

Chapter 9- Reporting and Analyzing Long-Lived Assets

Property, Plant, and Equipment

PPE

- Are long-lived resources
- Have physical substance (a definite size and shape)
- Are use in the operations of a business
- Are not intended for sale to customers

Also known as foxed assets and capital assets

PPE are originally recorded at cost:

1. Purchase price, including taxes and duties, less discounts or rebates. (Asset
2. Expenditures necessary to bring asset to its intended location and make it ready for its intended use.
3. Estimated cost of future obligations to dismantle, remove or restore the asset at the end of its useful life

Operating expenditures

- benefit only a current period
- are required to maintain an asset in its normal condition and often recur, although not always annually.
- are **expensed**.

Capital expenditures

- benefit future periods
- include costs that increase the life of an asset or its productivity or efficiency.
- are normally larger than operating expenditures and occur less frequently.
- are **capitalized** (included in the asset account).

Often subdivide into four classes

1. Land
2. Land improvement
3. Buildings
4. Equipment

1. Land

- The cost of land can include:
 - the cash purchase price,
 - closing costs such as title, legal fees, and survey costs
 - costs incurred to prepare the land for its intended use such as clearing, grading, and filling.
- The cost of land is **not depreciated** because it has an unlimited useful life.

2. Land improvements

- Are costs of structural additions to land.
- decline in service potential, and require maintenance and replacement to keep their value.
- Examples: driveways, fences, sidewalks and parking lots.
- Land improvements are recorded separately from land and **depreciated**.

3. Buildings

- All necessary expenditures relating to the purchase or construction of a building are charged to the Building account.
- When a building is purchased, costs include:
 - The purchase price,
 - closing costs,
 - all costs to make the building ready for its intended use (expenditures for remodelling rooms and offices, expenditures for replacing or repairing the roof, floors, electrical wiring, and plumbing).
- When a new building is constructed, its cost consists of:
 - the contract price
 - architect's fees,
 - building permits,
 - excavation costs.
 - Interest costs.

4. Equipment

- can include: delivery equipment, office equipment, machinery, vehicles, furniture and fixtures and other similar assets.
- The cost of equipment consists of:
 - the purchase price,
 - freight charges,
 - insurance during transit,
 - expenditures required in assembling, installing and testing the unit.
- Annual costs such as licenses and insurance are operating expenditures.

Accounting for PPE

1. The cost model
 - records PPE at cost at acquisition.
 - depreciation is recorded each period.
 - the assets are carried at carrying amount (cost - the accumulated depreciation).
2. The revaluation model
 - Carrying amount of PPE is adjusted to reflect its fair value.
 - Can be applied only to assets whose fair value can be reliably measured.
 - Revaluation gains are recorded in OCI and can be reversed later.

Depreciation

- The process of allocating the cost of a long-lived asset over its useful (service) life in a rational and systematic manner
- It is not a process of asset valuation (estimated worth of something)

Journal Entry

Dr. Depreciation Expense
 Cr. Accumulated Depreciation

1. Cost

- purchase price plus all costs necessary to get the asset ready for use.

2. Useful life

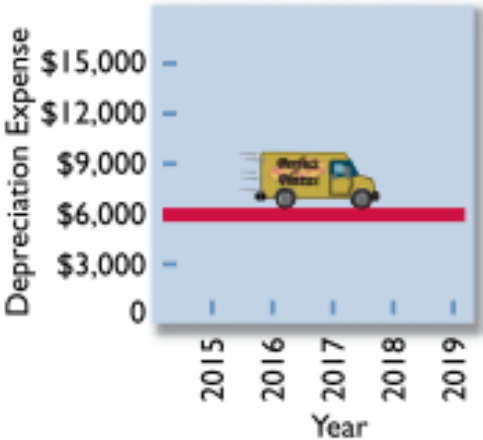
- the period of time over which an asset is expected to be available for use or the number of units of production or units of output that are expected to be obtained from an asset.
- is an estimate.

3. Residual value

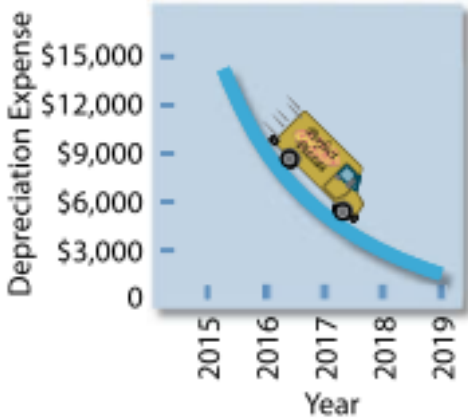
- an estimate of the amount that a company would obtain from the disposal of the asset if the asset were sold as it will be and in the condition it is expected to be in at the end of its useful life.

Depreciation Methods:

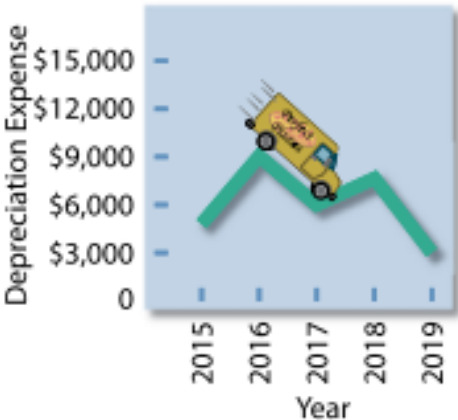
Straight Line



Diminishing-Balance



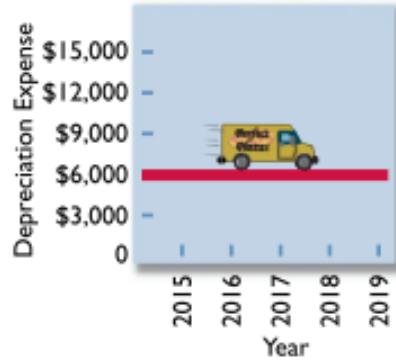
Units-of-production



Each method results in the same amount of total depreciation over the asset's useful life.

1. Straight-line depreciation

- is the most widely used method of depreciation.
- an **equal** amount of depreciation is expensed each year of the asset's useful life as long as the cost of the asset, the useful life, and the residual value did not change.



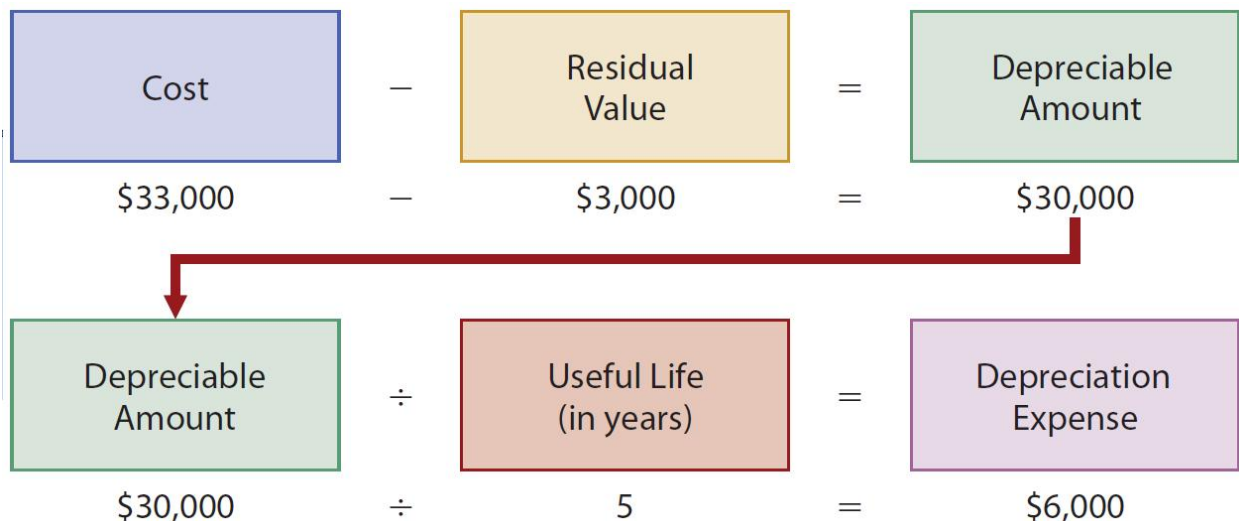
- $\text{annual depreciation} = (\text{cost} - \text{residual value}) / \text{estimated useful life measured in years}$.

Example

A delivery van was bought on Jan. 1, 2015

Cost **\$33,000**
 Estimated residual value **\$3,000**
 Estimated useful life (in years) **5**
 Estimated useful life (in kilometres) **100,000**

Depreciation is constant for each year of the asset's useful life

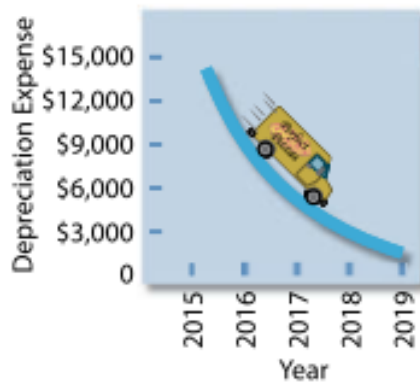


PERFECT PIZZAS LTD. Straight-Line Depreciation Schedule							
Year	Depreciable Amount	×	Depreciation Rate	=	Depreciation Expense	End of Year	
						Accumulated Depreciation	Carrying Amount
							\$33,000
2015	\$30,000		20%		\$ 6,000	\$ 6,000	27,000
2016	30,000		20%		6,000	12,000	21,000
2017	30,000		20%		6,000	18,000	15,000
2018	30,000		20%		6,000	24,000	9,000
2019	30,000		20%		6,000	30,000	3,000
					<u>\$30,000</u>		

residual value

2. The diminishing-balance method

- Produces a decreasing annual depreciation expense over an asset's useful life
 - Depreciation is calculated based on the asset's carrying amount, which diminishes each year as accumulated depreciation increases



- Annual depreciation expense = carrying amount * the depreciation rate
 - Residual value is not included in the calculation
 - Depreciation rate = Straight-line rate x multiplier

Carrying Amount at Beginning of Year	×	Depreciation Rate (Straight-Line Rate × Multiplier)	=	Depreciation Expense
\$33,000	×	20% × 2	=	\$13,200

PERFECT PIZZAS LTD.
Double-Diminishing-Balance Depreciation Schedule

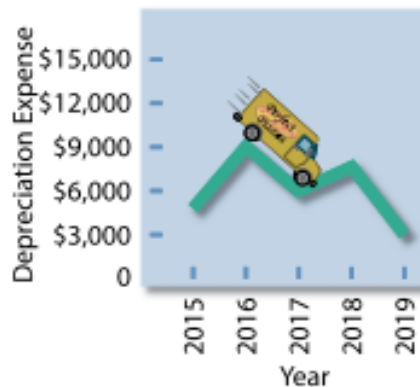
Year	Carrying Amount Beginning of Year	× Depreciation Rate	= Depreciation Expense	End of Year	
				Accumulated Depreciation	Carrying Amount
					\$33,000
2015	\$33,000	40%	\$13,200	\$13,200	19,800
2016	19,800	40%	7,920	21,120	11,880
2017	11,880	40%	4,752	25,872	7,128
2018	7,128	40%	2,851	28,723	4,277
2019	4,277	40%	1,277*	30,000	3,000
			<u>\$30,000</u>		

*The calculation of \$1,711 ($\$4,277 \times 40\%$) is adjusted to \$1,277 so that the carrying amount will equal the residual value of \$3,000.

residual
value

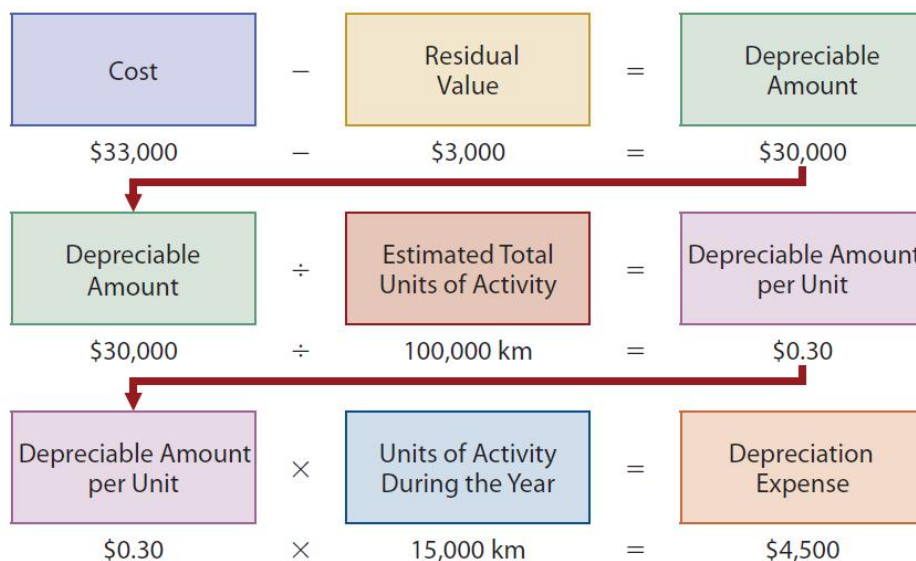
3. The units-of-production method

- the life of an asset is expressed in terms of the total units of production or the total use expected from the asset.
- Production levels used to measure depreciation include units of output, machine hours, kilometres driven, or hours used.



- Two steps to calculate depreciation:

 1. Determine the depreciation amount per unit: (cost-residual value)/total estimated units of production.
 2. Multiply the depreciation amount per unit by the units produced or used during the year to arrive at annual depreciation.



PERFECT PIZZAS LTD. Units-of-Production Depreciation Schedule					
Year	Units of Production	Depreciable Amount/Unit	Depreciation Expense	End of Year	
				Accumulated Depreciation	Carrying Amount
					\$33,000
2015	15,000	\$0.30	\$ 4,500	\$ 4,500	28,500
2016	30,000	0.30	9,000	13,500	19,500
2017	20,000	0.30	6,000	19,500	13,500
2018	25,000	0.30	7,500	27,000	6,000
2019	10,000	0.30	3,000	30,000	3,000
	<u>100,000</u>		<u>\$30,000</u>		

residual value

Which method to use?

The method that best matches the estimated pattern in which the benefits of the asset are expected to be consumed.

- **straight-line method** if the economic benefit of an asset is fairly consistent over time.
- the **diminishing-balance method** if the company receives more economic benefit in the early years of the asset's useful life than in the later years.
- the **units-of-production** method if usage varies over time.

Impairments

- Carrying amount=cost—Accumulated depreciation to date
 - Recoverable amount=asset's fair value—selling costs of similar assets in an active market
 - If carrying amount > recoverable amount, the asset is impaired
 - Impairment loss=The carrying amount—recoverable amount
- **Journal entry to record an impairment loss:**
 Dr. Impairment Loss
 Cr. Accumulated Depreciation
- Companies must review their assets regularly for possible impairment, and do so whenever a change in circumstances affects fair value.
 - The impairment loss is reported on the income statement as part of **profit from continuing operations**.
 - IFRS allow the reversal of a previously recorded impairment loss.
 - The reversal is limited to the amount required to increase the asset's carrying amount to what it would have been if the impairment loss had not been recorded.

Disposal of Property, Plant, and Equipment

Sale of PPE

4 steps to record the sale of PPE:

1. Update depreciation.
2. Calculate the carrying amount.
3. Calculate the gain or loss. The gain or loss is the difference between the proceeds and the carrying amount.
4. Record the disposal.

Gain	Loss
Dr. cash, Dr. Accumulated Depreciation Cr. asset account Cr. Gain	Dr. cash, Dr. Accumulated Depreciation Dr. Loss Cr. asset account

Retirement of an asset

- recorded as a special case of a sale, one where no cash is received.
- If the asset is retired before it is fully depreciated, there is a loss on disposal (= carrying amount at the date of retirement).
- Even if the carrying amount is zero, a journal entry is still required to remove the accounts related to the retired asset.
- If the company is still using a fully depreciated asset, the asset and its accumulated depreciation will continue to be reported on the statement of financial position, without further depreciation, until the asset is retired.

Financial Statements Presentation

- Statement of Financial Position

- Reported as
 - Property, Plant and Equipment
 - Intangible Assets
 - Goodwill
- Disclose cost and accumulated depreciation (amortization) of each major class of assets
 - Either in statement or in notes
- Disclose depreciation/amortization methods and useful lives or rates
- IFRS also requires additional disclosures

- **Income Statement**

- Depreciation expense, gains and losses on disposal and impairment losses are included in the operating section.

- **Statement of Cash Flows**

- Cash flows from the purchase and sale of long-lived assets are reported in the investing section

Methods for Evaluating the Use of Assets

1. Return on assets:

- is an overall measure of profitability.
- indicates the amount of profit generated by each dollar invested in assets.

$$\text{Return on Assets} = \frac{\text{Profit}}{\text{Average Total Assets}}$$

2. Asset turnover:

- indicates how efficiently a company is able to generate sales with a given amount of assets,
- indicates how many dollars of sales are generated by each dollar invested in assets.

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

Together, profit margin and asset turnover explain the return on assets ratio:

$$\text{Profit Margin} \times \text{Asset Turnover} = \text{Return on Assets}$$

E9-E

Buys new equipment for: 172,000

RV: 16,000

Machine predicted to be used for 10,000 work hours during its year lifespan

Actual Use was

1,500 in 2012

2,200 in 2013

2,300 in 2014

2,100 in 2015

1,900 in 2016

STRAIGHT LINE

$172,000 - 16,000 =$

156,000

$156,000 / 4 =$

39,000

- 2012

- $39,000 \times 9/12$

- =29250

- 2013, 2014, 2015

- =39,000

- 2016

- $39,000 \times 3/12$

- =9,750

DIMINISHING BALANCE USING DOUBLE THE STRAIGHT LINE RATE

$25\% = (100\% / 4)$

$25\% \times 2$

= 50%

$50\% \times 172,000$

= 86,000

2012

$86 \times 9/12$

= 64,500.

Carrying amount = 107,500

2015 cant do the 50% since it will go below RV therefore its the RV

March 5, 2018

UNITS OF PRODUCTION

172-16/10,000 hours = 15.60

March 5, 2018

September 1

Cash