Financial Accounting

Sixth Edition

Long-Term Assets

CHAPTER 7

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Long-Term Assets

Tangible assets	Intangible assets
• Land • Land improvements • Buildings • Equipment • Natural resources	• Patents • Trademarks • Copyrights • Franchises • Goodwill

- Physical substance

- Lack of physical substance
- Existence often based on legal contract

Illustration 7–1
Balance Sheet for Disney

THE WALT DISNEY COMPANY Balance Sheet (partial) ($ in thousands)	
Current assets	
Cash and cash equivalents	$ 5,418
Receivables	15,481
Inventories	1,649
Television costs and advances	4,597
Other current assets	979
Total current assets	28,124
Films and television costs	22,810
Investments	3,224
Parks, resorts and other property	
Attractions, buildings and equipment	58,589
Accumulated deprecation	(32,415)
	26,174
Projects in progress	4,264
Land	1,165
	31,603
Intangible assets, net	23,215
Goodwill	80,293
Other assets	4,715
Total assets	**$193,984**

PART A

ASSET ACQUISITIONS

Learning Objective 1

LO7–1 Identify the major types of property, plant, and equipment.

Property, Plant, and Equipment

Recorded at:

The original cost of the asset

+

All expenditures necessary to get the asset ready for use

Land

- Land includes the cost of the land and all expenditures necessary to get the land **ready for its intended use**
- Costs to get the land ready for use include items such as:
  - Real estate commissions and fees
  - Back property taxes or other obligations
  - Clearing, filling, and leveling the land
  - Cash received from selling salvaged building materials reduces the cost of land

Illustration 7–2

Computation of the Cost of Land

Costs necessary to get the land ready for use	
Purchase price of land (and existing building)	$500,000
Commissions to sales agent	30,000
Back property taxes (seller's unpaid taxes)*	6,000
Property taxes for the current year ($2,000)*	—
Title insurance	3,000
Removing existing building	50,000
Less: Salvaged materials from existing building	(5,000)
Leveling the land	6,000
Total capitalized cost of land	$590,000

*Property taxes paid for the seller's unpaid taxes in previous years are necessary to get title clearance for the land. Any property taxes for the current period after the purchase are not included and instead expensed as incurred.

Common Mistake

- Many students incorrectly add or ignore the cash received from the sale of salvaged materials.
- Cash received from the sale of salvaged materials *reduces* the total cost of land.

Land Improvements

- **Land improvements** are amounts spent to improve the land
- Examples:
  - Parking lots, sidewalks, driveways, landscaping, lighting systems, fences, and sprinklers
- Land improvements have limited useful lives and are recorded separately from the Land account.

Buildings

- **Buildings:** administrative offices, retail stores, manufacturing facilities, and storage warehouses
- Costs of getting a building ready for use include items such as:
  - Realtor commissions and legal fees
  - Remodeling costs
- Unique accounting issues arise when a firm constructs a building rather than purchasing it (capitalize interest cost).

Equipment

- **Equipment:** machinery used in manufacturing, computers and other office equipment, vehicles, furniture, and fixtures
- The cost of equipment might include sales tax, shipping, assembly, and any other costs to prepare the asset for use
- Recurring costs such as annual property insurance and annual property taxes on vehicles are **expensed** as incurred

Illustration 7–3

Computation of the Capitalized Cost of Equipment

Costs necessary to get the equipment ready for use	
Purchase price	$82,000
Sales tax	6,500
Transportation	800
Shipping insurance	200
Installation	1,500
Annual insurance ($1,600)*	—
Total capitalized cost of equipment	$91,000

*The annual insurance of $1,600 will initially be recorded as Prepaid Insurance and allocated to Insurance Expense over the first year of coverage.

Basket Purchases

- Purchase of **more than one asset** at the same time for one purchase price
  - We need to record each of the assets acquired (e.g., land, building, and equipment) in separate accounts.
  - We allocate the total purchase price based on the **relative fair values** of the individual assets.

Illustration 7–4
Allocation of Cost in a Basket Purchase

- Olive Garden purchases land, building, and equipment together for $900,000.
- The estimated fair values of the land, building, and equipment are $200,000, $700,000, and $100,000, respectively, for a total estimated fair value of $1 million.

	Estimated Fair Value	Allocation Percentage		Amount of Basket Purchase	Recorded Amount
Land	$ 200,000	$200,000/$1,000,000 = 20%	x	$900,000	$180,000
Building	700,000	$700,000/$1,000,000 = 70%	x	$900,000	630,000
Equipment	100,000	$100,000/$1,000,000 = 10%	x	$900,000	90,000
Total	$1,000,000	100%			$900,000

Concept Check 7–1

A company makes a basket purchase of land, buildings, and equipment with estimated fair values of $70,000, $150,000, and $30,000, respectively. The purchase price is $210,000. How much should be recorded to the Land account?

a. $126,000
b. $70,000
c. $58,800
d. $25,200

The purchase price of $210,000 is allocated to the separate accounts for Land, Buildings, and Equipment based on their relative fair values. The total estimated fair value of the three assets equals $250,000. Land's relative fair value is 28% (or $70,000 ÷ $250,000). Therefore, the land would be recorded for $58,000 (or $210,000 × 28%).

Natural Resources

- Examples include oil, natural gas, timber, and salt
- Distinguished from other assets by the fact that they are physically used up, or **depleted**
- Recorded at cost plus all other costs necessary to get the natural resource ready for its intended use

Key Point

Tangible assets such as land, land improvements, buildings, equipment, and natural resources are recorded at cost **plus all costs necessary to get the asset ready for its intended use**.

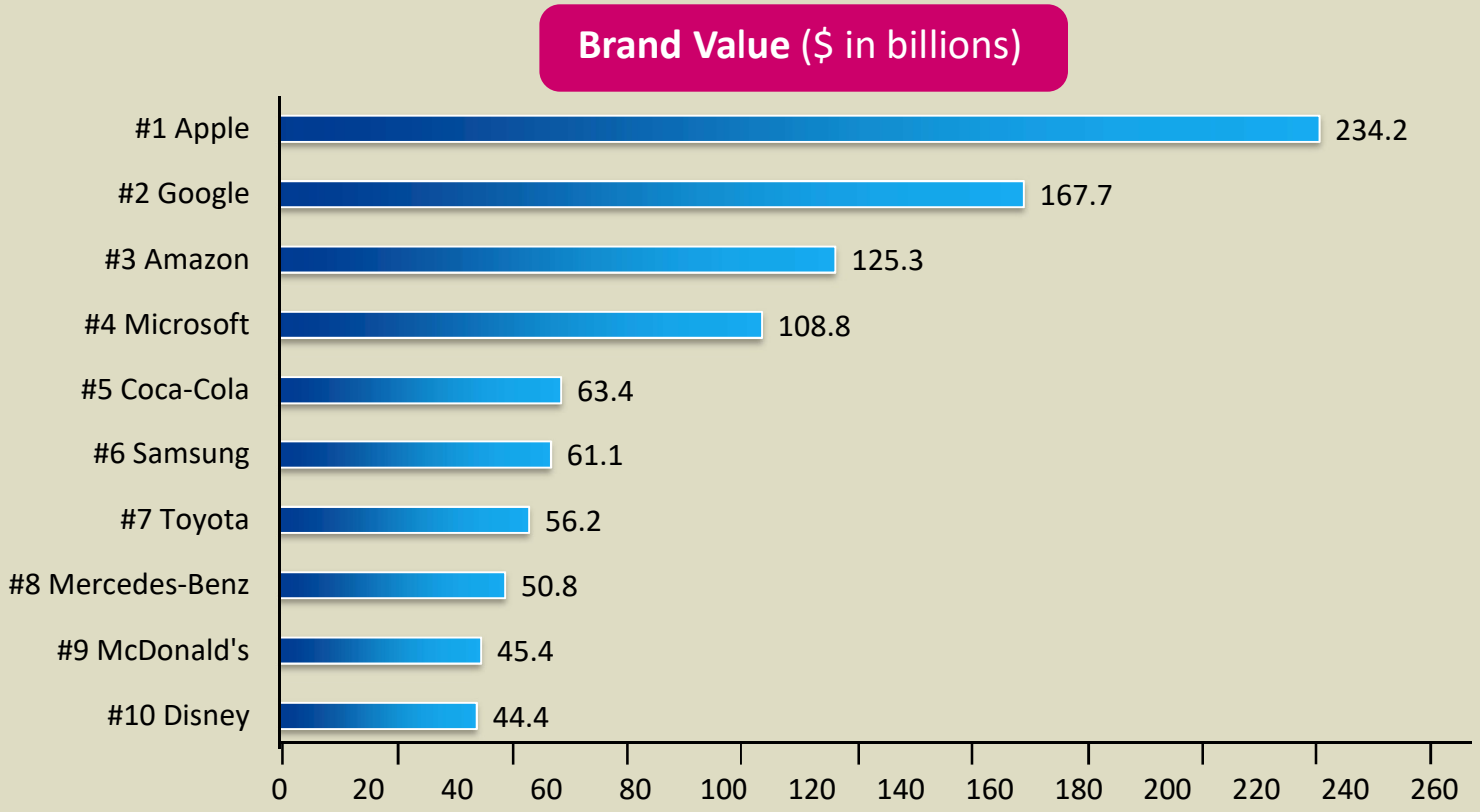
Learning Objective 2

LO7–2 Identify the major types of intangible assets.

Intangible Assets

- Include patents, trademarks, copyrights, franchises, and goodwill
- **Purchased intangibles**
  - Record at their original cost plus all other costs necessary to get the asset ready for use.
- **Intangible assets developed internally**
  - Expense in the income statement most of the costs for internally developed intangible assets in the period we incur those costs.

Illustration 7–5
World's Top 10 Brands



Source: "Best Global Brands 2019 Rankings," Interbrand.com, 2019, www.interbrand.com.

Research and Development (R&D)

- Costs incurred to conduct research and to develop a new product or process
- Not reported as an intangible asset in the balance sheet
- Reported as an expense in the income statement rather than as an intangible asset in the balance sheet.
  - Expensed because of the difficulty in determining the portion of R&D that benefits future periods

Advertising

- Difficult to estimate benefits in future periods
- Cannot tell what portion of today's advertising:
  - Benefits future periods and
  - How many periods it might benefit
- Not reported as intangible asset in the balance sheet
- Reported as expenses in the income statement in the period incurred

Key Point

- We record purchased intangibles as long-term assets at their purchase price plus all costs necessary to get the asset ready for use.
- We expense internally generated intangibles, such as R&D and advertising costs, as we incur them.

Patents

- Exclusive right to manufacture a product or to use a process
- Granted for a period of 20 years
- When **purchased:**
  - Capitalize the purchase price plus legal and filing fees
- When **developed internally**:
  - Capitalize legal and filing fees only (Research and Development costs are expensed as incurred)

Illustration 7–6

Computation of the Cost of Patent

- A company obtains two patents during the year:
  - Patent #1 was purchased from another company for $200,000.
  - Patent #2 was developed internally at a cost of $200,000.
- Both patents had legal and filing fees of $40,000 and $5,000, respectively.

	Patent #1 (*externally* purchased)	**Patent #2** (*internally* developed)
Cash expenditures	$200,000	$200,000
Legal fees	40,000	40,000
Filing fees	5,000	5,000
Patent (intangible asset)	$245,000	$ 45,000
Research and development expense		$200,000

Copyrights

- Exclusive right of protection given to the creator of a published work
- Granted for the life of the creator plus 70 years
- Allows holder to pursue legal action against anyone who attempts to infringe the copyright
- Accounting is virtually identical to that of patents

Trademarks

- Word, slogan, or symbol that distinctively identifies a company, product, or service
- Renewable for an indefinite number of 10-year periods
- Capitalize legal, registration, and design fees
  - Advertising costs expensed as incurred

Franchises

- Local outlets that pay for the exclusive right to use the franchisor's name and to sell its products within a specified geographical area
- The franchisee records the initial fee as an intangible asset
- Additional periodic payments to the franchisor are usually expensed as incurred

Goodwill

- Goodwill is the portion of the purchase price that exceeds the fair value of **identifiable** net assets
- Recorded only when one company acquires another company
- **Net assets** = assets acquired less liabilities assumed
- Most companies also create goodwill to some extent through advertising, employee training, and other efforts. However, as it does for other internally generated intangibles, a company must *expense* costs incurred in the internal generation of goodwill.

Recording Goodwill (1 of 2)

Allied Foods acquires Ritz Produce by paying $36 million in cash. The fair values of Ritz Produce's identifiable assets and liabilities are as follows ($ in millions):

Accounts receivable	$10	Accounts payable	$ 9
Equipment	32	Long-term notes payable	15
Patent	8		
Total fair value of assets	$50	Total fair value of liabilities	$24

Illustration 7–7 Business Acquisition with Goodwill

($ in millions)		
Purchase price		$36
Less: Fair value of assets acquired	$50	
Less: Fair value of liabilities assumed	(24)	
Fair value of identifiable net assets		(26)
Goodwill		**$10**

Recording Goodwill (2 of 2)

Allied Foods records the acquisition as follows:

December 31	Debit	Credit
Accounts receivable (at fair value) ……	**10**	
Equipment (at fair value) ……	**32**	
Patent (at fair value) ……	**8**	
Goodwill (remaining purchase price)…	**10**	
Accounts payable (at fair value)…..		**9**
Notes payable (at fair value) ……		**15**
Cash (at purchase price) ……		**36**

Key Point

- Intangible assets have no physical substance and generally represent exclusive rights that provide benefits to owners.
- Common types include patents, copyrights, trademarks, franchises, and goodwill.

Concept Check 7–2

Which of the following is an exclusive right to manufacture a product or to use a process?

a. Trademark

b. Patent

c. Copyright

d. Goodwill

A patent is an exclusive right to manufacture a product or to use a process. The U.S. Patent and Trademark Office grants this right for a period of 20 years.

Learning Objective 3

LO7–3 Describe the accounting treatment of expenditures after acquisition.

Expenditures After Acquisition

- Over the life of a long-term asset, the owners often incur additional expenditures associated with the asset.
- For all expenditures **after acquisition**:

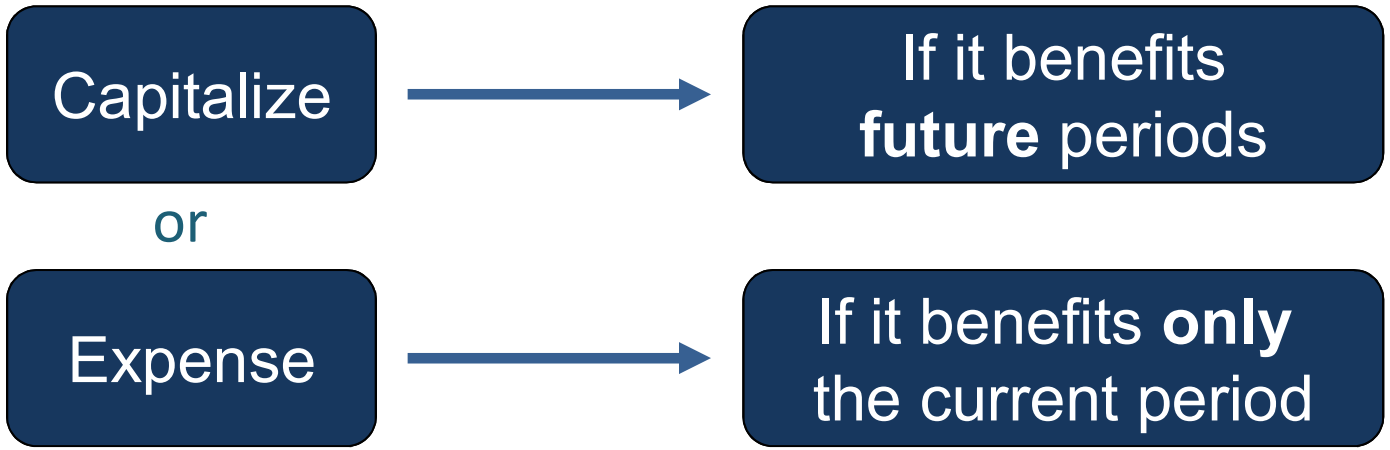


Illustration 7–8

Expenditures after Acquisition

Type of Expenditure	Definition	Period Benefited	Usual Accounting Treatment
Repairs and maintenance	Maintaining a given level of benefits	Current	**Expense**
Repairs and maintenance	Making major repairs that increase future benefits	Future	**Capitalize**
Additions	Adding a new major component	Future	**Capitalize**
Improvements	Replacing a major component	Future	**Capitalize**
Legal defense of intangible assets	Incurring litigation costs to defend the legal right to the asset	Future	**Capitalize** (Expense if defense is unsuccessful)

Materiality

- An item is said to be *material* if it is large enough to influence a decision.
- When an expenditure is *not material*, the item is typically recorded as an expense regardless of its expected period of benefit.
- Companies generally have policies regarding amounts that are not material. They will expense all costs under a certain dollar amount, say $1,000, regardless of whether future benefits are increased.

Concept Check 7–3

Which of the following costs would be expensed?

a. Adding a refrigeration unit to a delivery truck

b. Adding a new suspension system to a delivery truck that will allow for heavier loads

c. Adding a new transmission to a delivery truck, which will increase its life and future benefits

d. Performing a tune-up on a delivery truck

Tune-ups are necessary to maintain the truck and are regularly required. The cost of a tune-up should be expensed. All of the other items benefit future periods and should be capitalized.

Key Point

- We capitalize (record as an asset) expenditures that benefit ***future*** periods.
- We expense items that benefit only the ***current*** period.

PART B

DEPRECIATION AND AMORTIZATION

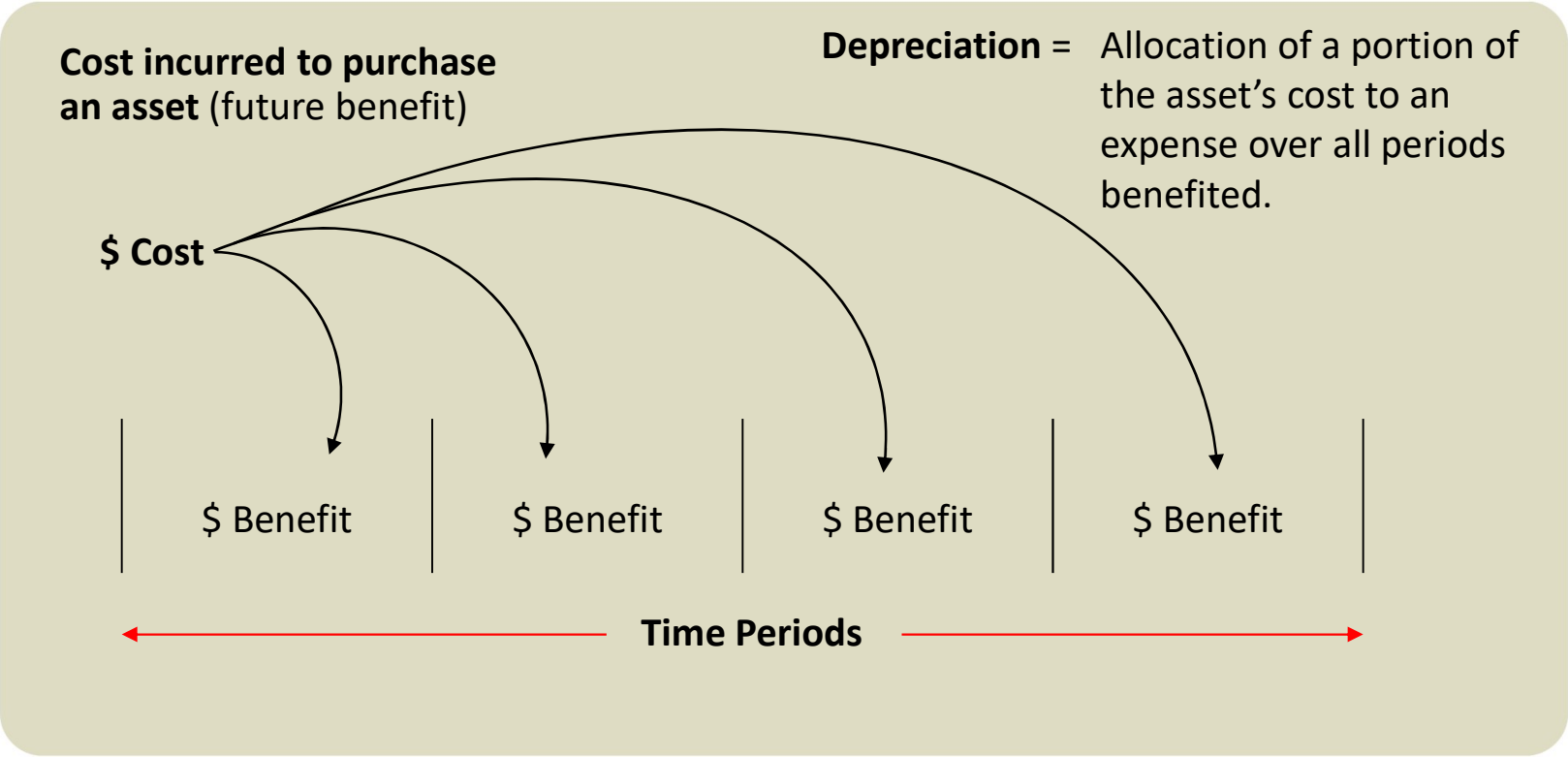
Learning Objective 4

LO7–4 Calculate depreciation of property, plant, and equipment.

Depreciation

- Dictionary definition
  - Decrease in value (or selling price) of an asset
- Accounting definition
  - Allocation of an asset's cost to expense over time

Illustration 7–9
Depreciation of Long-Term Assets



Common Mistake

- Students sometimes mistake accounting depreciation as recording the decrease in value of an asset.
- Depreciation in accounting is not a valuation process.
- Rather, depreciation in accounting is an allocation of an asset's cost to expense over time.

Recording Depreciation

A local Starbucks pays $1,200 for equipment—say, an espresso machine, with a service life of four years.

Starbucks records depreciation expense for Year 1 as follows:

December 31	Debit	Credit
Depreciation Expense.....	**300**	
Accumulated Depreciation		**300**
(Depreciate equipment; $300 = $1,200 ÷ 4 years)		

Balance Sheet Presentation

Asset account

Equipment (cost)	$1,200
Less: Accumulated depreciation ($300 × 1 year)	(300)
= Book value	$ 900

Contra asset account

Key Point

- Depreciation refers to the allocation of the asset's original cost to an expense during the periods benefited.
- Depreciation does not refer to the change in value or selling price.

Factors Used in Calculating Depreciation

1. **Service life** (or useful life)—The estimated use the company expects to receive from the asset before disposing of it.
2. **Residual value** (or salvage value)—The amount the company expects to receive from selling the asset at the end of its service life.
3. **Depreciation method**—The pattern in which the asset's depreciable cost (original cost minus residual value) is allocated over time.

Depreciation Methods

- In determining how much of an asset's cost to allocate to each year, a company should choose a depreciation method that corresponds to the pattern of benefits received from using the asset.
- Three common methods:
  1. Straight-line
  2. Declining-balance
  3. Activity-based

Illustrations 7-10 and 7-11

Data to Illustrate Depreciation Methods

Cost of the new truck	$40,000
Estimated residual value	$5,000
Estimated service life	5 years or 100,000 miles

Straight-Line Depreciation

Depreciation expense = $\frac{\text{Asset's cost} - \text{Residual value}}{\text{Service life}} = \frac{\text{Depreciable cost}}{\text{Service life}}$

Depreciation expense = $\frac{\$40{,}000 - \$5{,}000}{5 \text{ years}}$ = $7,000 per year

Illustration 7–12
Straight-Line Depreciation Schedule

Same amount each year

Original cost

LITTLE KING SANDWICHES
Depreciation Schedule—Straight-Line

	Calculation					End-of-Year Amounts	
Year	Depreciable Cost	×	Depreciation Rate	=	Depreciation Expense	Accumulated Depreciation	Book Value*
							$40,000
1	$35,000		1/5 = 0.20		$ 7,000	$ 7,000	33,000
2	35,000		0.20		7,000	14,000	26,000
3	35,000		0.20		7,000	21,000	19,000
4	35,000		0.20		7,000	28,000	12,000
5	35,000		0.20		7,000	35,000	5,000
Total					$35,000		

*Book value is the original cost of the asset ($40,000) minus accumulated depreciation. Book value of $33,000 at the end of year 1, for example, is $40,000 minus $7,000 in accumulated depreciation.

Residual value

Illustration 7–13

Partial-Year Straight-Line Depreciation

Let's assume, instead, that Little King bought the truck on November 1 and its year-end is December 31.

LITTLE KING SANDWICHES
Depreciation Schedule—Straight-Line

	Calculation					End-of-Year Amounts	
Year	Depreciable Cost	×	Depreciation Rate	=	Depreciation Expense	Accumulated Depreciation	Book Value
							$40,000
1	$35,000		0.20 **x 2/12**		**$ 1,167**	$ 1,167	38,833
2	35,000		0.20		**7,000**	8,167	31, 833
3	35,000		0.20		**7,000**	15,167	24, 833
4	35,000		0.20		**7,000**	22,167	17, 833
5	35,000		0.20		**7,000**	29,167	10, 833
6	35,000		0.20 **x 10/12**		**5,833**	35,000	**5,000**
Total					**$35,000**		

Common Mistake

- Many students think March 1 to the end of the year is nine months because December is the twelfth month and March is the third month.
- March 1 to the end of the year is actually *ten* months; it is every month except January and February.

Land

- We record depreciation for land improvements, buildings, and equipment, but we don’t record depreciation for land.
- Unlike other long-term assets, land is not “used up” over time.

Common Mistake

- Some students mistakenly depreciate land because it's part of property, plant, and equipment.
- Land is *property*, but it is *not* depreciated because its service life never ends.

Concept Check 7–4

How much depreciation should be recorded in the first year for a delivery truck purchased on April 1 with a cost of $30,000, an expected service life of five years, and an estimated residual value of $5,000? Assume the straight-line method is used.

a. $ 5,000
b. $ 3,750
c. $ 4,500
d. $ 6,000

Annual depreciation would be:

$5,000 = ($30,000 – $5,000) ÷ 5 years

Therefore, depreciation from April 1 through December 31 (9 months) in the first year would be:

$3,750 = $5,000 × 9/12

Illustration 7–14

Change in Depreciation Estimate

Assume that after three years Little King Sandwiches estimates the remaining service life of the delivery truck to be four more years, for a total service life of seven years rather than the original five. Little King also changes the estimated residual value to $3,000 from the original estimate of $5,000.

How much is depreciation in years 4 to 7?

Book value, end of year 3	$19,000
− New residual value	(3,000)
New depreciable cost	16,000
÷ New remaining service life	4
Annual depreciation in years 4 to 7	$ 4,000

Illustration 7–15
Double-Declining-Balance Depreciation Schedule

LITTLE KING SANDWICHES
Depreciation Schedule—Double-Declining-Balance

	Calculation					End-of-Year Amounts	
Year	Beginning Book Value	×	Depreciation Rate	=	Depreciation Expense	Accumulated Depreciation	Book Value*
							$ 40,000
1	$40,000		0.40		**$16,000**	$16,000	24,000
2	24,000		0.40		**9,600**	25,600	14,400
3	14,400		0.40		**5,760**	31,360	8,640
4	8,640		0.40		**3,456**	34,816	5,184
5	5,184				**184****	35,000	**5,000**
Total					**$35,000**		

Declining amount each year

Double straight-line rate

Remaining depreciation

Residual value

*Book value is the original cost of the asset minus accumulated depreciation. Book value at the end of year 1 is $24,000, equal to the cost of $40,000 minus accumulated depreciation of $16,000. Book value at the end of **year 1** in the last column is equal to book value at the beginning of **year 2** in the second column of the schedule.
**Amount necessary to reduce book value to residual value.

Common Mistake

- When using the declining-balance method, mistakes are commonly made in the first and last year of the calculation.
  - In the first year, students sometimes calculate depreciation incorrectly as cost minus residual value times the depreciation rate.
  - The correct way in the first year is to simply multiply cost times the depreciation rate.
  - In the final year, some students incorrectly calculate depreciation expense in the same manner as in earlier years, multiplying book value by the depreciation rate.
- However, under the declining-balance method, depreciation expense in the final year is the amount necessary to reduce book value down to residual value.

Concept Check 7–5

How much depreciation should be recorded for the first year for a delivery truck with a cost of $30,000, an expected life of six years, and an estimated residual value of $6,000? Assume the double-declining-balance method is used.

a. $ 12,000

b. $ 10,000

c. $ 8,000

d. $ 5,000

The straight-line rate for a six-year asset is 1/6. This rate would be doubled to 2/6 (or 33.33%).

Depreciation the first year (rounded):

$10,000 = $30,000 × 33.33%.

Illustration 7–16

Formula for Activity-Based Depreciation

Cost of the new truck	$40,000
Estimated residual value	$5,000
Estimated service life	5 years or 100,000 miles

$$\textbf{Depreciation rate per unit} = \frac{\textbf{Depreciable cost}}{\textbf{Total units expected to be produced}}$$

$$\text{Depreciation rate} = \frac{\$40{,}000 - \$5{,}000}{100{,}000 \text{ expected miles}} = \$0.35 \text{ per mile}$$

Illustration 7–17

Activity-Based Depreciation Schedule

LITTLE KING SANDWICHES
Depreciation Schedule—Activity-Based

	Calculation					End-of-Year Amounts	
Year	Miles Driven	x	Depreciation Rate	=	Depreciation Expense	Accumulated Depreciation	Book Value*
							$40,000
1	30,000		$0.35		**$10,500**	$10,500	29,500
2	22,000		0.35		**7,700**	18,200	21,800
3	15,000		0.35		**5,250**	23,450	16,550
4	20,000		0.35		**7,000**	30,450	9,550
5	13,000		0.35		**4,550**	35,000	**5,000**
Total					**$35,000**		

*Book value is the original cost of the asset ($40,000) minus accumulated depreciation. Book value of $29,500 in year 1 is $40,000 minus $10,500 in accumulated depreciation.

Actual miles

Cost allocated per mile

Residual value

Illustration 7–18

Comparison of Depreciation Methods

Year	Straight-Line	Double-Declining-Balance	Activity-Based
1	$ 7,000	$16,000	$10,500
2	7,000	9,600	7,700
3	7,000	5,760	5,250
4	7,000	3,456	7,000
5	7,000	184	4,550
Total	$35,000	$35,000	$35,000

Total depreciation is the same under each method

Illustration 7–19

Depreciation Expense Over Time for Three Depreciation Methods

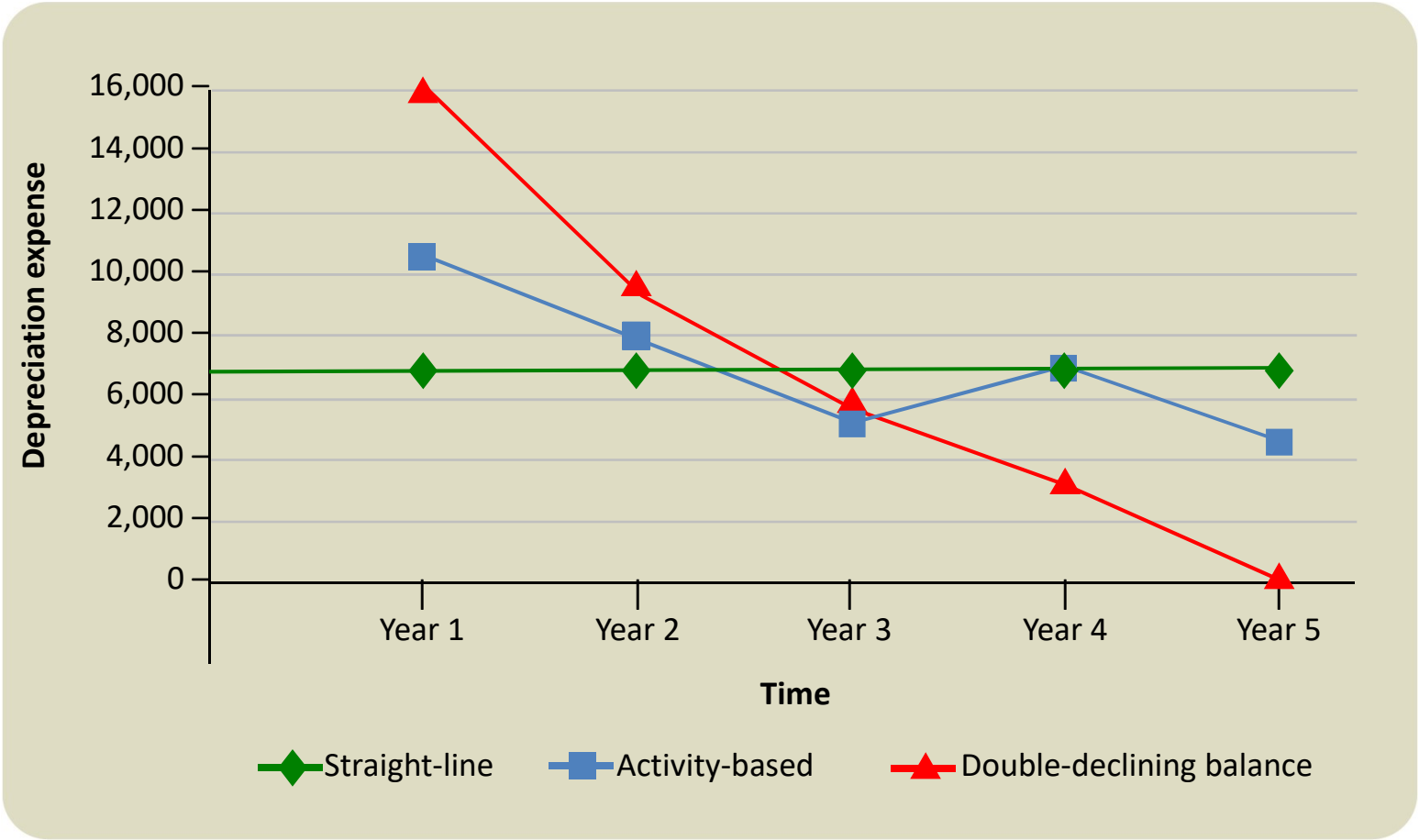
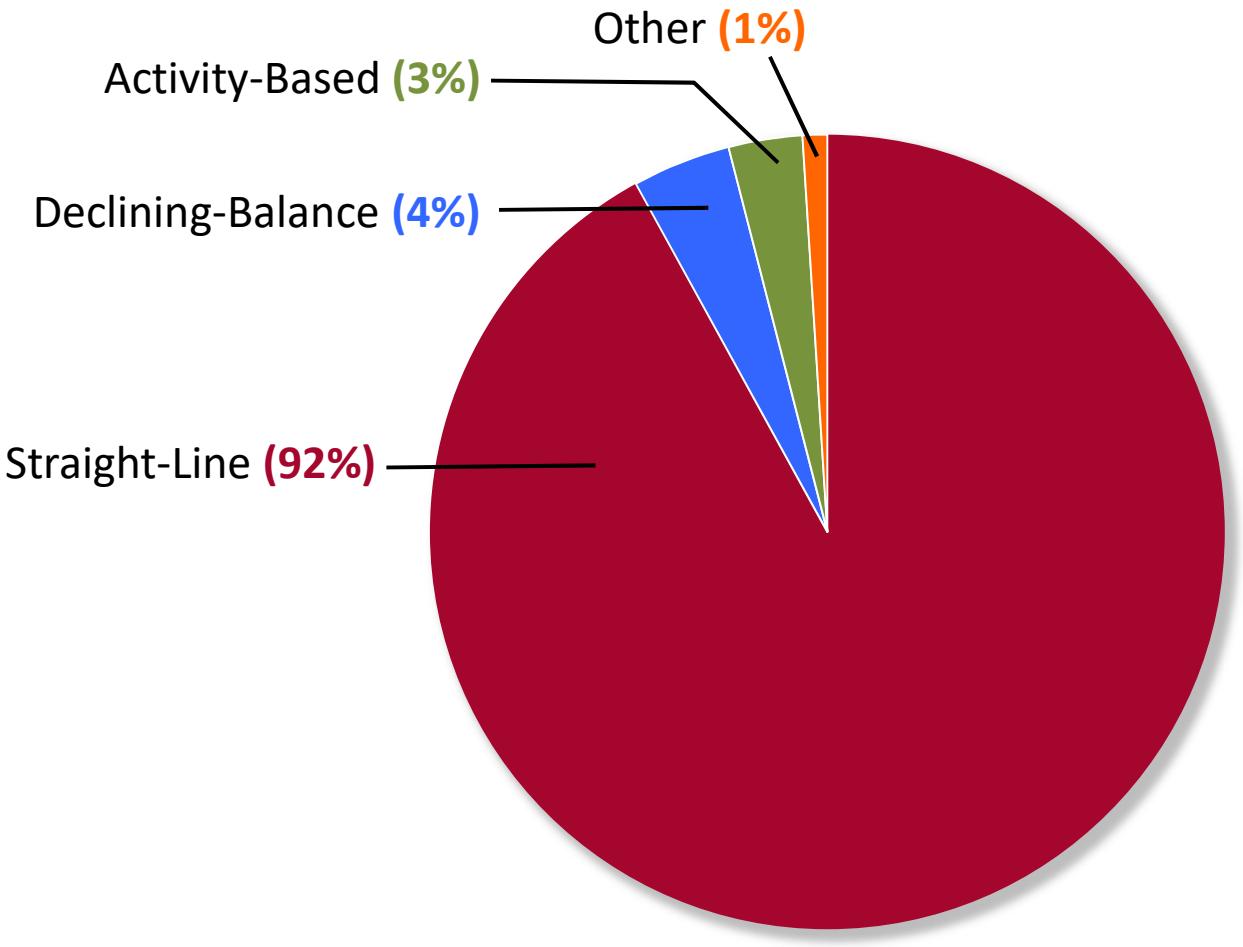


Illustration 7–20
Use of Various Depreciation Methods



Tax Depreciation

- Accelerated methods reduce taxable income more in the earlier years of an asset's life
- Most companies use:
  - Straight-line for **financial reporting**
  - Accelerated for **tax reporting**
    - called MACRS

Key Point

- Straight-line, declining-balance, and activity-based depreciation are all acceptable depreciation methods for financial reporting.
- Most companies use straight-line depreciation for financial reporting and an accelerated method called MACRS for tax reporting.

Learning Objective 5

LO7–5 Calculate amortization of intangible assets.

Amortization of Intangible Assets

- Allocating the cost of most tangible assets to expense is called depreciation.
- Allocating the cost of intangible assets to expense is called amortization.
- Most intangible assets have a finite useful life that can be estimated.
  - The service life of an intangible asset usually is limited by legal, regulatory, or contractual provisions.
- Most companies use straight-line amortization for intangibles.

Intangible Assets Subject to Amortization

Little King Sandwiches acquires franchise rights for $800,000; the agreement is for a period of 20 years. It also acquires a patent for $72,000; there are 12 years remaining on the legal life of the patent.

Little King records the amortization expense for the franchise and the patent as follows:

December 31	Debit	Credit
Amortization Expense	**40,000**	
Franchises		**40,000**
(Amortize franchise; $40,000 = $800,000/20 years)		
Amortization Expense	**9,000**	
Patents		**9,000**
(Amortize patent; $9,000 = $72,000/8 years)		

Illustration 7–21

Amortization Treatment of Intangible Assets

Intangible Assets Subject to Amortization (those with finite useful life)	Intangible Assets Not Subject to Amortization (those with indefinite useful life)
• Patents • Copyrights • Trademarks (with finite life) • Franchises	• Goodwill • Trademarks (with indefinite life)

Concept Check 7–6

Which of the following intangible assets would not be subject to amortization?

a. Patent

b. Trademark with an indefinite life

c. Copyright

d. Franchise

Registered trademarks have a legal life of 10 years, but the trademark registration is renewable for an indefinite number of 10-year periods. A trademark with an indefinite life is not amortized.

Key Point

- Amortization is a process, similar to depreciation, in which we allocate the cost of intangible assets over their estimated service lives.
- Intangible assets with an indefinite useful life (goodwill and most trademarks) are *not* amortized.

PART C

ASSET DISPOSAL: SALE, RETIREMENT, OR EXCHANGE

Learning Objective 6

LO7–6 Account for the disposal of long-term assets.

Illustration 7-22

Three Methods of Asset Disposal

Sale	Retirement	Exchange
Most common method to dispose of a long-term asset	Occurs when a long-term asset is no longer useful but cannot be sold	Occurs when two companies trade long-term assets

Common Mistake

- Some students forget to update depreciation prior to recording the disposal of the asset.
- Depreciation must be recorded up to the date of the sale, retirement, or exchange.
- Otherwise, the book value will be overstated, and the resulting gain or loss on disposal will be in error as well.

Illustration 7–23

Data to Illustrate Long-Term Asset Disposals

Original cost of the truck	$40,000
Estimated residual value	$5,000
Estimated service life	5 years
Assume straight-line depreciation	$7,000

Illustration 7–24
Gain on Sale

Little King sells the truck at the end of Year 3 for $22,000.

Sale amount		$22,000
Less:		
Original cost of the truck	$40,000	
Less: Accumulated depreciation (3 years × $7,000/year)	(21,000)	
Book value at the end of year 3		19,000
Gain		**$ 3,000**

Little King records the sale as follows:

Reduce account balances to zero

	Debit	Credit
Cash	**22,000**	
Accumulated Depreciation	**21,000**	
Equipment		**40,000**
Gain		**3,000**
(Sell equipment for a gain)		

Common Mistake

- Be careful not to combine the delivery truck ($40,000) and accumulated depreciation ($21,000) and credit the $19,000 difference to the Equipment account.
- Instead, remove the delivery truck and accumulated depreciation from the accounting records separately.
- Otherwise, the Equipment and the Accumulated Depreciation accounts will incorrectly have a remaining balance after the asset has been sold.

Illustration 7–25

Loss on Sale

Little King sells the truck at the end of Year 3 for $17,000.

Sale amount		$17,000
Less:		
Original cost of the truck	$40,000	
Less: Accumulated depreciation (3 years × $7,000/year)	(21,000)	
Book value at the end of year 3		19,000
Loss		**$(2,000)**

Little King records the sale as follows:

Reduce account balances to zero

	Debit	Credit
Cash	**17,000**	
Accumulated Depreciation	**21,000**	
Loss	**2,000**	
Equipment		**40,000**
(Sell equipment for a loss)		

Illustration 7–26

Retirement of Long-Terms Assets

Little King's truck is totaled in an accident at the end of year 3.

Sale amount		$ 0
Less:		
Original cost of the truck	$40,000	
Less: Accumulated depreciation (3 years × $7,000/year)	(21,000)	
Book value at the end of year 3		19,000
Loss		**$(19,000)**

Little King records the loss on retirement as follows:

Reduce account balances to zero

	Debit	Credit
Accumulated Depreciation	**21,000**	
Loss	**19,000**	
Equipment		**40,000**
(Retire equipment for a loss)		

Concept Check 7–7

Jacobi Landscaping sold lawn equipment for $7,000. The equipment was originally purchased for $20,000, and depreciation through the date of sale totaled $15,000. What is the amount of the gain (or loss) on the sale?

a. $13,000

b. $8,000

c. $(2,000)

d. $2,000

Sale amount		$7,000
Less:		
Cost of equipment	$20,000	
Less: Accum. Deprecation	(15,000)	
Book value		5,000
Gain on sale		$2,000

Illustration 7–27
Gain on Exchange

Trade-in Allowance (new truck = $45,000 less $22,000 paid in cash)		$23,000
Less:		
Original cost of the truck	$40,000	
Less: Accumulated depreciation (3 years × $7,000/year)	(21,000)	
Book value at the end of year 3		19,000
Gain		**$ 4,000**

Reduce account balances to zero

	Debit	Credit
Equipment (new)	**45,000**	
Accumulated Depreciation	**21,000**	
Cash		**22,000**
Equipment (old)		**40,000**
Gain		**4,000**
(Exchange equipment for a gain)		

Key Point

- If we dispose of an asset for *more* than its book value, we record a gain.
- If we dispose of an asset for *less* than its book value, we record a loss.

ANALYSIS

ASSET ANALYSIS

Learning Objective 7

LO7–7 Describe the links among return on assets, profit margin, and asset turnover.

Illustration 7–28

Selected Financial Data for Disney and Netflix

($ in millions)	
Disney	
Net sales	$ 69,570
Net income	11,584
Total assets, beginning	98,598
Total assets, ending	193,984
Netflix	
Net sales	$ 20,156
Net income	1,867
Total assets, beginning	25,974
Total assets, ending	33,976

Disney is larger. Is it also more profitable?

Return on Assets

- Indicates the amount of net income generated for each dollar invested in assets

$$\text{Return on Assets} = \frac{\text{Net income}}{\text{Average total assets}}$$

Common Mistake

- Students sometimes divide by ending total assets rather than by average total assets.
- However, there is a good reason to use average total assets in the denominator: to align the timing of the numerator and denominator.
  - That is, given that net income (the numerator) is measured over a fiscal period, we want total assets (the denominator) to reflect that same time period, so we use the average total assets over that time period.
- This is the standard approach in ratio analysis:
  - Whenever we divide a number in the income statement by a number in the balance sheet, we use an average balance sheet number in the denominator so that both the numerator and denominator are aligned in time.

Illustration 7–29

Return on Assets for Disney and Netflix

($ in millions)	Net Income	÷	Average Total Assets	=	Return on Assets
Disney	$11,584	÷	($98,598 + $193,984)/2	=	7.9%
Netflix	$ 1,867	÷	($25,974 + $33,976)/2	=	6.2%

Disney is more profitable.

Illustration 7–30

Components of Return on Assets

$$\textbf{Return on assets} = \textbf{Profit margin} \times \textbf{Asset turnover}$$

$$\frac{\text{Net income}}{\text{Average total assets}} = \frac{\text{Net income}}{\text{Net sales}} \times \frac{\text{Net sales}}{\text{Average total assets}}$$

- **Profit margin**: indicates the earnings per dollar of sales
- **Asset turnover**: measures the sales per dollar of assets invested

Illustration 7–31

Profit Margin for Disney and Netflix

($ in millions)	Net Income	÷	Net Sales	=	Profit Margin
Disney	$11,584	÷	$69,570	=	16.7%
Netflix	$ 1,867	÷	$20,156	=	9.3%

Disney's profit margin is higher than Netflix's.

Illustration 7–32

Asset Turnover for Disney and Netflix

($ in millions)	**Net Sales**	÷	**Average Total Assets**	=	**Asset Turnover**
Disney	$69,570	÷	($98,598 + $193,984)/2	=	0.48 times
Netflix	$20,156	÷	($33,163 + $36,347)/2	=	0.67 times

Netflix's asset turnover is higher than Disney's.

Key Point

- Return on assets indicates the amount of net income generated for each dollar invested in assets.
- Return on assets can be separated to examine two important business strategies:
  - Profit margin
  - Asset turnover

Concept Check 7–8

Papa's Pizza has the following items for the past year: Net sales are $24,128, net income is $2,223, total assets at the beginning of year are $14,898, and total assets at the end of year are $15,465. What is the profit margin?

a. 9.2%

b. 61.7%

c. 14.6%

d. 14.9%

The profit margin is computed by taking net income and dividing by net sales. Net income of $2,223 divided by net sales of $24,128 results in a profit margin of 9.2%.

APPENDIX

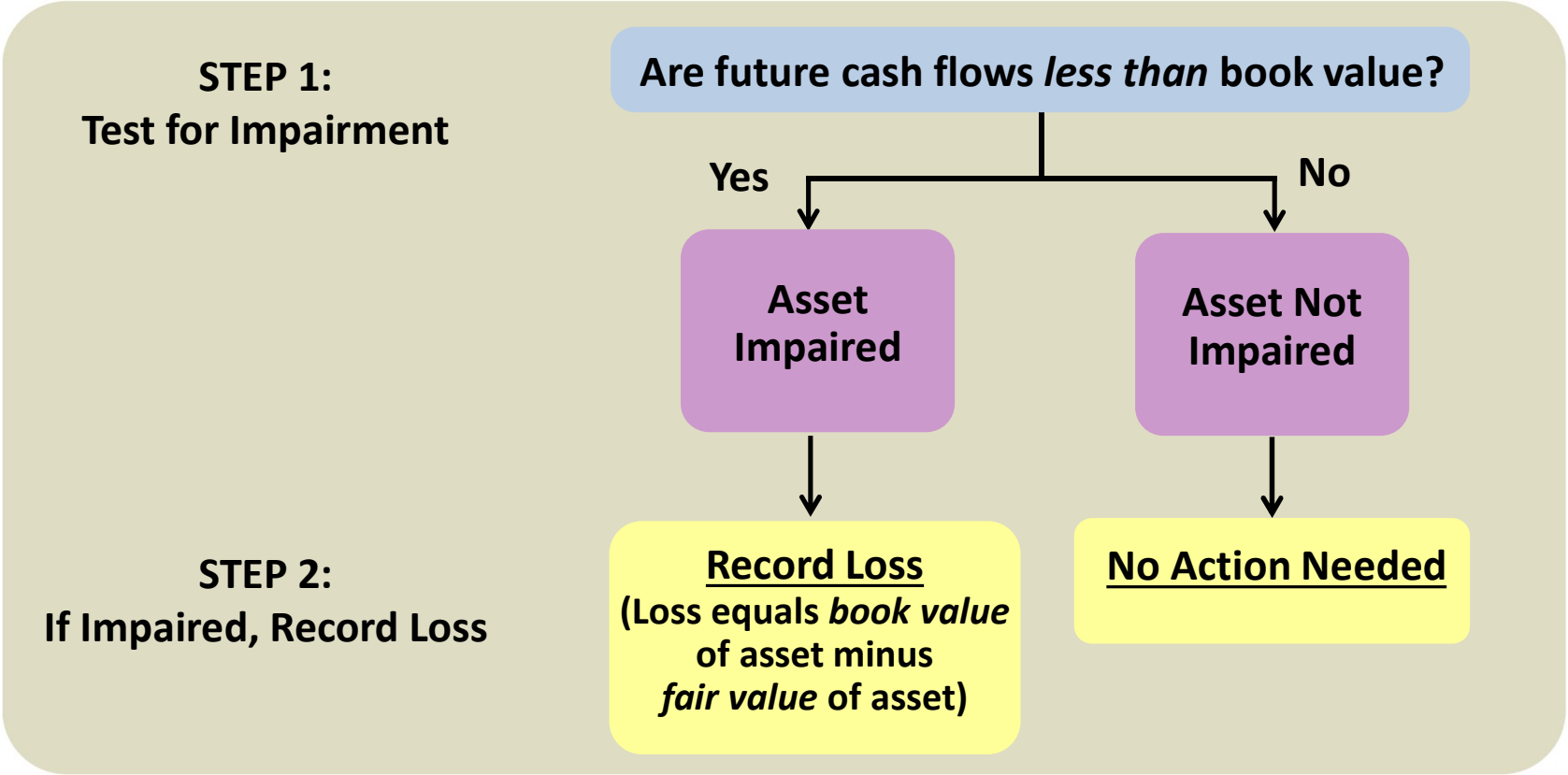
IMPAIRMENT OF LONG-TERM ASSETS

Learning Objective 8

LO7–8 Identify impairment situations and describe the two-step impairment process.

Illustration 7–33
Two-Step Impairment Process

Impairment occurs when the expected future cash flows (expected future benefits) generated for a long-term asset fall below its book value.



Asset Impairment

Little King's trademark has a book value of $50,000, estimated future cash flows of $20,000, and an estimated fair value of $12,000.

1. Test for Impairment

Yes. Estimated future cash flows ($20,000) are less than book value ($50,000)

2. If Impaired, Record the Loss

Loss = book value ($50,000) – fair value ($12,000) = **$38,000**

December 31	Debit	Credit
Loss.....	**38,000**	
Trademarks.....		**38,000**
(Record impairment of trademark) ($50,000 book value less $12,000 fair value)		

Concept Check 7–9

An impairment loss is recorded when:

a. Fair value exceeds book value

b. Estimated future cash flows exceed fair value

c. Estimated future cash flows exceed book value

d. Book value exceeds estimated future cash flows

Record an impairment loss *only* when book value exceeds estimated future cash flows.

Common Mistake

- Some students forget step 1 when considering impairment.
- Record an impairment loss only when book value exceeds *both* future cash flows and fair value.

Key Point

- Impairment is a two-step process:
  - Step 1: Test for impairment: A long-term asset with a finite life is impaired if future cash flows are less than book value.
  - Step 2: If impaired, record impairment loss:
    - The impairment loss is the amount by which book value exceeds fair value.

End of Chapter 7