC 958-605-25-2. [Predecessor literature: “Accounting for Contributions Received and Contributions Made,” *Statement of Financial Accounting Standards No. 116* (Norwalk, Conn.: FASB, 1993).]
- [9] FASB ASC 845-10-30. [Predecessor literature: “Accounting for Nonmonetary Transactions,” *Opinions of the Accounting Principles Board No. 29* (New York: AICPA, 1973), par. 18, and “Exchanges of Nonmonetary Assets, an Amendment of APB Opinion No. 29,” *Statement of Financial Accounting Standards No. 153* (Norwalk, Conn.: FASB, 2004).]
- [10] FASB ASC 360-10-25-5. [Predecessor literature: “Accounting for Planned Major Maintenance Activities,” FASB Staff Position AUG-AIR-1 (Norwalk, Conn.: FASB, September 2006), par. 5.]
- [11] FASB ASC 605-40-25-2. [Predecessor literature: “Accounting for Involuntary Conversions of Nonmonetary Assets to Monetary Assets,” *FASB Interpretation No. 30* (Stamford, Conn.: FASB, 1979), summary paragraph.]

Exercises

If your school has a subscription to the FASB Codification, go to <http://aaahq.org/asclogin.cfm> to log in and prepare responses to the following. Provide Codification references for your responses.

CE10-1 Access the glossary (“Master Glossary”) to answer the following.

- (a) What does it mean to “capitalize” an item?
- (b) What is the definition of a nonmonetary asset?
- (c) What is a nonreciprocal transfer?
- (d) What is the definition of “contribution”?

- CE10-2** Herb Scholl, the owner of Scholl's Company, wonders whether interest costs associated with developing land can ever be capitalized. What does the Codification say on this matter?
- CE10-3** What guidance does the Codification provide on the accrual of costs associated with planned major maintenance activities?
- CE10-4** Briefly describe how the purchases and sales of inventory with the same counterparty are similar to the accounting for other nonmonetary exchanges.

An additional Codification case can be found in the Using Your Judgment section, on page 603.

Be sure to check the book's companion website for a Review and Analysis Exercise, with solution.



Questions, Brief Exercises, Exercises, Problems, and many more resources are available for practice in WileyPLUS.

QUESTIONS

- What are the major characteristics of plant assets?
- Mickelson Inc. owns land that it purchased on January 1, 2000, for \$450,000. At December 31, 2012, its current value is \$770,000 as determined by appraisal. At what amount should Mickelson report this asset on its December 31, 2012, balance sheet? Explain.
- Name the items, in addition to the amount paid to the former owner or contractor, that may properly be included as part of the acquisition cost of the following plant assets.
 - Land.
 - Machinery and equipment.
 - Buildings.
- Indicate where the following items would be shown on a balance sheet.
 - A lien that was attached to the land when purchased.
 - Landscaping costs.
 - Attorney's fees and recording fees related to purchasing land.
 - Variable overhead related to construction of machinery.
 - A parking lot servicing employees in the building.
 - Cost of temporary building for workers during construction of building.
 - Interest expense on bonds payable incurred during construction of a building.
 - Assessments for sidewalks that are maintained by the city.
 - The cost of demolishing an old building that was on the land when purchased.
- Two positions have normally been taken with respect to the recording of fixed manufacturing overhead as an element of the cost of plant assets constructed by a company for its own use:
 - It should be excluded completely.
 - It should be included at the same rate as is charged to normal operations.

What are the circumstances or rationale that support or deny the application of these methods?
- The Buildings account of Postera Inc. includes the following items that were used in determining the basis for depreciating the cost of a building.
 - Organization and promotion expenses.
 - Architect's fees.
 - Interest and taxes during construction.
 - Interest revenue on investments held to fund construction of a building.

Do you agree with these charges? If not, how would you deal with each of the items above in the corporation's books and in its annual financial statements?
- Burke Company has purchased two tracts of land. One tract will be the site of its new manufacturing plant, while the other is being purchased with the hope that it will be sold in the next year at a profit. How should these two tracts of land be reported in the balance sheet?
- One financial accounting issue encountered when a company constructs its own plant is whether the interest cost on funds borrowed to finance construction should be capitalized and then amortized over the life of the assets

constructed. What is the justification for capitalizing such interest?

9. Provide examples of assets that do not qualify for interest capitalization.
10. What interest rates should be used in determining the amount of interest to be capitalized? How should the amount of interest to be capitalized be determined?
11. How should the amount of interest capitalized be disclosed in the notes to the financial statements? How should interest revenue from temporarily invested excess funds borrowed to finance the construction of assets be accounted for?
12. Discuss the basic accounting problem that arises in handling each of the following situations.
 - (a) Assets purchased by issuance of capital stock.
 - (b) Acquisition of plant assets by gift or donation.
 - (c) Purchase of a plant asset subject to a cash discount.
 - (d) Assets purchased on a long-term credit basis.
 - (e) A group of assets acquired for a lump sum.
 - (f) An asset traded in or exchanged for another asset.
13. Magilke Industries acquired equipment this year to be used in its operations. The equipment was delivered by the suppliers, installed by Magilke, and placed into operation. Some of it was purchased for cash with discounts available for prompt payment. Some of it was purchased under long-term payment plans for which the interest charges approximated prevailing rates. What costs should Magilke capitalize for the new equipment purchased this year? Explain.
14. Schwartzkopf Co. purchased for \$2,200,000 property that included both land and a building to be used in operations. The seller's book value was \$300,000 for the land and \$900,000 for the building. By appraisal, the fair value was estimated to be \$500,000 for the land and \$2,000,000 for the building. At what amount should Schwartzkopf report the land and the building at the end of the year?
15. Pueblo Co. acquires machinery by paying \$10,000 cash and signing a \$5,000, 2-year, zero-interest-bearing note payable. The note has a present value of \$4,208, and Pueblo purchased a similar machine last month for \$13,500. At what cost should the new equipment be recorded?
16. Stan Ott is evaluating two recent transactions involving exchanges of equipment. In one case, the exchange has commercial substance. In the second situation, the exchange lacks commercial substance. Explain to Stan the differences in accounting for these two situations.
17. Crowe Company purchased a heavy-duty truck on July 1, 2009, for \$30,000. It was estimated that it would have a useful life of 10 years and then would have a trade-in value of \$6,000. The company uses the straight-line method. It was traded on August 1, 2013, for a similar truck costing \$42,000; \$16,000 was allowed as trade-in value (also fair value) on the old truck and \$26,000 was paid in cash. A comparison of expected cash flows for the trucks indicates the exchange lacks commercial substance. What is the entry to record the trade-in?
18. Once equipment has been installed and placed in operation, subsequent expenditures relating to this equipment are frequently thought of as repairs or general maintenance and, hence, chargeable to operations in the period in which the expenditure is made. Actually, determination of whether such an expenditure should be charged to operations or capitalized involves a much more careful analysis of the character of the expenditure. What are the factors that should be considered in making such a decision? Discuss fully.
19. What accounting treatment is normally given to the following items in accounting for plant assets?
 - (a) Additions.
 - (b) Major repairs.
 - (c) Improvements and replacements.
20. New machinery, which replaced a number of employees, was installed and put in operation in the last month of the fiscal year. The employees had been dismissed after payment of an extra month's wages, and this amount was added to the cost of the machinery. Discuss the propriety of the charge. If it was improper, describe the proper treatment.
21. To what extent do you consider the following items to be proper costs of the fixed asset? Give reasons for your opinions.
 - (a) Overhead of a business that builds its own equipment.
 - (b) Cash discounts on purchases of equipment.
 - (c) Interest paid during construction of a building.
 - (d) Cost of a safety device installed on a machine.
 - (e) Freight on equipment returned before installation, for replacement by other equipment of greater capacity.
 - (f) Cost of moving machinery to a new location.
 - (g) Cost of plywood partitions erected as part of the remodeling of the office.
 - (h) Replastering of a section of the building.
 - (i) Cost of a new motor for one of the trucks.
22. Neville Enterprises has a number of fully depreciated assets that are still being used in the main operations of the business. Because the assets are fully depreciated, the president of the company decides not to show them on the balance sheet or disclose this information in the notes. Evaluate this procedure.
23. What are the general rules for how gains or losses on retirement of plant assets should be reported in income?

BRIEF EXERCISES

- 2** **BE10-1** Previn Brothers Inc. purchased land at a price of \$27,000. Closing costs were \$1,400. An old building was removed at a cost of \$10,200. What amount should be recorded as the cost of the land?
- 4** **BE10-2** Hanson Company is constructing a building. Construction began on February 1 and was completed on December 31. Expenditures were \$1,800,000 on March 1, \$1,200,000 on June 1, and \$3,000,000 on December 31. Compute Hanson's weighted-average accumulated expenditures for interest capitalization purposes.
- 4** **BE10-3** Hanson Company (see BE10-2) borrowed \$1,000,000 on March 1 on a 5-year, 12% note to help finance construction of the building. In addition, the company had outstanding all year a 10%, 5-year, \$2,000,000 note payable and an 11%, 4-year, \$3,500,000 note payable. Compute the weighted-average interest rate used for interest capitalization purposes.
- 4** **BE10-4** Use the information for Hanson Company from BE10-2 and BE10-3. Compute avoidable interest for Hanson Company.
- 5** **BE10-5** 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%. Prepare the journal entry to record the purchase of this truck.
- 5** **BE10-6** 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. At what amounts should each of the three assets be recorded?
- 5** **BE10-7** 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. Prepare the journal entry to record the acquisition of the land.
- 5** **BE10-8** Navajo Corporation traded a used truck (cost \$20,000, accumulated depreciation \$18,000) for a small computer worth \$3,300. Navajo also paid \$500 in the transaction. Prepare the journal entry to record the exchange. (The exchange has commercial substance.)
- 5** **BE10-9** Use the information for Navajo Corporation from BE10-8. Prepare the journal entry to record the exchange, assuming the exchange lacks commercial substance.
- 5** **BE10-10** Mehta Company traded a used welding machine (cost \$9,000, accumulated depreciation \$3,000) for office equipment with an estimated fair value of \$5,000. Mehta also paid \$3,000 cash in the transaction. Prepare the journal entry to record the exchange. (The exchange has commercial substance.)
- 5** **BE10-11** Cheng Company traded a used truck for a new truck. The used truck cost \$30,000 and has accumulated depreciation of \$27,000. The new truck is worth \$37,000. Cheng also made a cash payment of \$36,000. Prepare Cheng's entry to record the exchange. (The exchange lacks commercial substance.)
- 5** **BE10-12** Slaton Corporation traded a used truck for a new truck. The used truck cost \$20,000 and has accumulated depreciation of \$17,000. The new truck is worth \$35,000. Slaton also made a cash payment of \$33,000. Prepare Slaton's entry to record the exchange. (The exchange has commercial substance.)
- 6** **BE10-13** 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.
- 7** **BE10-14** Ottawa Corporation owns machinery that cost \$20,000 when purchased on July 1, 2009. Depreciation has been recorded at a rate of \$2,400 per year, resulting in a balance in accumulated depreciation of \$8,400 at December 31, 2012. The machinery is sold on September 1, 2013, for \$10,500. Prepare journal entries to (a) update depreciation for 2013 and (b) record the sale.
- 7** **BE10-15** Use the information presented for Ottawa Corporation in BE10-14, but assume the machinery is sold for \$5,200 instead of \$10,500. Prepare journal entries to (a) update depreciation for 2013 and (b) record the sale.

EXERCISES

2 E10-1 (Acquisition Costs of Realty) The expenditures and receipts below are related to land, land improvements, and buildings acquired for use in a business enterprise. The receipts are enclosed in parentheses.

| | |
|--|-------------|
| (a) Money borrowed to pay building contractor (signed a note) | \$(275,000) |
| (b) Payment for construction from note proceeds | 275,000 |
| (c) Cost of land fill and clearing | 10,000 |
| (d) Delinquent real estate taxes on property assumed by purchaser | 7,000 |
| (e) Premium on 6-month insurance policy during construction | 6,000 |
| (f) Refund of 1-month insurance premium because construction completed early | (1,000) |
| (g) Architect's fee on building | 25,000 |
| (h) Cost of real estate purchased as a plant site (land \$200,000 and building \$50,000) | 250,000 |
| (i) Commission fee paid to real estate agency | 9,000 |
| (j) Installation of fences around property | 4,000 |
| (k) Cost of razing and removing building | 11,000 |
| (l) Proceeds from salvage of demolished building | (5,000) |
| (m) Interest paid during construction on money borrowed for construction | 13,000 |
| (n) Cost of parking lots and driveways | 19,000 |
| (o) Cost of trees and shrubbery planted (permanent in nature) | 14,000 |
| (p) Excavation costs for new building | 3,000 |

Instructions

Identify each item by letter and list the items in columnar form, using the headings shown below. All receipt amounts should be reported in parentheses. For any amounts entered in the Other Accounts column, also indicate the account title.

| | | | | | |
|--|-------------|-------------|--------------------------|------------------|---------------------------|
| | <u>Item</u> | <u>Land</u> | <u>Land Improvements</u> | <u>Buildings</u> | <u>Other Accounts</u> |
|--|-------------|-------------|--------------------------|------------------|---------------------------|

2 E10-2 (Acquisition Costs of Realty) Pollachek Co. purchased land as a factory site for \$450,000. The process of tearing down two old buildings on the site and constructing the factory required 6 months. The company paid \$42,000 to raze the old buildings and sold salvaged lumber and brick for \$6,300. Legal fees of \$1,850 were paid for title investigation and drawing the purchase contract. Pollachek paid \$2,200 to an engineering firm for a land survey, and \$65,000 for drawing the factory plans. The land survey had to be made before definitive plans could be drawn. Title insurance on the property cost \$1,500, and a liability insurance premium paid during construction was \$900. The contractor's charge for construction was \$2,740,000. The company paid the contractor in two installments: \$1,200,000 at the end of 3 months and \$1,540,000 upon completion. Interest costs of \$170,000 were incurred to finance the construction.

Instructions

Determine the cost of the land and the cost of the building as they should be recorded on the books of Pollachek Co. Assume that the land survey was for the building.

2 E10-3 (Acquisition Costs of Trucks) Shabbona Corporation operates a retail computer store. To improve delivery services to customers, the company purchases four new trucks on April 1, 2012. 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 \$20,000 and is acquired for a down payment of \$2,000 cash and a zero-interest-bearing note with a face amount of \$18,000. The note is due April 1, 2013. Shabbona would normally have to pay interest at a rate of 10% for such a borrowing, and the dealership has an incremental borrowing rate of 8%.
3. Truck #3 has a list price of \$16,000. It is acquired in exchange for a computer system that Shabbona carries in inventory. The computer system cost \$12,000 and is normally sold by Shabbona for \$15,200. Shabbona uses a perpetual inventory system.
4. Truck #4 has a list price of \$14,000. It is acquired in exchange for 1,000 shares of common stock in Shabbona 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 foregoing transactions for Shabbona Corporation. (Round computations to the nearest dollar.)

- 2 3 E10-4 (Purchase and Self-Constructed Cost of Assets)** Dane Co. both purchases and constructs various equipment it uses in its operations. The following items for two different types of equipment were recorded in random order during the calendar year 2013.

| Purchase | |
|--|-----------|
| Cash paid for equipment, including sales tax of \$5,000 | \$105,000 |
| Freight and insurance cost while in transit | 2,000 |
| Cost of moving equipment into place at factory | 3,100 |
| Wage cost for technicians to test equipment | 6,000 |
| Insurance premium paid during first year of operation on this equipment | 1,500 |
| Special plumbing fixtures required for new equipment | 8,000 |
| Repair cost incurred in first year of operations related to this equipment | 1,300 |
| Construction | |
| Material and purchased parts (gross cost \$200,000; failed to take 1% cash discount) | \$200,000 |
| Imputed interest on funds used during construction (stock financing) | 14,000 |
| Labor costs | 190,000 |
| Allocated overhead costs (fixed—\$20,000; variable—\$30,000) | 50,000 |
| Profit on self-construction | 30,000 |
| Cost of installing equipment | 4,400 |

Instructions

Compute the total cost for each of these two pieces of equipment. If an item is not capitalized as a cost of the equipment, indicate how it should be reported.

- 2 3 E10-5 (Treatment of Various Costs)** Allegro Supply Company, a newly formed corporation, incurred the following expenditures related to Land, to Buildings, and to Machinery and Equipment.

| | | |
|---|----------|---------|
| Abstract company's fee for title search | \$ | 520 |
| Architect's fees | | 3,170 |
| Cash paid for land and dilapidated building thereon | | 92,000 |
| Removal of old building | \$20,000 | |
| Less: Salvage | 5,500 | 14,500 |
| Interest on short-term loans during construction | | 7,400 |
| Excavation before construction for basement | | 19,000 |
| Machinery purchased (subject to 2% cash discount, which was not taken) | | 65,000 |
| Freight on machinery purchased | | 1,340 |
| Storage charges on machinery, necessitated by noncompletion of building when machinery was delivered | | 2,180 |
| New building constructed (building construction took 6 months from date of purchase of land and old building) | | 485,000 |
| Assessment by city for drainage project | | 1,600 |
| Hauling charges for delivery of machinery from storage to new building | | 620 |
| Installation of machinery | | 2,000 |
| Trees, shrubs, and other landscaping after completion of building (permanent in nature) | | 5,400 |

Instructions

Determine the amounts that should be debited to Land, to Buildings, and to Machinery and Equipment. Assume the benefits of capitalizing interest during construction exceed the cost of implementation. Indicate how any costs not debited to these accounts should be recorded.

- 3 4 E10-6 (Correction of Improper Cost Entries)** Plant acquisitions for selected companies are presented below and on the next page.

- Natchez Industries Inc. acquired land, buildings, and equipment from a bankrupt company, Vivace Co., for a lump-sum price of \$680,000. At the time of purchase, Vivace's assets had the following book and appraisal values.

| | <u>Book Values</u> | <u>Appraisal Values</u> |
|-----------|--------------------|-------------------------|
| Land | \$200,000 | \$150,000 |
| Buildings | 230,000 | 350,000 |
| Equipment | 300,000 | 300,000 |

To be conservative, the company decided to take the lower of the two values for each asset acquired. The following entry was made.

| | | |
|-----------|---------|---------|
| Land | 150,000 | |
| Buildings | 230,000 | |
| Equipment | 300,000 | |
| Cash | | 680,000 |

2. Arawak Enterprises purchased store equipment by making a \$2,000 cash down payment and signing a 1-year, \$23,000, 10% note payable. The purchase was recorded as follows.

| | | |
|------------------|--------|--------|
| Equipment | 27,300 | |
| Cash | | 2,000 |
| Notes Payable | | 23,000 |
| Interest Payable | | 2,300 |

3. Ace Company purchased office equipment for \$20,000, terms 2/10, n/30. Because the company intended to take the discount, it made no entry until it paid for the acquisition. The entry was:

| | | |
|--------------------|--------|--------|
| Equipment | 20,000 | |
| Cash | | 19,600 |
| Purchase Discounts | | 400 |

4. Paunee Inc. recently received at zero cost land from the Village of Cardassia as an inducement to locate its business in the Village. The appraised value of the land is \$27,000. The company made no entry to record the land because it had no cost basis.
5. Mohegan Company built a warehouse for \$600,000. It could have purchased the building for \$740,000. The controller made the following entry.

| | | |
|------------------------|---------|---------|
| Buildings | 740,000 | |
| Cash | | 600,000 |
| Profit on Construction | | 140,000 |

Instructions

Prepare the entry that should have been made at the date of each acquisition.

- 4 E10-7 (Capitalization of Interest)** McPherson Furniture Company started construction of a combination office and warehouse building for its own use at an estimated cost of \$5,000,000 on January 1, 2012. McPherson expected to complete the building by December 31, 2012. McPherson has the following debt obligations outstanding during the construction period.

| | |
|--|-------------|
| Construction loan—12% interest, payable semiannually, issued December 31, 2011 | \$2,000,000 |
| Short-term loan—10% interest, payable monthly, and principal payable at maturity on May 30, 2013 | 1,600,000 |
| Long-term loan—11% interest, payable on January 1 of each year; principal payable on January 1, 2016 | 1,000,000 |

Instructions

(Carry all computations to two decimal places.)

- (a) Assume that McPherson completed the office and warehouse building on December 31, 2012, as planned at a total cost of \$5,200,000, and the weighted average of accumulated expenditures was \$3,800,000. Compute the avoidable interest on this project.
- (b) Compute the depreciation expense for the year ended December 31, 2013. McPherson elected to depreciate the building on a straight-line basis and determined that the asset has a useful life of 30 years and a salvage value of \$300,000.

- 4 E10-8 (Capitalization of Interest)** On December 31, 2011, Hurston Inc. borrowed \$3,000,000 at 12% payable annually to finance the construction of a new building. In 2012, the company made the following expenditures related to this building: March 1, \$360,000; June 1, \$600,000; July 1, \$1,500,000; December 1, \$1,200,000. Additional information is provided as follows.

- | | |
|--|-------------|
| 1. Other debt outstanding | |
| 10-year, 11% bond, December 31, 2005, interest payable annually | \$4,000,000 |
| 6-year, 10% note, dated December 31, 2009, interest payable annually | \$1,600,000 |
| 2. March 1, 2012, expenditure included land costs of \$150,000 | |
| 3. Interest revenue earned in 2012 | \$49,000 |

Instructions

- (a) Determine the amount of interest to be capitalized in 2012 in relation to the construction of the building.
- (b) Prepare the journal entry to record the capitalization of interest and the recognition of interest expense, if any, at December 31, 2012.

- 4 E10-9 (Capitalization of Interest)** On July 31, 2012, Bismarck Company engaged Duval Tooling Company to construct a special-purpose piece of factory machinery. Construction began immediately and was completed on November 1, 2012. To help finance construction, on July 31 Bismarck issued a \$400,000, 3-year, 12% note payable at Wellington National Bank, on which interest is payable each July 31. \$300,000 of the proceeds of the note was paid to Duval on July 31. The remainder of the proceeds was temporarily invested in short-term marketable securities (debt investments) at 10% until November 1. On November 1, Bismarck made a final \$100,000 payment to Duval. Other than the note to Wellington, Bismarck's only outstanding liability at December 31, 2012, is a \$30,000, 8%, 6-year note payable, dated January 1, 2009, on which interest is payable each December 31.

Instructions

- Calculate the interest revenue, weighted-average accumulated expenditures, avoidable interest, and total interest cost to be capitalized during 2012. Round all computations to the nearest dollar.
- Prepare the journal entries needed on the books of Bismarck Company at each of the following dates.
 - July 31, 2012.
 - November 1, 2012.
 - December 31, 2012.

- 4 E10-10 (Capitalization of Interest)** The following three situations involve the capitalization of interest.

Situation I

On January 1, 2012, Columbia, Inc. signed a fixed-price contract to have Builder Associates construct a major plant facility at a cost of \$4,000,000. It was estimated that it would take 3 years to complete the project. Also on January 1, 2012, to finance the construction cost, Columbia borrowed \$4,000,000 payable in 10 annual installments of \$400,000, plus interest at the rate of 10%. During 2012, Columbia made deposit and progress payments totaling \$1,500,000 under the contract; the weighted-average amount of accumulated expenditures was \$900,000 for the year. The excess borrowed funds were invested in short-term securities, from which Columbia realized investment income of \$250,000.

Instructions

What amount should Columbia report as capitalized interest at December 31, 2012?

Situation II

During 2012, Evander Corporation constructed and manufactured certain assets and incurred the following interest costs in connection with those activities.

| | Interest Costs <u>Incurred</u> |
|---|-----------------------------------|
| Warehouse constructed for Evander's own use | \$30,000 |
| Special-order machine for sale to unrelated customer, produced according to customer's specifications | 9,000 |
| Inventories routinely manufactured, produced on a repetitive basis | 8,000 |

All of these assets required an extended period of time for completion.

Instructions

Assuming the effect of interest capitalization is material, what is the total amount of interest costs to be capitalized?

Situation III

Antonio, Inc. has a fiscal year ending April 30. On May 1, 2012, Antonio borrowed \$10,000,000 at 11% to finance construction of its own building. Repayments of the loan are to commence the month following completion of the building. During the year ended April 30, 2013, expenditures for the partially completed structure totaled \$6,000,000. These expenditures were incurred evenly throughout the year. Interest earned on the unexpended portion of the loan amounted to \$650,000 for the year.

Instructions

How much should be shown as capitalized interest on Antonio's financial statements at April 30, 2013?
(CPA adapted)

- 2 3 E10-11 (Entries for Equipment Acquisitions)** Chopin Engineering Corporation purchased conveyor equipment with a list price of \$15,000. Presented below are three independent cases related to the equipment. (Round to nearest dollar.)

- Chopin paid cash for the equipment 8 days after the purchase. The vendor's credit terms are 2/10, n/30. Assume that equipment purchases are recorded gross.

- (b) Chopin traded in equipment with a book value of \$2,000 (initial cost \$8,000), and paid \$14,200 in cash one month after the purchase. The old equipment could have been sold for \$400 at the date of trade. (The exchange has commercial substance.)
- (c) Chopin gave the vendor a \$16,200 zero-interest-bearing note for the equipment on the date of purchase. The note was due in one year and was paid on time. Assume that the effective-interest rate in the market was 9%.

Instructions

Prepare the general journal entries required to record the acquisition and payment in each of the independent cases above. Round to the nearest dollar.

2 3 5 **E10-12 (Entries for Asset Acquisition, Including Self-Construction)** Below are transactions related to Impala Company.

- (a) The City of Pebble Beach gives the company 5 acres of land as a plant site. The fair value of this land is determined to be \$81,000.
- (b) 14,000 shares of common stock with a par value of \$50 per share are issued in exchange for land and buildings. The property has been appraised at a fair value of \$810,000, of which \$180,000 has been allocated to land and \$630,000 to buildings. The stock of Impala Company is not listed on any exchange, but a block of 100 shares was sold by a stockholder 12 months ago at \$65 per share, and a block of 200 shares was sold by another stockholder 18 months ago at \$58 per share.
- (c) No entry has been made to remove from the accounts for Materials, Direct Labor, and Overhead the amounts properly chargeable to plant asset accounts for machinery constructed during the year. The following information is given relative to costs of the machinery constructed.

| | | |
|---|--------------------------|----------|
| Materials used | | \$12,500 |
| Factory supplies used | | 900 |
| Direct labor incurred | | 16,000 |
| Additional overhead (over regular) caused by construction of machinery, excluding factory supplies used | | 2,700 |
| Fixed overhead rate applied to regular manufacturing operations | 60% of direct labor cost | |
| Cost of similar machinery if it had been purchased from outside suppliers | | 44,000 |

Instructions

Prepare journal entries on the books of Impala Company to record these transactions.

2 5 **E10-13 (Entries for Acquisition of Assets)** Presented below is information related to Rommel Company.

- 1. On July 6, Rommel Company acquired the plant assets of Studebaker Company, which had discontinued operations. The appraised value of the property is:

| | | |
|-----------|--|-------------|
| Land | | \$ 400,000 |
| Buildings | | 1,200,000 |
| Equipment | | 800,000 |
| Total | | \$2,400,000 |

Rommel Company gave 12,500 shares of its \$100 par value common stock in exchange. The stock had a fair value of \$180 per share on the date of the purchase of the property.

- 2. Rommel Company expended the following amounts in cash between July 6 and December 15, the date when it first occupied the building.

| | | |
|--|--|-----------|
| Repairs to building | | \$105,000 |
| Construction of bases for machinery to be installed later | | 135,000 |
| Driveways and parking lots | | 122,000 |
| Remodeling of office space in building, including new partitions and walls | | 161,000 |
| Special assessment by city on land | | 18,000 |

- 3. On December 20, the company paid cash for machinery, \$280,000, subject to a 2% cash discount, and freight on machinery of \$10,500.

Instructions

Prepare entries on the books of Rommel Company for these transactions.

5 **E10-14 (Purchase of Equipment with Zero-Interest-Bearing Debt)** Sterling Inc. has decided to purchase equipment from Central Michigan Industries on January 2, 2012, to expand its production capacity to meet customers' demand for its product. Sterling issues a \$900,000, 5-year, zero-interest-bearing note to Central Michigan for the new equipment when the prevailing market rate of interest for obligations of this nature is 12%. The company will pay off the note in five \$180,000 installments due at the end of each year over the life of the note.

Instructions

- Prepare the journal entry(ies) at the date of purchase. (Round to nearest dollar in all computations.)
- Prepare the journal entry(ies) at the end of the first year to record the payment and interest, assuming that the company employs the effective-interest method.
- Prepare the journal entry(ies) at the end of the second year to record the payment and interest.
- Assuming that the equipment had a 10-year life and no salvage value, prepare the journal entry necessary to record depreciation in the first year. (Straight-line depreciation is employed.)

- 5 E10-15 (Purchase of Computer with Zero-Interest-Bearing Debt)** Napoleon Corporation purchased a computer on December 31, 2011, for \$130,000, paying \$30,000 down and agreeing to pay the balance in five equal installments of \$20,000 payable each December 31 beginning in 2012. An assumed interest rate of 10% is implicit in the purchase price.

Instructions

- Prepare the journal entry(ies) at the date of purchase. (Round to two decimal places.)
- Prepare the journal entry(ies) at December 31, 2012, to record the payment and interest (effective-interest method employed).
- Prepare the journal entry(ies) at December 31, 2013, to record the payment and interest (effective-interest method employed).

- 5 E10-16 (Asset Acquisition)** Logan Industries purchased the following assets and constructed a building as well. All this was done during the current year.

**Assets 1 and 2**

These assets were purchased as a lump sum for \$104,000 cash. The following information was gathered.

| Description | Initial Cost on Seller's Books | Depreciation to Date on Seller's Books | Book Value on Seller's Books | Appraised Value |
|-------------|--------------------------------|--|------------------------------|-----------------|
| Machinery | \$100,000 | \$50,000 | \$50,000 | \$90,000 |
| Equipment | 60,000 | 10,000 | 50,000 | 30,000 |

Asset 3

This machine was acquired by making a \$10,000 down payment and issuing a \$30,000, 2-year, zero-interest-bearing note. The note is to be paid off in two \$15,000 installments made at the end of the first and second years. It was estimated that the asset could have been purchased outright for \$35,900.

Asset 4

This machinery was acquired by trading in used machinery. (The exchange lacks commercial substance.) Facts concerning the trade-in are as follows.

| | |
|--|-----------|
| Cost of machinery traded | \$100,000 |
| Accumulated depreciation to date of sale | 36,000 |
| Fair value of machinery traded | 80,000 |
| Cash received | 10,000 |
| Fair value of machinery acquired | 70,000 |

Asset 5

Office equipment was acquired by issuing 100 shares of \$8 par value common stock. The stock had a market price of \$11 per share.

Construction of Building

A building was constructed on land purchased last year at a cost of \$180,000. Construction began on February 1 and was completed on November 1. The payments to the contractor were as follows.

| Date | Payment |
|------|-----------|
| 2/1 | \$120,000 |
| 6/1 | 360,000 |
| 9/1 | 480,000 |
| 11/1 | 100,000 |

To finance construction of the building, a \$600,000, 12% construction loan was taken out on February 1. The loan was repaid on November 1. The firm had \$200,000 of other outstanding debt during the year at a borrowing rate of 8%.

Instructions

Record the acquisition of each of these assets.

- 5 E10-17 (Nonmonetary Exchange)** Alatorre Corporation, which manufactures shoes, hired a recent college graduate to work in its accounting department. On the first day of work, the accountant was assigned to total a batch of invoices with the use of an adding machine. Before long, the accountant, who had never before seen such a machine, managed to break the machine. Alatorre Corporation gave the machine plus \$320 to Mills Business Machine Company (dealer) in exchange for a new machine. Assume the following information about the machines.

| | Alatorre Corp. (Old Machine) | Mills Co. (New Machine) |
|--------------------------|---------------------------------|----------------------------|
| Machine cost | \$290 | \$270 |
| Accumulated depreciation | 140 | –0– |
| Fair value | 85 | 405 |

Instructions

For each company, prepare the necessary journal entry to record the exchange. (The exchange has commercial substance.)

- 5 E10-18 (Nonmonetary Exchange)** Montgomery Company purchased an electric wax melter on April 30, 2013, by trading in its old gas model and paying the balance in cash. The following data relate to the purchase.

| | |
|--|----------|
| List price of new melter | \$15,800 |
| Cash paid | 10,000 |
| Cost of old melter (5-year life, \$700 residual value) | 12,700 |
| Accumulated depreciation—old melter (straight-line) | 7,200 |
| Secondhand fair value of old melter | 5,200 |

Instructions

Prepare the journal entry(ies) necessary to record this exchange, assuming that the exchange (a) has commercial substance, and (b) lacks commercial substance. Montgomery’s year ends on December 31, and depreciation has been recorded through December 31, 2012.

- 5 E10-19 (Nonmonetary Exchange)** Santana Company exchanged equipment used in its manufacturing operations plus \$2,000 in cash for similar equipment used in the operations of Delaware Company. The following information pertains to the exchange.

| | Santana Co. | Delaware Co. |
|--------------------------|-------------|--------------|
| Equipment (cost) | \$28,000 | \$28,000 |
| Accumulated depreciation | 19,000 | 10,000 |
| Fair value of equipment | 13,500 | 15,500 |
| Cash given up | 2,000 | |

Instructions

- (a) Prepare the journal entries to record the exchange on the books of both companies. Assume that the exchange lacks commercial substance.
- (b) Prepare the journal entries to record the exchange on the books of both companies. Assume that the exchange has commercial substance.

- 5 E10-20 (Nonmonetary Exchange)** McArthur Inc. has negotiated the purchase of a new piece of automatic equipment at a price of \$7,000 plus trade-in, f.o.b. factory. McArthur Inc. paid \$7,000 cash and traded in used equipment. The used equipment had originally cost \$62,000; it had a book value of \$42,000 and a secondhand fair value of \$45,800, as indicated by recent transactions involving similar equipment. Freight and installation charges for the new equipment required a cash payment of \$1,100.

Instructions

- (a) Prepare the general journal entry to record this transaction, assuming that the exchange has commercial substance.
- (b) Assuming the same facts as in (a) except that fair value information for the assets exchanged is not determinable. Prepare the general journal entry to record this transaction.

- 6 E10-21 (Analysis of Subsequent Expenditures)** Accardo Resources Group has been in its plant facility for 15 years. Although the plant is quite functional, numerous repair costs are incurred to maintain it in sound working order. The company’s plant asset book value is currently \$800,000, as indicated below.



| | |
|--------------------------|-------------------|
| Original cost | \$1,200,000 |
| Accumulated depreciation | 400,000 |
| Book value | <u>\$ 800,000</u> |

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During the current year, the following expenditures were made to the plant facility.

- (a) Because of increased demands for its product, the company increased its plant capacity by building a new addition at a cost of \$270,000.
- (b) The entire plant was repainted at a cost of \$23,000.
- (c) The roof was an asbestos cement slate. For safety purposes it was removed and replaced with a wood shingle roof at a cost of \$61,000. Book value of the old roof was \$41,000.
- (d) The electrical system was completely updated at a cost of \$22,000. The cost of the old electrical system was not known. It is estimated that the useful life of the building will not change as a result of this updating.
- (e) A series of major repairs were made at a cost of \$47,000, because parts of the wood structure were rotting. The cost of the old wood structure was not known. These extensive repairs are estimated to increase the useful life of the building.

Instructions

Indicate how each of these transactions would be recorded in the accounting records.

- 6 E10-22 (Analysis of Subsequent Expenditures)** The following transactions occurred during 2013. Assume that depreciation of 10% per year is charged on all machinery and 5% per year on buildings, on a straight-line basis, with no estimated salvage value. Depreciation is charged for a full year on all fixed assets acquired during the year, and no depreciation is charged on fixed assets disposed of during the year.

- Jan. 30 A building that cost \$112,000 in 1996 is torn down to make room for a new building. The wrecking contractor was paid \$5,100 and was permitted to keep all materials salvaged.
- Mar. 10 Machinery that was purchased in 2006 for \$16,000 is sold for \$2,900 cash, f.o.b. purchaser's plant. Freight of \$300 is paid on the sale of this machinery.
- Mar. 20 A gear breaks on a machine that cost \$9,000 in 2008. The gear is replaced at a cost of \$3,000. The replacement does not extend the useful life of the machine.
- May 18 A special base installed for a machine in 2007 when the machine was purchased has to be replaced at a cost of \$5,500 because of defective workmanship on the original base. The cost of the machinery was \$14,200 in 2007. The cost of the base was \$4,000, and this amount was charged to the Machinery account in 2007.
- June 23 One of the buildings is repainted at a cost of \$6,900. It had not been painted since it was constructed in 2009.

Instructions

Prepare general journal entries for the transactions. (Round to the nearest dollar.)

- 6 E10-23 (Analysis of Subsequent Expenditures)** Plant assets often require expenditures subsequent to acquisition. It is important that they be accounted for properly. Any errors will affect both the balance sheets and income statements for a number of years.

Instructions

For each of the following items, indicate whether the expenditure should be capitalized (C) or expensed (E) in the period incurred.

- (a) _____ Improvement.
- (b) _____ Replacement of a minor broken part on a machine.
- (c) _____ Expenditure that increases the useful life of an existing asset.
- (d) _____ Expenditure that increases the efficiency and effectiveness of a productive asset but does not increase its salvage value.
- (e) _____ Expenditure that increases the efficiency and effectiveness of a productive asset and increases the asset's salvage value.
- (f) _____ Ordinary repairs.
- (g) _____ Improvement to a machine that increased its fair value and its production capacity by 30% without extending the machine's useful life.
- (h) _____ Expenditure that increases the quality of the output of the productive asset.

- 7 E10-24 (Entries for Disposition of Assets)** On December 31, 2012, Chrysler Inc. has a machine with a book value of \$940,000. The original cost and related accumulated depreciation at this date are as follows.

| | |
|--------------------------|-------------------|
| Machine | \$1,300,000 |
| Accumulated depreciation | 360,000 |
| Book value | <u>\$ 940,000</u> |

Depreciation is computed at \$72,000 per year on a straight-line basis.

Instructions

Presented below is a set of independent situations. For each independent situation, indicate the journal entry to be made to record the transaction. Make sure that depreciation entries are made to update the book value of the machine prior to its disposal.

- A fire completely destroys the machine on August 31, 2013. An insurance settlement of \$630,000 was received for this casualty. Assume the settlement was received immediately.
- On April 1, 2013, Chrysler sold the machine for \$1,040,000 to Avanti Company.
- On July 31, 2013, the company donated this machine to the Mountain King City Council. The fair value of the machine at the time of the donation was estimated to be \$1,100,000.

- 7 E10-25 (Disposition of Assets)** On April 1, 2012, Pavlova Company received a condemnation award of \$410,000 cash as compensation for the forced sale of the company's land and building, which stood in the path of a new state highway. The land and building cost \$60,000 and \$280,000, respectively, when they were acquired. At April 1, 2012, the accumulated depreciation relating to the building amounted to \$160,000. On August 1, 2012, Pavlova purchased a piece of replacement property for cash. The new land cost \$90,000, and the new building cost \$380,000.

Instructions

Prepare the journal entries to record the transactions on April 1 and August 1, 2012.

See the book's companion website, www.wiley.com/college/kieso, for a set of B Exercises.

PROBLEMS

- 2 P10-1 (Classification of Acquisition and Other Asset Costs)** At December 31, 2011, certain accounts included in the property, plant, and equipment section of Reagan Company's balance sheet had the following balances.



| | |
|------------------------|-----------|
| Land | \$230,000 |
| Buildings | 890,000 |
| Leasehold improvements | 660,000 |
| Equipment | 875,000 |

During 2012, the following transactions occurred.

- Land site number 621 was acquired for \$850,000. In addition, to acquire the land Reagan paid a \$51,000 commission to a real estate agent. Costs of \$35,000 were incurred to clear the land. During the course of clearing the land, timber and gravel were recovered and sold for \$13,000.
- A second tract of land (site number 622) with a building was acquired for \$420,000. The closing statement indicated that the land value was \$300,000 and the building value was \$120,000. Shortly after acquisition, the building was demolished at a cost of \$41,000. A new building was constructed for \$330,000 plus the following costs.

| | |
|---|----------|
| Excavation fees | \$38,000 |
| Architectural design fees | 11,000 |
| Building permit fee | 2,500 |
| Imputed interest on funds used during construction (stock financing) | 8,500 |

The building was completed and occupied on September 30, 2012.

- A third tract of land (site number 623) was acquired for \$650,000 and was put on the market for resale.
- During December 2012, costs of \$89,000 were incurred to improve leased office space. The related lease will terminate on December 31, 2014, and is not expected to be renewed. (*Hint:* Leasehold improvements should be handled in the same manner as land improvements.)
- A group of new machines was purchased under a royalty agreement that provides for payment of royalties based on units of production for the machines. The invoice price of the machines was \$87,000, freight costs were \$3,300, installation costs were \$2,400, and royalty payments for 2012 were \$17,500.

Instructions

- Prepare a detailed analysis of the changes in each of the following balance sheet accounts for 2012.

| | |
|-----------|------------------------|
| Land | Leasehold improvements |
| Buildings | Equipment |

Disregard the related accumulated depreciation accounts.

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- (b) List the items in the situation that were not used to determine the answer to (a) above, and indicate where, or if, these items should be included in Reagan's financial statements.

(AICPA adapted)

- 2 7 P10-2 (Classification of Acquisition Costs)** Selected accounts included in the property, plant, and equipment section of Lobo Corporation's balance sheet at December 31, 2011, had the following balances.

| | |
|-------------------|------------|
| Land | \$ 300,000 |
| Land improvements | 140,000 |
| Buildings | 1,100,000 |
| Equipment | 960,000 |

During 2012, the following transactions occurred.

1. A tract of land was acquired for \$150,000 as a potential future building site.
2. A plant facility consisting of land and building was acquired from Mendota Company in exchange for 20,000 shares of Lobo's common stock. On the acquisition date, Lobo's stock had a closing market price of \$37 per share on a national stock exchange. The plant facility was carried on Mendota's books at \$110,000 for land and \$320,000 for the building at the exchange date. Current appraised values for the land and building, respectively, are \$230,000 and \$690,000.
3. Items of machinery and equipment were purchased at a total cost of \$400,000. Additional costs were incurred as follows.

| | |
|-----------------------|----------|
| Freight and unloading | \$13,000 |
| Sales taxes | 20,000 |
| Installation | 26,000 |

4. Expenditures totaling \$95,000 were made for new parking lots, streets, and sidewalks at the corporation's various plant locations. These expenditures had an estimated useful life of 15 years.
5. A machine costing \$80,000 on January 1, 2004, was scrapped on June 30, 2012. Double-declining-balance depreciation has been recorded on the basis of a 10-year life.
6. A machine was sold for \$20,000 on July 1, 2012. Original cost of the machine was \$44,000 on January 1, 2009, and it was depreciated on the straight-line basis over an estimated useful life of 7 years and a salvage value of \$2,000.

Instructions

- (a) Prepare a detailed analysis of the changes in each of the following balance sheet accounts for 2012.

Land
Land improvements
Buildings
Equipment

(Hint: Disregard the related accumulated depreciation accounts.)

- (b) List the items in the fact situation that were not used to determine the answer to (a), showing the pertinent amounts and supporting computations in good form for each item. In addition, indicate where, or if, these items should be included in Lobo's financial statements.

(AICPA adapted)

- 2 3 5 P10-3 (Classification of Land and Building Costs)** Spitfire Company was incorporated on January 2, 2013, but was unable to begin manufacturing activities until July 1, 2013, because new factory facilities were not completed until that date.

The Land and Building account reported the following items during 2013.

| | | |
|-------------------|-------------------------------------|------------------|
| January 31 | Land and building | \$160,000 |
| February 28 | Cost of removal of building | 9,800 |
| May 1 | Partial payment of new construction | 60,000 |
| May 1 | Legal fees paid | 3,770 |
| June 1 | Second payment on new construction | 40,000 |
| June 1 | Insurance premium | 2,280 |
| June 1 | Special tax assessment | 4,000 |
| June 30 | General expenses | 36,300 |
| July 1 | Final payment on new construction | 30,000 |
| December 31 | Asset write-up | 53,800 |
| | | <u>399,950</u> |
| December 31 | Depreciation—2013 at 1% | 4,000 |
| December 31, 2013 | Account balance | <u>\$395,950</u> |

The following additional information is to be considered.

- To acquire land and building, the company paid \$80,000 cash and 800 shares of its 8% cumulative preferred stock, par value \$100 per share. Fair value of the stock is \$117 per share.
- Cost of removal of old buildings amounted to \$9,800, and the demolition company retained all materials of the building.
- Legal fees covered the following.

| | |
|---|----------------|
| Cost of organization | \$ 610 |
| Examination of title covering purchase of land | 1,300 |
| Legal work in connection with construction contract | 1,860 |
| | <u>\$3,770</u> |

- Insurance premium covered the building for a 2-year term beginning May 1, 2013.
- The special tax assessment covered street improvements that are permanent in nature.
- General expenses covered the following for the period from January 2, 2013, to June 30, 2013.

| | |
|---|-----------------|
| President's salary | \$32,100 |
| Plant superintendent's salary—supervision of new building | 4,200 |
| | <u>\$36,300</u> |

- Because of a general increase in construction costs after entering into the building contract, the board of directors increased the value of the building \$53,800, believing that such an increase was justified to reflect the current market at the time the building was completed. Retained earnings was credited for this amount.
- Estimated life of building—50 years.
Depreciation for 2013—1% of asset value (1% of \$400,000, or \$4,000).

Instructions

- Prepare entries to reflect correct land, building, and depreciation accounts at December 31, 2013.
- Show the proper presentation of land, building, and depreciation on the balance sheet at December 31, 2013.

(AICPA adapted)

- 2 5** **P10-4 (Dispositions, Including Condemnation, Demolition, and Trade-in)** Presented below is a schedule of property dispositions for Hollerith Co.



| Schedule of Property Dispositions | | | | | |
|-----------------------------------|----------|--------------------------|---------------|------------|-----------------------|
| | Cost | Accumulated Depreciation | Cash Proceeds | Fair Value | Nature of Disposition |
| Land | \$40,000 | — | \$31,000 | \$31,000 | Condemnation |
| Building | 15,000 | — | 3,600 | — | Demolition |
| Warehouse | 70,000 | \$16,000 | 74,000 | 74,000 | Destruction by fire |
| Machine | 8,000 | 2,800 | 900 | 7,200 | Trade-in |
| Furniture | 10,000 | 7,850 | — | 3,100 | Contribution |
| Automobile | 9,000 | 3,460 | 2,960 | 2,960 | Sale |

The following additional information is available.

Land

On February 15, a condemnation award was received as consideration for unimproved land held primarily as an investment, and on March 31, another parcel of unimproved land to be held as an investment was purchased at a cost of \$35,000.

Building

On April 2, land and building were purchased at a total cost of \$75,000, of which 20% was allocated to the building on the corporate books. The real estate was acquired with the intention of demolishing the building, and this was accomplished during the month of November. Cash proceeds received in November represent the net proceeds from demolition of the building.

Warehouse

On June 30, the warehouse was destroyed by fire. The warehouse was purchased January 2, 2009, and had depreciated \$16,000. On December 27, the insurance proceeds and other funds were used to purchase a replacement warehouse at a cost of \$90,000.

Machine

On December 26, the machine was exchanged for another machine having a fair value of \$6,300 and cash of \$900 was received. (The exchange lacks commercial substance.)

Furniture

On August 15, furniture was contributed to a qualified charitable organization. No other contributions were made or pledged during the year.

Automobile

On November 3, the automobile was sold to Jared Winger, a stockholder.

Instructions

Indicate how these items would be reported on the income statement of Hollerith Co.

(AICPA adapted)

2 **4**



P10-5 (Classification of Costs and Interest Capitalization) On January 1, 2012, Blair Corporation purchased for \$500,000 a tract of land (site number 101) with a building. Blair paid a real estate broker's commission of \$36,000, legal fees of \$6,000, and title guarantee insurance of \$18,000. The closing statement indicated that the land value was \$500,000 and the building value was \$100,000. Shortly after acquisition, the building was razed at a cost of \$54,000.

Blair entered into a \$3,000,000 fixed-price contract with Slatkin Builders, Inc. on March 1, 2012, for the construction of an office building on land site number 101. The building was completed and occupied on September 30, 2013. Additional construction costs were incurred as follows.

| | |
|---|----------|
| Plans, specifications, and blueprints | \$21,000 |
| Architects' fees for design and supervision | 82,000 |

The building is estimated to have a 40-year life from date of completion and will be depreciated using the 150% declining-balance method.

To finance construction costs, Blair borrowed \$3,000,000 on March 1, 2012. The loan is payable in 10 annual installments of \$300,000 plus interest at the rate of 10%. Blair's weighted-average amounts of accumulated building construction expenditures were as follows.

| | |
|--|-------------|
| For the period March 1 to December 31, 2012 | \$1,300,000 |
| For the period January 1 to September 30, 2013 | 1,900,000 |

Instructions

- Prepare a schedule that discloses the individual costs making up the balance in the land account in respect of land site number 101 as of September 30, 2013.
- Prepare a schedule that discloses the individual costs that should be capitalized in the office building account as of September 30, 2013. Show supporting computations in good form.

(AICPA adapted)

2 **4**

P10-6 (Interest During Construction) Grieg Landscaping began construction of a new plant on December 1, 2012. On this date, the company purchased a parcel of land for \$139,000 in cash. In addition, it paid \$2,000 in surveying costs and \$4,000 for a title insurance policy. An old dwelling on the premises was demolished at a cost of \$3,000, with \$1,000 being received from the sale of materials.

Architectural plans were also formalized on December 1, 2012, when the architect was paid \$30,000. The necessary building permits costing \$3,000 were obtained from the city and paid for on December 1 as well. The excavation work began during the first week in December with payments made to the contractor as follows.

| <u>Date of Payment</u> | <u>Amount of Payment</u> |
|------------------------|--------------------------|
| March 1 | \$240,000 |
| May 1 | 330,000 |
| July 1 | 60,000 |

The building was completed on July 1, 2013.

To finance construction of this plant, Grieg borrowed \$600,000 from the bank on December 1, 2012. Grieg had no other borrowings. The \$600,000 was a 10-year loan bearing interest at 8%.

Instructions

Compute the balance in each of the following accounts at December 31, 2012, and December 31, 2013. (Round amounts to the nearest dollar.)

- Land.
- Buildings.
- Interest Expense.



4 P10-7 (Capitalization of Interest) Laserwords Inc. is a book distributor that had been operating in its original facility since 1985. The increase in certification programs and continuing education requirements in several professions has contributed to an annual growth rate of 15% for Laserwords since 2007. Laserwords' original facility became obsolete by early 2012 because of the increased sales volume and the fact that Laserwords now carries CDs in addition to books.

On June 1, 2012, Laserwords contracted with Black Construction to have a new building constructed for \$4,000,000 on land owned by Laserwords. The payments made by Laserwords to Black Construction are shown in the schedule below.

| Date | Amount |
|------------------|--------------------|
| July 30, 2012 | \$ 900,000 |
| January 30, 2013 | 1,500,000 |
| May 30, 2013 | 1,600,000 |
| Total payments | <u>\$4,000,000</u> |

Construction was completed and the building was ready for occupancy on May 27, 2013. Laserwords had no new borrowings directly associated with the new building but had the following debt outstanding at May 31, 2013, the end of its fiscal year.

10%, 5-year note payable of \$2,000,000, dated April 1, 2009, with interest payable annually on April 1.

12%, 10-year bond issue of \$3,000,000 sold at par on June 30, 2005, with interest payable annually on June 30.

The new building qualifies for interest capitalization. The effect of capitalizing the interest on the new building, compared with the effect of expensing the interest, is material.

Instructions

- Compute the weighted-average accumulated expenditures on Laserwords' new building during the capitalization period.
- Compute the avoidable interest on Laserwords' new building.
- Some interest cost of Laserwords Inc. is capitalized for the year ended May 31, 2013.
 - Identify the items relating to interest costs that must be disclosed in Laserwords' financial statements.
 - Compute the amount of each of the items that must be disclosed.

(CMA adapted)

5 P10-8 (Nonmonetary Exchanges) Holyfield Corporation wishes to exchange a machine used in its operations. Holyfield has received the following offers from other companies in the industry.

- Dorsett Company offered to exchange a similar machine plus \$23,000. (The exchange has commercial substance for both parties.)
- Winston Company offered to exchange a similar machine. (The exchange lacks commercial substance for both parties.)
- Liston Company offered to exchange a similar machine, but wanted \$3,000 in addition to Holyfield's machine. (The exchange has commercial substance for both parties.)

In addition, Holyfield contacted Greeley Corporation, a dealer in machines. To obtain a new machine, Holyfield must pay \$93,000 in addition to trading in its old machine.

| | Holyfield | Dorsett | Winston | Liston | Greeley |
|--------------------------|-----------|-----------|-----------|-----------|-----------|
| Machine cost | \$160,000 | \$120,000 | \$152,000 | \$160,000 | \$130,000 |
| Accumulated depreciation | 60,000 | 45,000 | 71,000 | 75,000 | — |
| Fair value | 92,000 | 69,000 | 92,000 | 95,000 | 185,000 |

Instructions

For each of the four independent situations, prepare the journal entries to record the exchange on the books of each company.

5 P10-9 (Nonmonetary Exchanges) On August 1, Hyde, Inc. exchanged productive assets with Wiggins, Inc. Hyde's asset is referred to below as "Asset A," and Wiggins' is referred to as "Asset B." The following facts pertain to these assets.

| | Asset A | Asset B |
|--|----------|-----------|
| Original cost | \$96,000 | \$110,000 |
| Accumulated depreciation (to date of exchange) | 40,000 | 47,000 |
| Fair value at date of exchange | 60,000 | 75,000 |
| Cash paid by Hyde, Inc. | 15,000 | |
| Cash received by Wiggins, Inc. | | 15,000 |

Instructions

- (a) Assuming that the exchange of Assets A and B has commercial substance, record the exchange for both Hyde, Inc. and Wiggins, Inc. in accordance with generally accepted accounting principles.
- (b) Assuming that the exchange of Assets A and B lacks commercial substance, record the exchange for both Hyde, Inc. and Wiggins, Inc. in accordance with generally accepted accounting principles.

- 5 P10-10 (Nonmonetary Exchanges)** During the current year, Marshall Construction trades an old crane that has a book value of \$90,000 (original cost \$140,000 less accumulated depreciation \$50,000) for a new crane from Brigham Manufacturing Co. The new crane cost Brigham \$165,000 to manufacture and is classified as inventory. The following information is also available.

| | Marshall Const. | Brigham Mfg. Co. |
|-------------------------|-----------------|------------------|
| Fair value of old crane | \$ 82,000 | |
| Fair value of new crane | | \$200,000 |
| Cash paid | 118,000 | |
| Cash received | | 118,000 |

Instructions

- (a) Assuming that this exchange is considered to have commercial substance, prepare the journal entries on the books of (1) Marshall Construction and (2) Brigham Manufacturing.
- (b) Assuming that this exchange lacks commercial substance for Marshall, prepare the journal entries on the books of Marshall Construction.
- (c) Assuming the same facts as those in (a), except that the fair value of the old crane is \$98,000 and the cash paid is \$102,000, prepare the journal entries on the books of (1) Marshall Construction and (2) Brigham Manufacturing.
- (d) Assuming the same facts as those in (b), except that the fair value of the old crane is \$97,000 and the cash paid \$103,000, prepare the journal entries on the books of (1) Marshall Construction and (2) Brigham Manufacturing.

- 2 5 P10-11 (Purchases by Deferred Payment, Lump-Sum, and Nonmonetary Exchanges)** Klamath Company, a manufacturer of ballet shoes, is experiencing a period of sustained growth. In an effort to expand its production capacity to meet the increased demand for its product, the company recently made several acquisitions of plant and equipment. Rob Joffrey, newly hired in the position of fixed-asset accountant, requested that Danny Nolte, Klamath's controller, review the following transactions.

Transaction 1

On June 1, 2012, Klamath Company purchased equipment from Wyandot Corporation. Klamath issued a \$28,000, 4-year, zero-interest-bearing note to Wyandot for the new equipment. Klamath will pay off the note in four equal installments due at the end of each of the next 4 years. At the date of the transaction, the prevailing market rate of interest for obligations of this nature was 10%. Freight costs of \$425 and installation costs of \$500 were incurred in completing this transaction. The appropriate factors for the time value of money at a 10% rate of interest are given below.

| | |
|--|------|
| Future value of \$1 for 4 periods | 1.46 |
| Future value of an ordinary annuity for 4 periods | 4.64 |
| Present value of \$1 for 4 periods | 0.68 |
| Present value of an ordinary annuity for 4 periods | 3.17 |

Transaction 2

On December 1, 2012, Klamath Company purchased several assets of Yakima Shoes Inc., a small shoe manufacturer whose owner was retiring. The purchase amounted to \$220,000 and included the assets listed below. Klamath Company engaged the services of Tennyson Appraisal Inc., an independent appraiser, to determine the fair values of the assets which are also presented below.

| | Yakima Book Value | Fair Value |
|-----------|-------------------|------------------|
| Inventory | \$ 60,000 | \$ 50,000 |
| Land | 40,000 | 80,000 |
| Buildings | 70,000 | 120,000 |
| | <u>\$170,000</u> | <u>\$250,000</u> |

During its fiscal year ended May 31, 2013, Klamath incurred \$8,000 for interest expense in connection with the financing of these assets.

Transaction 3

On March 1, 2013, Klamath Company exchanged a number of used trucks plus cash for vacant land adjacent to its plant site. (The exchange has commercial substance.) Klamath intends to use the land for a parking lot.

The trucks had a combined book value of \$35,000, as Klamath had recorded \$20,000 of accumulated depreciation against these assets. Klamath's purchasing agent, who has had previous dealings in the secondhand market, indicated that the trucks had a fair value of \$46,000 at the time of the transaction. In addition to the trucks, Klamath Company paid \$19,000 cash for the land.

Instructions

- (a) Plant assets such as land, buildings, and equipment receive special accounting treatment. Describe the major characteristics of these assets that differentiate them from other types of assets.
- (b) For each of the three transactions described above, determine the value at which Klamath Company should record the acquired assets. Support your calculations with an explanation of the underlying rationale.
- (c) The books of Klamath Company show the following additional transactions for the fiscal year ended May 31, 2013.
 - (1) Acquisition of a building for speculative purposes.
 - (2) Purchase of a 2-year insurance policy covering plant equipment.
 - (3) Purchase of the rights for the exclusive use of a process used in the manufacture of ballet shoes.

For each of these transactions, indicate whether the asset should be classified as a plant asset. If it is a plant asset, explain why it is. If it is not a plant asset, explain why not, and identify the proper classification.

(CMA adapted)

CONCEPTS FOR ANALYSIS



CA10-1 (Acquisition, Improvements, and Sale of Realty) Tonkawa Company purchased land for use as its corporate headquarters. A small factory that was on the land when it was purchased was torn down before construction of the office building began. Furthermore, a substantial amount of rock blasting and removal had to be done to the site before construction of the building foundation began. Because the office building was set back on the land far from the public road, Tonkawa Company had the contractor construct a paved road that led from the public road to the parking lot of the office building.

Three years after the office building was occupied, Tonkawa Company added four stories to the office building. The four stories had an estimated useful life of 5 years more than the remaining estimated useful life of the original office building.

Ten years later, the land and building were sold at an amount more than their net book value, and Tonkawa Company had a new office building constructed in another state for use as its new corporate headquarters.

Instructions

- (a) Which of the expenditures above should be capitalized? How should each be depreciated or amortized? Discuss the rationale for your answers.
- (b) How would the sale of the land and building be accounted for? Include in your answer an explanation of how to determine the net book value at the date of sale. Discuss the rationale for your answer.

CA10-2 (Accounting for Self-Constructed Assets) Troopers Medical Labs, Inc., began operations 5 years ago producing stetrics, a new type of instrument it hoped to sell to doctors, dentists, and hospitals. The demand for stetrics far exceeded initial expectations, and the company was unable to produce enough stetrics to meet demand.

The company was manufacturing its product on equipment that it built at the start of its operations. To meet demand, more efficient equipment was needed. The company decided to design and build the equipment, because the equipment currently available on the market was unsuitable for producing stetrics.

In 2012, a section of the plant was devoted to development of the new equipment and a special staff was hired. Within 6 months a machine developed at a cost of \$714,000 increased production dramatically and reduced labor costs substantially. Elated by the success of the new machine, the company built three more machines of the same type at a cost of \$441,000 each.

Instructions

- (a) In general, what costs should be capitalized for self-constructed equipment?
- (b) Discuss the propriety of including in the capitalized cost of self-constructed assets:
 - (1) The increase in overhead caused by the self-construction of fixed assets.
 - (2) A proportionate share of overhead on the same basis as that applied to goods manufactured for sale.
- (c) Discuss the proper accounting treatment of the \$273,000 ($\$714,000 - \$441,000$) by which the cost of the first machine exceeded the cost of the subsequent machines. This additional cost should not be considered research and development costs.

CA10-3 (Capitalization of Interest) Langer Airline is converting from piston-type planes to jets. Delivery time for the jets is 3 years, during which substantial progress payments must be made. The multimillion-dollar cost of the planes cannot be financed from working capital; Langer must borrow funds for the payments.

Because of high interest rates and the large sum to be borrowed, management estimates that interest costs in the second year of the period will be equal to one-third of income before interest and taxes, and one-half of such income in the third year.

After conversion, Langer's passenger-carrying capacity will be doubled with no increase in the number of planes, although the investment in planes would be substantially increased. The jet planes have a 7-year service life.

Instructions

Give your recommendation concerning the proper accounting for interest during the conversion period. Support your recommendation with reasons and suggested accounting treatment. (Disregard income tax implications.) (AICPA adapted)

 **CA10-4 (Capitalization of Interest)** Vania Magazine Company started construction of a warehouse building for its own use at an estimated cost of \$5,000,000 on January 1, 2011, and completed the building on December 31, 2011. During the construction period, Vania has the following debt obligations outstanding.


| | |
|--|-------------|
| Construction loan—12% interest, payable semiannually, issued December 31, 2010 | \$2,000,000 |
| Short-term loan—10% interest, payable monthly, and principal payable at maturity, on May 30, 2012 | 1,400,000 |
| Long-term loan—11% interest, payable on January 1 of each year. Principal payable on January 1, 2014 | 1,000,000 |

Total cost amounted to \$5,200,000, and the weighted average of accumulated expenditures was \$3,500,000.

Jane Esplanade, the president of the company, has been shown the costs associated with this construction project and capitalized on the balance sheet. She is bothered by the "avoidable interest" included in the cost. She argues that, first, all the interest is unavoidable—no one lends money without expecting to be compensated for it. Second, why can't the company use all the interest on all the loans when computing this avoidable interest? Finally, why can't her company capitalize all the annual interest that accrued over the period of construction?

Instructions

You are the manager of accounting for the company. In a memo, explain what avoidable interest is, how you computed it (being especially careful to explain why you used the interest rates that you did), and why the company cannot capitalize all its interest for the year. Attach a schedule supporting any computations that you use.

 **CA10-5 (Nonmonetary Exchanges)** You have two clients that are considering trading machinery with each other. Although the machines are different from each other, you believe that an assessment of expected cash flows on the exchanged assets will indicate the exchange lacks commercial substance. Your clients would prefer that the exchange be deemed to have commercial substance, to allow them to record gains. Here are the facts:

| | Client A | Client B |
|--------------------------|-----------|-----------|
| Original cost | \$100,000 | \$150,000 |
| Accumulated depreciation | 40,000 | 80,000 |
| Fair value | 80,000 | 100,000 |
| Cash received (paid) | (20,000) | 20,000 |

Instructions

- Record the trade-in on Client A's books assuming the exchange has commercial substance.
- Record the trade-in on Client A's books assuming the exchange lacks commercial substance.
- Write a memo to the controller of Company A indicating and explaining the dollar impact on current and future statements of treating the exchange as having versus lacking commercial substance.
- Record the entry on Client B's books assuming the exchange has commercial substance.
- Record the entry on Client B's books assuming the exchange lacks commercial substance.
- Write a memo to the controller of Company B indicating and explaining the dollar impact on current and future statements of treating the exchange as having versus lacking commercial substance.

CA10-6 (Costs of Acquisition) The invoice price of a machine is \$50,000. Various other costs relating to the acquisition and installation of the machine including transportation, electrical wiring, special base, and so on amount to \$7,500. The machine has an estimated life of 10 years, with no residual value at the end of that period.

The owner of the business suggests that the incidental costs of \$7,500 be charged to expense immediately for the following reasons.

1. If the machine should be sold, these costs cannot be recovered in the sales price.
2. The inclusion of the \$7,500 in the machinery account on the books will not necessarily result in a closer approximation of the market price of this asset over the years, because of the possibility of changing demand and supply levels.
3. Charging the \$7,500 to expense immediately will reduce federal income taxes.

Instructions

Discuss each of the points raised by the owner of the business.

(AICPA adapted)



CA10-7 (Cost of Land vs. Building—Ethics) Tones Company purchased a warehouse in a downtown district where land values are rapidly increasing. Gerald Carter, controller, and Wilma Ankara, financial vice president, are trying to allocate the cost of the purchase between the land and the building. Noting that depreciation can be taken only on the building, Carter favors placing a very high proportion of the cost on the warehouse itself, thus reducing taxable income and income taxes. Ankara, his supervisor, argues that the allocation should recognize the increasing value of the land, regardless of the depreciation potential of the warehouse. Besides, she says, net income is negatively impacted by additional depreciation and will cause the company's stock price to go down.

Instructions

Answer the following questions.

- (a) What stakeholder interests are in conflict?
- (b) What ethical issues does Carter face?
- (c) How should these costs be allocated?

USING YOUR JUDGMENT

FINANCIAL REPORTING

Financial Statement Analysis Case

Johnson & Johnson

Johnson & Johnson, the world's leading and most diversified healthcare corporation, serves its customers through specialized worldwide franchises. Each of its franchises consists of a number of companies throughout the world that focus on a particular health care market, such as surgical sutures, consumer pharmaceuticals, or contact lenses. Information related to its property, plant, and equipment in its 2009 annual report is shown in the notes to the financial statements below and on the next page.

Johnson & Johnson

1. Property, Plant and Equipment and Depreciation

Property, plant and equipment are stated at cost. The Company utilizes the straight-line method of depreciation over the estimated useful lives of the assets:

| | |
|---------------------------------|-------------|
| Building and building equipment | 20–40 years |
| Land and leasehold improvements | 10–20 years |
| Machinery and equipment | 2–13 years |

4. Property, Plant and Equipment

At the end of 2009 and 2008, property, plant and equipment at cost and accumulated depreciation were:

| (dollars in millions) | 2009 | 2008 |
|----------------------------------|-----------------|-----------------|
| Land and land improvements | \$ 714 | \$ 886 |
| Buildings and building equipment | 8,863 | 7,720 |
| Machinery and equipment | 17,153 | 15,234 |
| Construction in progress | 2,521 | 3,552 |
| | <u>29,251</u> | <u>27,392</u> |
| Less accumulated depreciation | 14,492 | 13,027 |
| | <u>\$14,759</u> | <u>\$14,365</u> |

The Company capitalizes interest expense as part of the cost of construction of facilities and equipment. Interest expense capitalized in 2009, 2008 and 2007 was \$101 million, \$147 million and \$130 million, respectively.

Depreciation expense, including the amortization of capitalized interest in 2009, 2008 and 2007 was \$2.1 billion, \$2.0 billion and \$1.9 billion, respectively.

Johnson & Johnson's provided the following selected information in its 2009 cash flow statement.

Johnson & Johnson

**Johnson & Johnson
2009 Annual Report**

Consolidated Financial Statements (excerpts)

| | |
|---|------------------|
| Net cash flows from operating activities | \$ 16,571 |
| Cash flows from investing activities | |
| Additions to property, plant and equipment | (2,365) |
| Proceeds from the disposal of assets | 154 |
| Acquisitions, net of cash acquired | (2,470) |
| Purchases of investments | (10,040) |
| Sales of investments | 7,232 |
| Other (primarily intangibles) | (109) |
| Net cash used by investing activities | (7,598) |
| Cash flows from financing activities | |
| Dividends to shareholders | (5,327) |
| Repurchase of common stock | (2,130) |
| Proceeds from short-term debt | 9,484 |
| Retirement of short-term debt | (6,791) |
| Proceeds from long-term debt | 9 |
| Retirement of long-term debt | (219) |
| Proceeds from the exercise of stock options/excess tax benefits | 882 |
| Net cash used by financing activities | (4,092) |
| Effect of exchange rate changes on cash and cash equivalents | 161 |
| Increase in cash and cash equivalents | 5,042 |
| Cash and cash equivalents, beginning of year (Note 1) | 10,768 |
| Cash and cash equivalents, end of year (Note 1) | <u>\$ 15,810</u> |
| Supplemental cash flow data | |
| Cash paid during the year for: | |
| Interest | \$ 533 |
| Income taxes | 2,363 |

Instructions

- What was the cost of buildings and building equipment at the end of 2009?
- Does Johnson & Johnson use a conservative or liberal method to depreciate its property, plant, and equipment?
- What was the actual interest expense incurred by the company in 2009?
- What is Johnson & Johnson's free cash flow? From the information provided, comment on Johnson & Johnson's financial flexibility.

Accounting, Analysis, and Principles

Durler Company purchased equipment on January 2, 2008, for \$112,000. The equipment had an estimated useful life of 5 years with an estimated salvage value of \$12,000. Durler uses straight-line depreciation on all assets. On January 2, 2012, Durler exchanged this equipment plus \$12,000 in cash for newer equipment. The old equipment has a fair value of \$50,000.

Accounting

Prepare the journal entry to record the exchange on the books of Durler Company. Assume that the exchange has commercial substance.

Analysis

How will this exchange affect comparisons of the return on asset ratio for Durler in the year of the exchange compared to prior years?

Principles

How does the concept of commercial substance affect the accounting and analysis of this exchange?

BRIDGE TO THE PROFESSION



Professional Research: FASB Codification

Your client is in the planning phase for a major plant expansion, which will involve the construction of a new warehouse. The assistant controller does not believe that interest cost can be included in the cost of the warehouse, because it is a financing expense. Others on the planning team believe that some interest cost can be included in the cost of the warehouse, but no one could identify the specific authoritative guidance for this issue. Your supervisor asks you to research this issue.

Instructions

If your school has a subscription to the FASB Codification, go to <http://aaahq.org/asclogin.cfm> to log in and prepare responses to the following. Provide Codification references for your responses.

- Is it permissible to capitalize interest into the cost of assets? Provide authoritative support for your answer.
- What are the objectives for capitalizing interest?
- Discuss which assets qualify for interest capitalization.
- Is there a limit to the amount of interest that may be capitalized in a period?
- If interest capitalization is allowed, what disclosures are required?

Professional Simulation

In this simulation, you are asked to address questions regarding the accounting for property, plant, and equipment. Prepare responses to all parts.

KWW Professional Simulation

Property, Plant, and Equipment Time Remaining: 1 hour 20 minutes

Unsplit Split Horiz Split Vertical Spreadsheet Calculator Exit

Directions Situation Measurement Journal Entries Financial Statements Analysis Resources

Norwel Company manufactures miniature circuit boards used in wireless phones and personal organizers. On January 2, 2012, Norwel purchased a circuit board stamping machine at a retail price of \$12,000. Norwel paid 5% sales tax on this purchase. Norwel paid a contractor \$1,400 for a specially wired platform for the machine, to ensure non-interrupted power to the machine. Norwel estimates the machine will have a 4-year useful life, with a residual value of \$2,000 at the end of 4 years. Norwel uses straight-line depreciation and employs the half-year convention in accounting for partial-year depreciation (that is, it takes a half year of depreciation in the first year of an asset's useful life). Norwel's fiscal year ends on December 31.

Directions Situation Measurement Journal Entries Financial Statements Analysis Resources

At what amount should Norwel record the acquisition cost of the machine?

Directions Situation Measurement Journal Entries Financial Statements Analysis Resources

What journal entry should Norwel record in 2012?

Directions Situation Measurement Journal Entries Financial Statements Analysis Resources

At what amount will the machine be reported in Norwel's balance sheet at December 31, 2012?

Directions Situation Measurement Journal Entries Financial Statements Analysis Resources

On July 1, 2013, Norwel decides to outsource its circuit board operations to Boards-R-Us Inc. As part of this plan, Norwel sells the machine (and the platform) to Boards-R-Us for \$7,000. What is the impact of this disposal on Norwel's 2013 income before taxes?

Remember to check the book's companion website to find additional resources for this chapter.