

CH 6 – Property, Plant, Equipment and Intangibles

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Non-current Assets (Balance Sheet):

1. Tangible Assets

Asset Account (Balance Sheet)	Related Expense Account (Income Statement)
Tangible assets	
Land	None
Buildings, Machinery, and Equipment	Depreciation
Furniture and Fixtures	Depreciation
Computers	Depreciation

2. Intangible Assets

Asset Account (Balance Sheet)	Related Expense Account (Income Statement)
Intangible assets	
Copyrights	Amortization
Patents	Amortization
Goodwill	Impairment losses

Amortization is similar to depreciation but for intangible assets.



Tip — Sum of all the costs incurred to bring the asset to its location and intended use

Land:

1. Purchase Price
2. Comissions
3. Survey and legal fees
4. Back property taxes paid
5. Grading and removing unwanted building

Example:

A business signs a \$300,000 notes payable to purchase land for a new production facility. It pays \$10,000 in real estate commission, \$8,000 in back property tax,\$5,000 for removal of an old building, a \$1,000 survey fee, and \$260,000 to pave the parking lot. What is the cost of the land?

ANS:

$300,000 + 10,000 + 8,000 + 1,000 = 324,000$ is the cost of the land

Note that the parking lot is not included because it is not the land.

Buildings(Plant)

1. Constructed

- Architectural fees, building permits, and contractors' charges
- Materials, labour, and overhead
- Interest on funds borrowed

2. Purchased

- Purchase price
- Broker's commission
- Taxes paid
- Costs to repair and renovate

Equipment (FYI)

- Purchase price (after discounts)
- Transportation
- Insurance in transit
- Sales and other taxes
- Purchase commission
- Installation and testing

Example:

- Several assets purchased in a group at one price
- Total cost is allocated based on their market values

Asset	Market value	Total market value	% of total market value	Total cost	Cost of each asset
Land	\$300,000 ÷	\$3,000,000	= 20% ×	\$2,800,000	\$280,000
Building	\$2,700,000 ÷	\$3,000,000	= 80% ×	\$2,800,000	\$2,520,000
	\$3,000,000		100%		\$2,800,000

Capital Expenditure vs Expenses

1. Capital Expenditure: (Balance Sheet)

- Increase capacity or extend useful life
- Cost is added to an asset account

2. Expenses: (Income Statement/Balance Sheet Equity)

- Do not extend capacity or useful life
- Maintain or restore working order (Maintenance/Update)
- Cost is recorded as an expense

Leased Asset

Typically, lease agreements for fixed assets usually result in both the "right-to-use asset" and the obligation (liability) for the future lease payments being recorded on the balance sheet

Depreciation

1. Allocation of property, plant, and equipment (PPE) asset's cost to expense over its life
2. Follows expense recognition principle
3. Causes:
 - Physical wear and tear
 - Obsolescence
4. Land is NOT depreciated
 - Unlimited useful life
5. Depreciation is NOT
 - Valuation process
 - A fund of replace assets

 **Tip – Three Components in Depreciation**

Cost → Initial purchase cost

Useful life → Length of usage

Residual Value/Carrying Amount → Resell Value

Depreciation Methods

Methods	Formula	When to use: Assets
Straight-Line	Rate: $\frac{\text{Cost} - \text{Residual}}{\text{Useful Life}}$	Generate revenue evenly
Units-of-Production	1. D/U: $\frac{C-R}{U}$ 2. D/U · Activity = Dep. Exp	Wear out because of wear
Diminishing-Balance (DDB)	1. Straight-Line · 2 = DDB rate 2. $P_1 = \text{Cost} \cdot \text{DDB}$ $P_2 = \text{Carrying Value} \cdot \text{DDB}$ $(\text{Cost} - \text{Dep}(P_1)) P_n = \text{Difference}$	Generate revenue early in useful life

Examples for each method:

Straight Line

$(\text{Cost} - \text{Residual value}) \div \text{Years of useful life}$

$$(\$41,000 - \$1,000) \div 5 = \$8,000$$

Year 1 depreciation:	\$ 8,000
Year 2 depreciation:	8,000
Year 3 depreciation:	8,000
Year 4 depreciation:	8,000
Year 5 depreciation:	<u>8,000</u>
Total depreciation:	<u>\$40,000</u>

Unit of Production

$$(\$41,000 - \$1,000) \div 100,000 \text{ km} = \$0.40/\text{km}$$

Year 1: 20,000 km \times \$0.40 =	\$ 8,000
Year 2: 30,000 km \times \$0.40 =	12,000
Year 3: 25,000 km \times \$0.40 =	10,000
Year 4: 15,000 km \times \$0.40 =	6,000
Year 5: 10,000 km \times \$0.40 =	<u>4,000</u>
Total depreciation:	<u>\$40,000</u>

DDB

Straight-line rate per year: $100\% \div 5 = 20\%$

Double-declining balance:

2 times the straight-line rate = 40%

Carrying amount of truck at end of first year:

$$\$41,000 \times 40\% = \$16,400$$

$$\$41,000 - \$16,400 = \$24,600$$

Depreciation for Partial Years

$$\text{Annual depreciation} = \frac{\text{Months from date of purchase to end of year}}{12}$$

$$\frac{\text{Cost} - \text{Residual Value}}{\text{Useful Unit of Production}} = \text{Depreciation per Unit}$$

Changing Useful Life

$$\frac{\text{Remaining depreciable carrying amount}}{\text{(New) Estimated remaining Useful life}} = \text{(New) Annual Useful Life}$$

Example:

Canada's Wonderland paid \$60,000 for a concession stand. Depreciation was recorded with the straight-line method over 10 years with no residual value. Assume that after using the concession stand for 4 years the asset will remain useful for only 3 more years. How will this affect depreciation on the concession stand for year 5?

$$\text{Annual depreciation} : \frac{60000}{10} = \$6000 \text{ per year}$$

$$\text{New Depreciation} : \frac{60000 - 6000 \cdot 4}{3} = \$12000 \text{ per year}$$

On year 5, the depreciation on that year will increase to \$12000, that is twice the previous depreciation expense each year.

Derecognition of PPE

- Derecognition is an IFRS term for PPE that is no longer useful or has been sold.
- Bring depreciation up to date to:
 - Measure asset's final carrying amount
 - Record expense up to date of sale
- Remove asset and related accumulated depreciation account from the books

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Date	Accounts and explanation	Debit	Credit
	Accumulated Depreciation		
	Equipment		
	<i>Disposed of fully depreciated asset</i>		

- Selling PPE **greater than** carrying amount \Rightarrow GAIN
- Selling PPE **less than** carrying amount \Rightarrow LOSS

Example:

On Jan. 1, 2021, Big Rock Brewery bought a van for \$45,000. Big Rock uses straight-line depreciation, they expect the van to have a useful life of 5 years and a residual value of \$5,000.

On December 31, 2024, the van was sold for \$15,000 cash. Required:

1. What was the carrying amount of the van on the date of sale?
2. Record the journal entry for the sale of the van on December 31, 2024.

$$\text{Annual Depreciation} : \frac{45000 - 5000}{5} = \$8000 \text{ per year}$$

$$\text{Carrying amount} = 5000 + 8000 = 13000 \text{ Gain: } 2000$$

GoodWill

- Only recorded when an entire company is purchased
- Defined as the excess of the purchase price of the company over the market value of its net assets
- Represents earning power of company purchased
- Not amortized