

## 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)
<b>Tangible assets</b>		
	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)
<b>Intangible assets</b>		
	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 gees
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

<b>Asset</b>	<b>Market value</b>	<b>Total market value</b>	<b>% of total market value</b>	<b>Total cost</b>	<b>Cost of each asset</b>
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 to 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. $D/U \cdot \text{Activity} = \text{Dep. Exp}$	Wear out because of wear
Diminishing-Balance (DDB)	1. Straight-Line $\cdot 2 =$ 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:

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

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

### Depreciaton for Partial Years

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

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

## Changing Useful Life

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

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?

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

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

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

Carrying amount =  $5000 + 8000 = 13000$  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