CH 6 — Property, Plant, Equipment and Intangibles

Luke Lu • 2025-10-07

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 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

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 ot replace assets

> 💡 **Tip — Three Components in Depreciation**
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> **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 = Cost · DDB P_2 = Carrying Value · DDB (Cost - Dep(P_1)) P_n = Difference	Generate revenue early in useful life

Examples for each method:

Straight Line

(Cost – Residual value) ÷ Years of useful life

($41,000 – $1,000) ÷ 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:	8,000
Total depreciation:	$40,000

Unit of Production

($41,000 – $1,000) ÷ 100,000 km = $0.40/km

Year 1: 20,000 km × $0.40 =	$ 8,000
Year 2: 30,000 km × $0.40 =	12,000
Year 3: 25,000 km × $0.40 =	10,000
Year 4: 15,000 km × $0.40 =	6,000
Year 5: 10,000 km × $0.40 =	4,000
Total depreciation:	$40,000

DDB

Straight-line rate per year: 100% ÷ 5 = 20%

Double-declining balance:

2 times the straight-line rate = 40%

Carrying amount of truck at end of first year:

$41,000 × 40% = $16,400

$41,000 – $16,400 = $24,600