CHAPTER REVIEW

Classifying Inventory

1. (S.O. 1) **Merchandise inventory** has two common characteristics: (a) it is owned by the company and (b) it is in a form ready for sale in the ordinary course of business.

2. A manufacturer's inventory is usually classified into three categories:
   a. **Finished goods** that are completed and ready for sale.
   b. **Work in process** that is in various stages of production but not yet completed.
   c. **Raw materials** that are on hand waiting to be used in production.

Determination of Inventory Quantities

3. The determination of inventory quantities involves (a) taking a physical inventory of goods on hand and (b) determining the ownership of goods.

4. Taking a physical inventory involves counting, weighing or measuring each kind of inventory on hand. Internal control procedures should be followed in taking the inventory in order to minimize errors.

5. For goods in transit, **legal title** is determined by the terms of sale. When the terms are:
   a. **FOB (free on board) shipping point,** ownership of the goods passes to the buyer when the public carrier accepts the goods from the seller.
   b. **FOB destination,** legal title to the goods remains with the seller until the goods reach the buyer.

6. Under a consignment arrangement, the holder of the goods (called the consignee) does not own the goods. Ownership remains with the shipper of the goods (consignor) until the goods are actually sold to a customer. Consigned goods should be included in the consignor's inventory—not the consignee's inventory.

Inventory Costing

7. (S.O. 2) After a company has determined the quantity of units of inventory, it applies unit costs to the quantities to determine the total cost of the inventory and the cost of goods sold.

Specific Identification

8. The **specific identification method** identifies the particular units sold so that the cost of the specific unit sold is charged to the cost of goods sold. This method is possible when a company sells a limited variety of high unit-cost items that can be clearly identified from the time of purchase through the time of sale.

9. The allocation of inventoriable costs may be made under any of the following assumptions as to the **flow of costs** (a) first-in, first-out (FIFO), (b) last-in, first-out (LIFO), or (c) average cost.

FIFO

10. The **FIFO method** assumes that the costs of the earliest goods purchased are the first to be sold.
    a. This method often parallels the actual physical flow of the merchandise.
    b. Under this method, the ending inventory is based on the latest units purchased.

LIFO

11. The **LIFO method** assumes that the costs of the latest units purchased are the first to be sold.
    a. This method seldom coincides with the actual physical flow of inventory.
    b. Under this method, all goods purchased during the period are assumed to be available for the first sale, regardless of the date of purchase.
    c. The ending inventory is found by taking the unit cost of the oldest goods and working forward until all units of inventory are costed.

Average Cost

12. The **average cost method** assumes that the goods available for sale are similar in nature.
    a. Under this method, the cost of goods available for sale is allocated on the basis of **weighted average unit** cost.
    b. The formula for determining the weighted average unit cost is: Cost of goods available for sale divided by total units available for sale.

Financial Statement Effects

13. (S.O. 3) In periods of rising prices, FIFO produces a higher net income, LIFO the lowest, and average cost falls in the middle. The reverse is true when prices are falling.

14. Companies adopt different inventory costing methods because of:
    a. Balance sheet effects: the inventory costs are closer to current costs under FIFO than under LIFO.
    b. Income statement effects: in addition to the effects on net income in (13) above, LIFO enables the company to avoid reporting paper or phantom profit as economic gain.
    c. Tax effects: in a period of inflation LIFO results in the lowest income taxes.

Lower of Cost or Market

15. (S.O. 4) When the value of inventory is lower than its cost, the inventory is written down to its market value. This is known as the **lower of cost or market (LCM) method.**

16. Market is measured by the **current replacement cost** of the goods, not selling price.

Effects of Inventory Errors

17. (S.O. 5) The effects of **inventory errors** on the current year's income statement are:

Inventory Error	Cost of Goods Sold	Net Income
Beginning inventory understated	Understated	Overstated
Beginning inventory overstated	Overstated	Understated
Ending inventory understated	Overstated	Understated
Ending inventory overstated	Understated	Overstated

18. The effects of ending inventory errors on the balance sheet are:

Ending Inventory	Assets	Liabilities	Stockholders' Equity
Overstated	Overstated	No effect	Overstated
Understated	Understated	No effect	Understated

19. In the financial statements:
    a. Inventory is usually classified as a current asset after receivables in the balance sheet, and cost of goods sold is subtracted from sales in the income statement.
    b. There should be disclosure of (1) the major inventory classifications, (2) the basis of accounting, and (3) the costing method.

Inventory Turnover Ratio

20. (S.O. 6) The **inventory turnover ratio** measures the number of times on average the inventory is sold during the period.

Cost of Goods Sold ÷ Average Inventory = Inventory Turnover

***Applying Perpetual Inventory**

*21. (S.O. 7) Each of the inventory cost flow methods may be used in a perpetual inventory system.
    a. Under FIFO, the cost of the earliest goods on hand prior to each sale is charged to cost of goods sold.
    b. Under the LIFO method, the most recent purchase prior to sale is allocated to the units sold.
    c. When the **moving average method** is used, a new average is computed after each purchase by dividing the cost of goods available for sale by the units on hand.

Estimating Inventories

*22. (S.O. 8) Inventories may have to be estimated when (a) management wants monthly or quarterly financial statements or (b) a fire or other type of casualty makes it impossible to take a physical inventory.

Gross Profit Method

*23. The **gross profit method** is widely used to estimate the ending inventory. Two steps are involved in using this method.
    a. The estimated cost of goods sold is determined by subtracting the estimated gross profit from net sales.
    b. The estimated cost of goods sold is subtracted from cost of goods available for sale to determine the estimated cost of the ending inventory.

Retail Inventory Method

*24. The **retail inventory method** is used by retail companies to estimate the cost of the inventory. The steps in using this method are:

    a.

	Goods Available for Sale at Retail	–	Net Sale	=	Ending Inventory at Retail

b.

Goods Available for Sale at Cost	÷	Goods Available for Sale at Retail	=	Cost-to-Retail Ratio

c.

Ending Inventory at Retail	X	Cost-to-Retail Ratio	=	Estimated Cost of Ending Inventory

ILLUSTRATION 6-1
COSTING ENDING INVENTORY UNDER FIFO, LIFO, AND AVERAGE-COST METHODS—PERIODIC SYSTEM

Your company provided the following data for the year:

	Units	Unit Cost	Total Cost
January 1.	80	$15.00	$1,200
March 15 purchase.	60	16.00	960
June 20 purchase.	100	17.50	1,750
October 25 purchase.	90	18.00	1,620
Units and goods available.	330		$5,530

Ending inventory (December 31) consists of 110 units.

Complete the costing of ending inventory under FIFO, LIFO, and average-cost.

	FIFO	LIFO	AVERAGE
Cost of goods available for sale.	$5,530	$5,530	$5,530
LESS: Ending Inventory (FIFO)			
Dates: Units × Cost			
October 25 (90 × $18.00) = $1,620			
June 20 (20 × $17.50) = 350	1,970		
LESS: Ending Inventory (LIFO)			
Dates: Units × Cost			
Jan 1 (80 × $15.00) = $1,200			
Mar 15 (30 × $16.00) = 480		1,680	
LESS: Ending Inventory (Average-cost)			
Total cost ÷ Units = Unit Cost			
$5,530 ÷ 330 = $16.76 (r)			
$16.76/unit × 110 units			1,844 (r)
Cost of Goods Sold.	$3,560	$3,850	$3,686

(r) rounded

Balance Sheet Effects

Income Statement Effects

ILLUSTRATION 6-2
EFFECTS OF INVENTORY ERRORS

Inventory Error	Cost of Goods Sold	Net Income
Beginning inventory understated	Understated	Overstated
Beginning inventory overstated	Overstated	Understated
Ending inventory understated	Overstated	Understated
Ending inventory overstated	Understated	Overstated

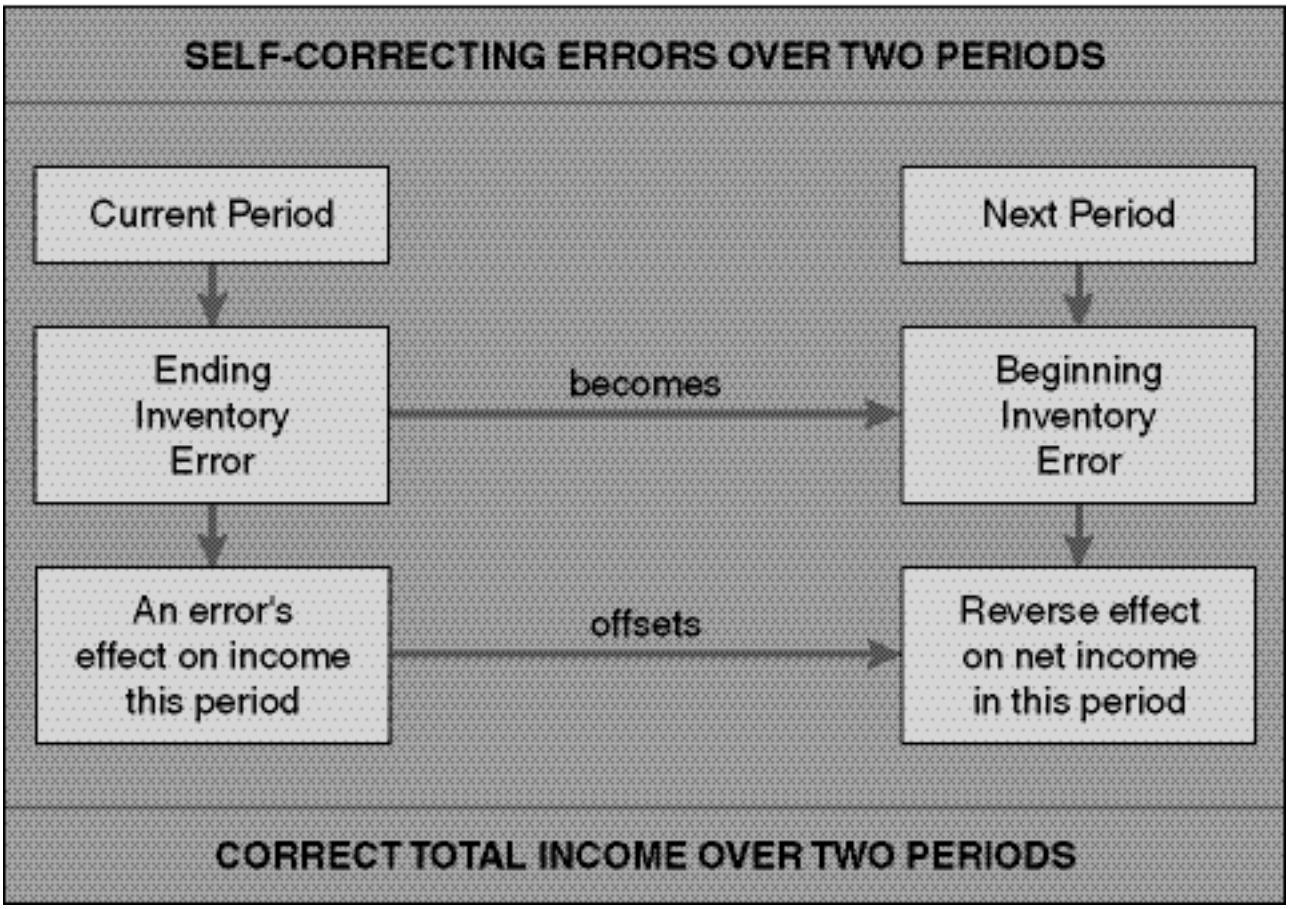

ILLUSTRATION 6-3
COSTING ENDING INVENTORY UNDER FIFO, LIFO, AND AVERAGE-COST METHODS—PERPETUAL SYSTEM

Your company provided the following data for the year:

	Units	Unit Cost	Total Cost
January 1	90	$15.00	$1,350
March 15 purchase	60	16.00	960
June 20 purchase	100	17.50	1,750
Units and goods available	250		$4,060

110 units were sold on May 25 and another 90 units were sold on August 11.

Compute the cost of the ending inventory under FIFO, LIFO, and average-cost under a perpetual inventory system.

FIFO

Date	Purchases	Sales		Balance	
Jan. 1				(90 @ $15)	$1,350
Mar. 15	(60 @ $16)			(90 @ $15) (60 @ $16)	$2,310
May 25		(90 @ $15) (20 @ $16)	$1,670	(40 @ $16)	$ 640
June 20	(100 @ $17.50)			(40 @ $16) (100 @ $17.50)	$2,390
Aug. 11		(40 @ $16) (50 @ $17.50)	$1,515	(50 @ $17.50)	$ 875

LIFO

Date	Purchases	Sales		Balance	
Jan. 1				(90 @ $15)	$1,350
Mar. 15	(60 @ $16)			(90 @ $15) (60 @ $16)	$2,310
May 25		(60 @ $16) (50 @ $15)	$1,710	(40 @ $15)	$ 600
June 20	(100 @ $17.50)			(40 @ $15) (100 @ $17.50)	$2,350
Aug. 11		(90 @ $17.50)	$1,575	(40 @ $15) (10 @ $17.50)	$ 775

AVERAGE

Date	Purchases	Sales		Balance	
Jan. 1				(90 @ $15)	$1,350
Mar. 15	(60 @ $16)			(150 @ $15.40*)	$2,310
May 25		(110 @ $15.40)	$1,694	(40 @ $15.40)	$ 616
June 20	(100 @ $17.50)			(140 @ $16.90**)	$2,366
Aug. 11		(90 @ $16.90)	$1,521	(50 @ $16.90)	$ 845

*$2,310 ÷ 150

**$2,366 ÷ 140

ILLUSTRATION 6-4
THE GROSS PROFIT METHOD

Step 1

Net Sales	–	Estimated Gross Profit	=	Estimated Cost of Goods Sold

Step 2

Cost of Goods Available for Sale	–	Estimated Cost of Goods Sold	=	Estimated Cost of Ending Inventory

Gross Profit Method

a. Estimated Gross Profit Rate	40%
b. Net Sales	$400,000
c. Beginning Inventory	$50,000
d. Goods Purchased	$200,000

Estimate ending inventory cost using the Gross Profit method.

Step 1:	
Net sales	$400,000 (G)
Less: Estimated gross profit ($400,000 × 40% (G))	160,000
Estimated cost of goods sold	$240,000
Step 2:	
Beginning inventory	$ 50,000 (G)
Cost of goods purchased	200,000 (G)
Cost of goods available for sale	$250,000
Less: Estimated cost of goods sold	240,000
Estimated cost of ending inventory	$ 10,000

G—Given

ILLUSTRATION 6-5
THE RETAIL INVENTORY METHOD

Step 1

Goods Available for Sale at Retail	–	Net Sales	=	Ending Inventory at Retail

Step 2

Goods Available for Sale at Cost	÷	Goods Available for Sale at Retail	=	Cost-to-Retail Ratio

Step 3

Ending Inventory at Retail	×	Cost-to-Retail Ratio	=	Estimated Cost of Ending Inventory

Retail Inventory Method

a. Beginning inventory and purchases at cost and retail

	Cost	Retail
Beg. inv.	$15,000	$25,000
Purchases	45,000	75,000

b. Sales at retail.....$80,000

Estimate ending inventory cost using the Retail Inventory method.

	Cost	Retail
Beg. inv.	$15,000(G)	$25,000(G)
Purchases	45,000(G)	75,000(G)
Goods Available	$60,000	100,000
Net sales		80,000(G)
(1) Estimated inventory at retail		$20,000
(2) Cost-to-retail ratio $60,000 ÷ $100,000		60%
(3) Estimated inventory at cost $20,000 × 60%		$12,000

G—Given