cHAPTER 8 accounting for long-term assets

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| Chapter Outline |
| **I. Plant Assets—**Tangible assets used in a company’s operations that have a useful life of more than one accounting period. Consistent with cost principle, recorded at cost. Cost includes all normal and reasonable expenditures necessary to get an asset in place and ready for use. Must be normal, reasonable and necessary for its intended use. |
| A. Machinery and EquipmentCosts include all normal and necessary expenditures to purchase them and prepare them for their intended use (purchase price, taxes, transportation charges, insurance while in transit, and the installing, assembling and testing of machinery and equipment). |
| B. Buildings |
| 1. If purchased, cost usually includes its purchase price, taxes, title fees, lawyer fees, and all expenditures to make it ready for its intended use, including any necessary repairs or renovations. |
| 2. If constructed for own use, cost includes materials and labor plus a reasonable amount of indirect overhead cost (heat, lighting, power, and depreciation on machinery used to construct the asset). Cost also includes design fees, building permits, and insurance during construction. |
| C. Land ImprovementsCosts that increase the usefulness of the land. |
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| 1. Examples: parking lots, driveways, fences, and lighting systems (all have limited useful lives). 2. Costs are charged to a separate Land Improvement account.3. Costs are allocated to the periods they benefit (depreciated) |

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| D. LandCost includes purchase price, realtor commissions, title insurance, legal fees, accrued property taxes, legal fees, title insurance fees, accrued property taxes, surveying, clearing, landscaping, and local government assessments (current or future) for streets, sewers, etc. Also includes cost of removal of any existing structures (less proceeds from sale of salvaged material). Land cost is not allocated to expense if it has an indefinite life. |
| E. Lump-Sum PurchaseA group of plant assets purchased with a single transaction for a lump-sum price. Individual asset cost is determined by allocating the cost of the purchase among the different types of assets acquired based on their *relative market (or appraised) values.* |
| **II. Depreciation**—The process of allocating the cost of a plant asset to expense while it is in use. Recorded as a debit to Depreciation Expense and a credit to Accumulated Depreciation. Accumulated depreciation has a normal credit balance. |
| A. Factors in Computing Depreciation |
| 1. Cost—described in section I above.2. Salvage Value—(*residual value* or *scrap value*) an estimate of the asset’s value at the end of its useful life.3. Useful Life—(*service life*) length of time the asset is expected to be used in a company’s operations. Factors affecting useful life include: |
| a*. Inadequacy—*the inability of plant assets to meet the company’s demands.b*. Obsolescence*—is the process of becoming outdated and no longer used.4. Relationships: a. Depreciable cost = Cost – Salvage Valueb. Book Value = Cost – Accumulated Depreciation |
| B. Depreciation Methods |
| 1. Straight-Line Method—charges the same amount to expense for each period of the asset’s useful life. Method used by most companies.*Computation:* Cost minus salvage value (equals the *depreciable cost)* divided by the number of accounting periods in the asset’s useful life equals the periodic depreciation.2. Units-of-Production Method—charges a varying amount for each period depending on its usage. Examples of capacity measurements: miles driven, product outputs, hours used. 2-step process is used for *computation:*Step 1: Compute *depreciation per unit* as the asset’s total cost minus salvage value and then divide by the total units expected to be produced during its useful life. Step 2: Compute depreciation expense for the period by multiplying the depreciation per unit by the units produced in the period.  |
| 3. Declining-Balance Method—an accelerated depreciation method has more depreciation during the early years and less in later years. *Computation:* Multiplythe asset’s beginning of period book value by a depreciation rate (usually twice the straight-line rate) to determine the period’s depreciation. If double the straight-line rate is used the method is referred to as *double declining-balance.* (Note that salvage value *is not used* in the calculation.) Three-steps: Step 1: compute the asset’s straight-line depreciation rate. Step 2: Double the straight-line rate. Step 3: Compute depreciation by multiplying this rate by the asset’s beginning-period book value. |
| 4. Depreciation for Tax Reporting—differences between financial and tax accounting systems are normal and expected. |
| a. Many companies use accelerated depreciation in computing taxable income because it postpones its tax payments by charging higher depreciation expense in the early years and lower amounts in the later years. b. Federal income tax law rules for depreciating assets are called the *Modified Accelerated Cost Recovery System (MACRS).* c. MACRS is not acceptable for financial reporting because it allocates costs over an arbitrary period that is less than the asset’s useful life. |
| C. Partial-Year DepreciationWhen an asset is purchased (or sold) at a time other than the beginning or end of an accounting period, depreciation is recorded for part of that period.D. Change in Estimates If estimated salvage and/or useful life is revised: |
| 1. Depreciation expense computations are revised by spreading the remaining cost to be depreciated over the revised useful life remaining.

 Book value – Revised Salvage Value Remaining Life2. The revision is referred to as a*change in an accounting estimate*and only effects current and future financial statements. |

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| **III. Additional Expenditures**—Those made to operate, maintain, repair, or improve plant assets after their initial purchase. To record these expenditures one must decide whether to capitalize (increase an asset) or expense in current period.  |
| A.Ordinary Repairs—expenditures to keep an asset in normal, good operating condition. They do not materially increase the asset’s life or productive capabilities. |
| 1. Treated as *revenue expenditures* (also called *income statement expenditures*). Recorded as expenses on current period’s income statement. |
| 2. Examples: cleaning, repainting, and lubricating. |
| B*.* Betterments andExtraordinary Repairs—expenditures to make a plant asset more efficient or productive; both are treated as a *capital expenditure*. |
| 1. Betterments (Improvements) often involve adding a component to an asset that does not always extend its useful life.1. Examples: adding a wing to a building or changing a machine from manual function to automatic.
2. Debited to the asset account.
3. The increase in asset’s book value results in need to revise future depreciation.

2*.* Extraordinary Repairs (Replacements) are expenditures that do extend the asset’s useful life beyond its original estimate. 1. Examples: roofing replacement and major overhauls of machinery and equipment.
2. Treated as capital expenditures (debited to asset account) because they benefit future periods.

**IV. Disposals of Plant Assets**—Assets may be *discarded, sold, or exchanged* due to wear and tear, obsolescence, inadequacy, or damage by fire or other accident. General accounting steps in a disposal of a plant asset: |
| * Record depreciation up to the date of disposal—this also updates Accumulated Depreciation.
* Remove account balances of the disposed asset—including its accumulated depreciation.
* Record any cash (and/or other assets) received or paid in the disposal.
* Record any gain or loss – equal to the value of any assets received minus the disposed asset’s book value. *Exception:* in the case of an exchange that lacks commercial substance—discussed in Appendix 8A.
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| A. Discarding Plant Assets—no longer useful and has no market valueFollow general accounting steps above. |
| 1. If fully depreciated, no loss.2. If not fully depreciated, record loss equal to the book value. |
| B. Selling Plant AssetsFollow general accounting steps above. |
| **V. Natural Resources**—Assets that are physically consumed when used. Examples include timber, mineral deposits, and oil and gas fields.  |
| 1. Cost Determination and Depletion

1. Recorded at cost, which includes all expenditures necessary to acquire the resource and prepare it for use. 2*.**Depletion* is the process of allocating the cost of natural resources to the period when it is consumed3.Depletion expense (debit) per period is based on the units extracted. The calculation is similar to units‑of‑production depreciation. Accumulated depletion is credited in the recording.4.Natural resources are reported on the balance sheet at cost less accumulated depletion.B. Plant Assets Tied into Extracting When the usefulness of these plant assets is directly related to the depletion of the resource, the plant asset is depreciated in proportion to the depletion of the resource (use units-of-production method and the life of the resource). |
| **VI. Intangible Assets**—Certain nonphysical assets (used in operations) that confer on owner’s long-term rights, privileges, competitive advantages. Examples in B below. |
| 1. Cost Determination and Amortization

1. Recorded at cost when *purchased*. If simply developed by the business, relative immaterial costs are expensed. |
| 2. *Amortization*—process of systematically allocating cost of intangible asset to expense over its estimated useful or economic life. (If it has an indefinite useful life, it should not be amortized but is tested annually for impairment—this test is discussed in advanced course) |
| a. Useful or economic life may differ from legal life. b. Computed on a straight-line basis (cost divided by useful or economic life)c. Amortization period cannot exceed 40 years.d. Debit Amortization Expense and credit Accumulated Amortization.1. Leasehold improvements are amortized over the life of the lease or the life of the improvements whichever is shorter. Debit *Rent Expense* to amortize.
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| 3. Gross acquisition cost is disclosed on the balance sheet along with their accumulated amortization.B. Types of Intangibles1*.*Patents—an exclusive right granted to its owner to produce and sell a patented item or to use a process for 20 years. Costs of research and development leading to a new patent are expense when incurred.2.Copyrights—the exclusive right to publish and sell a musical, literary, or artistic work during the life of the creator plus 70 years.3.Franchises and Licenses—rights that a company or government grants an entity to sell a product or service under specified conditions. If agreement is for an indefinite time, costs are not amortized.4.Trademarks and Trade Names—symbols, names, phrases, or jingles identified with a company, product, or service. |
| 5.Goodwill—the amount by which the value of a company exceeds the value of its individual assets and liabilities. Implies the company as a whole has certain valuable attributes not measured in assets and liabilities. Goodwill is measured as the excess of cost of an acquired entity over the valuable of net assets acquired. Only recorded when an entire company or business segment is purchased. It is not amortized but is tested annually for impairment. 6.Right-of-Use Asset (Lease)—the rights to possess and use leased property granted by the property’s owner (lessor) to the lessee in a contract called a lease. Recorded, if there was a cost involved, as an intangible asset by the lessee (or sublessee). As Leaseholds are amortized, the cost is charged to Rent Expense. a. Lease or Buy – advantages of leasing versus buying include: Little or no upfront payment Lease terms often allow for exchanges to trade up.7.Leasehold Improvements—improvements to leased property, such as partitions, painting, and storefronts. Amortization results in debit to Amortization Expense—Leasehold Improvements.8. Research and Development—expenditures aimed at discovering new products, new processes, or knowledge. Costs are expensed when incurred because it is difficult to predict future benefits. |
| VII. Decision Analysis—Total Asset Turnover  |
| A. Measure of company’s efficiency using assets to generate sales.B. Calculated by dividing net sales by average total assets. |
| **VIII. Exchanging Plant Assets** |
| A.Accounting for the exchange depends on whether the transaction has commercial substance. An exchange has commercial substance if the company’s future cash flows change as a result of the exchange of one asset for another asset.B.Exchanges with Commercial Substance: if commercial substance exists, a gain or loss is recorded based on the difference between the book value of the assets given up and the market value of the assets received.C.Exchanges without Commercial Substance are covered in advanced accounting classes. |