

# Financial Accounting

Prepared by Dr. Sara Ahmed

MGM 611

## Lecture 5





مجموعة جامعة  
الجميع الذكية  
للتعليم القابضة

MIDOCEAN  
UNIVERSITY  
BY EVERYONE'S SMART UNIVERSITY

# Inventories and Cost of Sales

## Lecture 5

MGM 611

Prepared by  
**Dr. Sara Ahmed**

[www.midocean.ae](http://www.midocean.ae)



TOPIC  
**05**

## LEARNING OBJECTIVES

- Identify the items making up merchandise inventory.
- Identify the costs of merchandise inventory.
- Analyze the effects of inventory methods for both financial and tax reporting.
- Analyze the effects of inventory errors on current and future financial statements.
- Assess inventory management using both inventory turnover and days' sales in inventory.
- Compute inventory in a perpetual system using the methods of specific identification, FIFO, LIFO, and weighted average.
- Compute the lower of cost or market amount of inventory.

# Learning Objective

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Identify the items making  
up merchandise  
inventory.

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# Determining Inventory Items

Merchandise inventory includes all goods that a company owns and holds for sale, regardless of where the goods are located when inventory is counted.

Items requiring special attention include:

Goods in  
Transit

Goods on  
Consignment

Goods  
Damaged or  
Obsolete

# Goods in Transit



# Goods on Consignment

- Merchandise is included in the inventory of the consignor, the owner of the inventory.
- Consignee sells goods for the owner, consignor.
- Consignee never reports consigned goods in inventory.

# Goods Damaged or Obsolete

Damaged or obsolete goods are not reported in inventory if they cannot be sold.

Cost should be reduced to net realizable value if they can be sold.

# Learning Objective

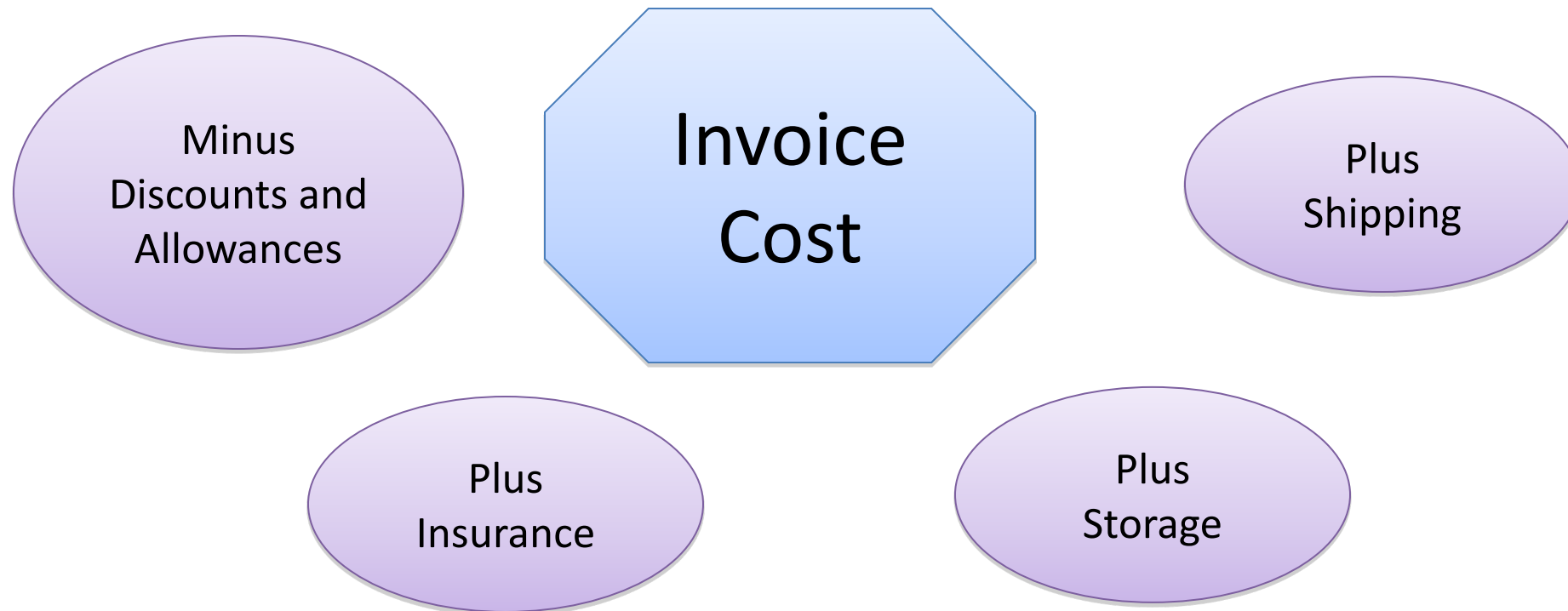
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Identify the costs of  
merchandise inventory.

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# Determining Inventory Costs

Include all expenditures necessary to bring an item to a salable condition and location.



# Internal Controls and Taking a Physical Count

➤ Most companies take a physical count of inventory at least once each year.

➤ When the physical count does not match the Merchandise Inventory account, an adjustment must be made.

## **Good internal controls over count include:**

1. Pre-numbered inventory tickets.
2. Counters have no inventory responsibility.
3. Counters confirm existence, amount, and quality of inventory item.
4. Second count is taken.
5. Manager confirms all items counted.

A master carver of wooden birds operates her business out of a garage. At the end of the current period, the carver has 17 units (carvings) in her garage, three of which were damaged by water and cannot be sold. The distributor also has another five units in her truck, ready to deliver per a customer order, terms FOB destination, and another 11 units out on consignment at several small retail stores. How many units does the carver include in the business's period-end inventory?

**Units in ending inventory    Key point – How many units does she own at year-end?**

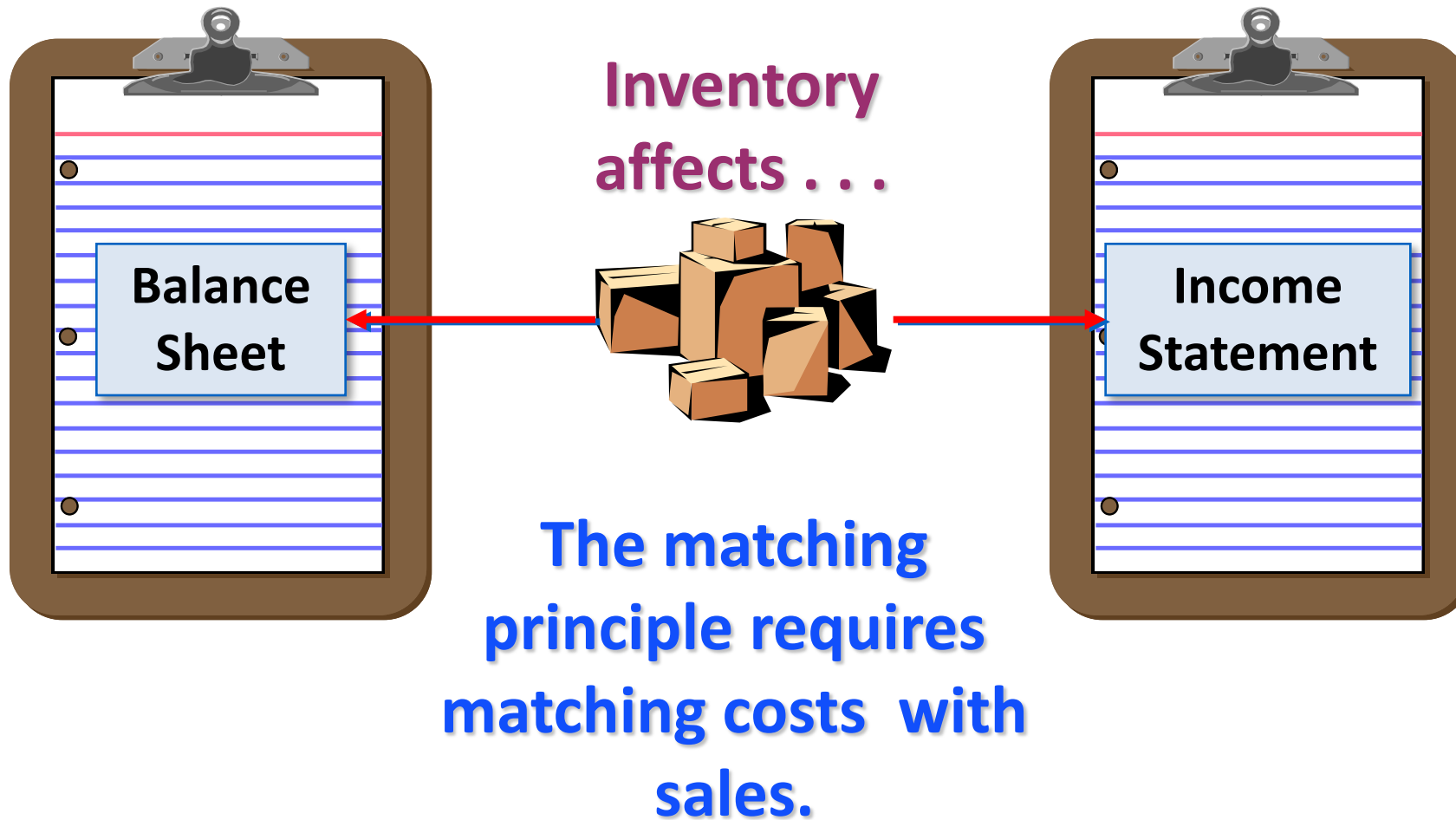
|                                         |           |
|-----------------------------------------|-----------|
| Units in storage                        | 17        |
| Less damaged (unsalable) units          | (3)       |
| Plus units in transit (FOB Destination) | 5         |
| Plus units on consignment               | 11        |
| Total units in ending inventory         | <u>30</u> |

A distributor of artistic iron-based fixtures acquires a piece for \$1,000, terms FOB shipping point. Additional costs in obtaining it and offering it for sale include \$150 for transportation-in, \$300 for import duties, \$100 for insurance during shipment, \$200 for advertising, a \$50 voluntary gratuity to the delivery person, \$75 for enhanced store lighting, and \$250 for sales staff salaries. For computing inventory, what cost is assigned to this artistic piece?

**Cost of inventory    Key point – What are the necessary costs to get the asset ready for its intended purpose?**

|                                        |                |
|----------------------------------------|----------------|
| Cost                                   | \$1,000        |
| Transportation-in (FOB shipping point) | 150            |
| Import duties                          | 300            |
| Insurance cost                         | 100            |
| Inventory cost                         | <u>\$1,550</u> |

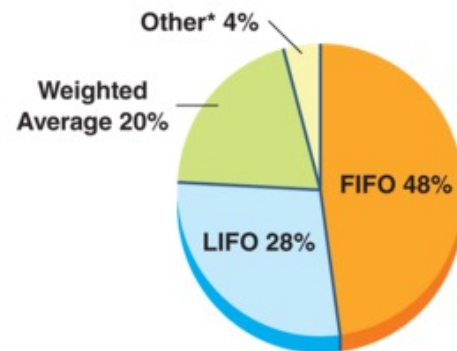
# Inventory Costing under a Perpetual System



# Inventory Costing Management Decisions

Management decisions in accounting for inventory involve the following:

1. Items included in inventory and their costs.
2. Costing method (specific identification, FIFO, LIFO, or weighted average).
3. Inventory system (perpetual or periodic).
4. Use of market values or other estimates.

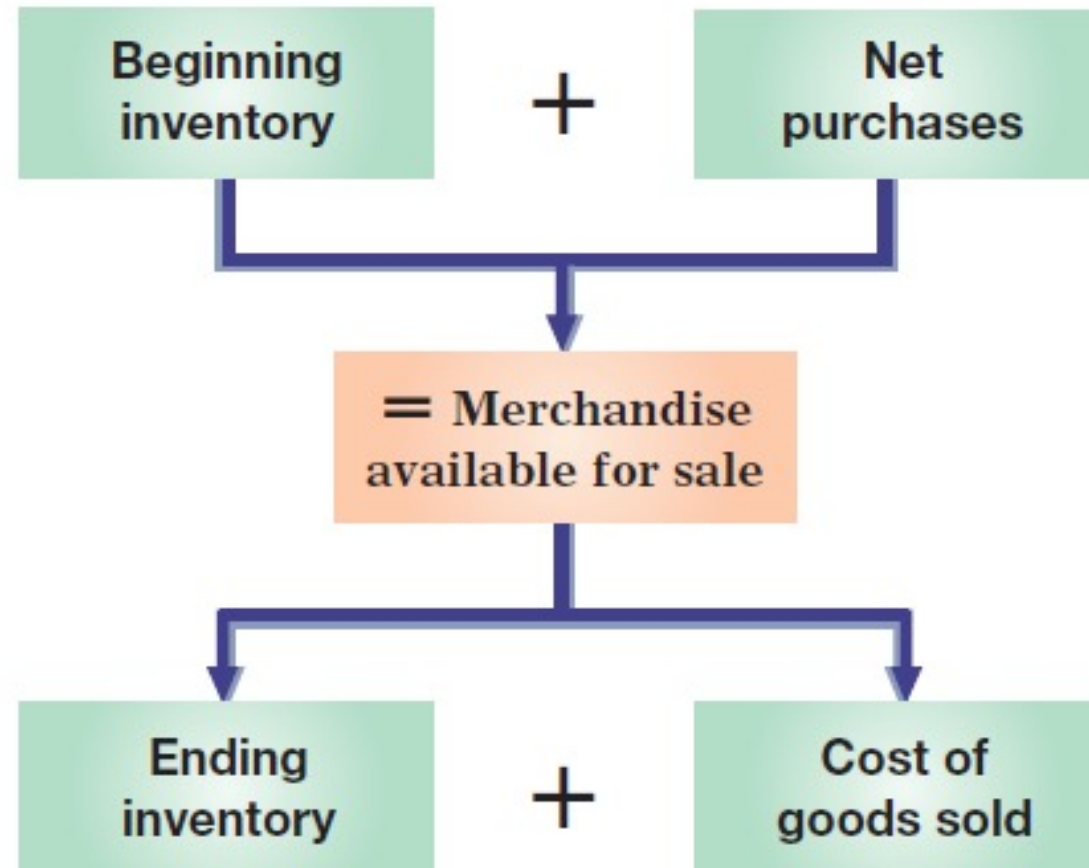


\*Includes specific identification.

# Inventory Cost Flow Assumptions



# Inventory Cost Flow Assumptions



## Learning Objective

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Compute inventory in a perpetual system using the methods of specific identification, FIFO, LIFO and Weighted Average.

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# Inventory Costing Illustration

Here is information about the mountain bike inventory of Trekking for the month of August.

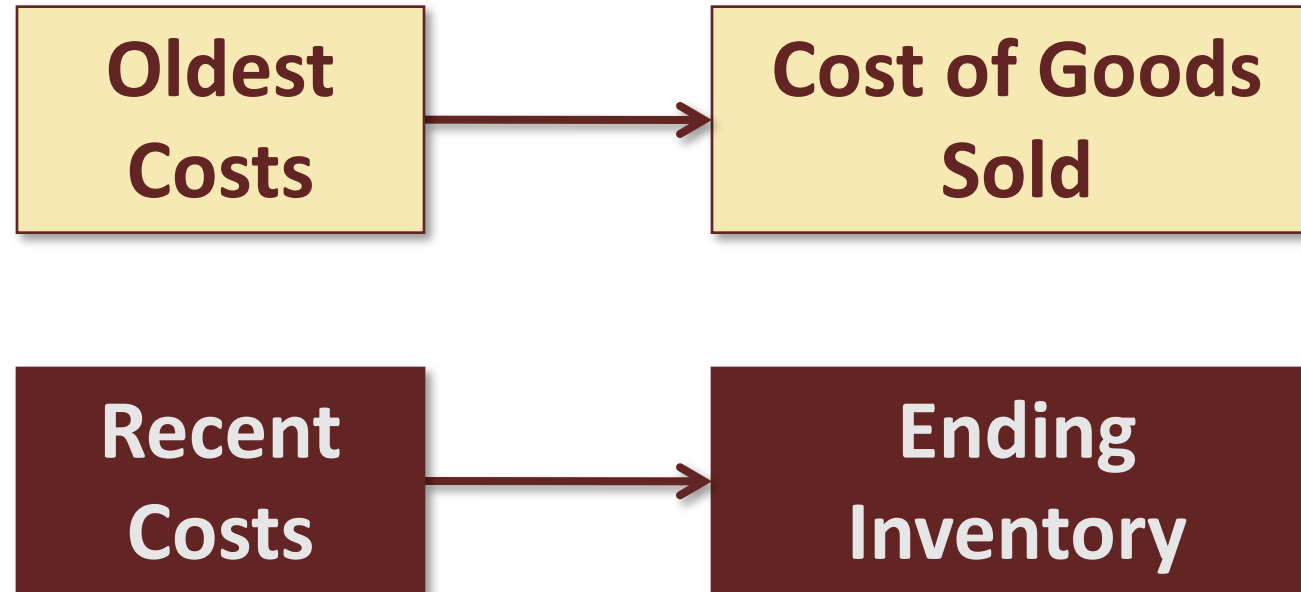
| Date    | Activity                 | Units Acquired at Cost         | Units Sold at Retail     | Unit Inventory             |
|---------|--------------------------|--------------------------------|--------------------------|----------------------------|
| Aug. 1  | Beginning inventory..... | 10 units @ \$ 91 = \$ 910      |                          | 10 units                   |
| Aug. 3  | Purchases.....           | 15 units @ \$106 = \$ 1,590    |                          | 25 units                   |
| Aug. 14 | Sales.....               |                                | 20 units @ \$130         | 5 units                    |
| Aug. 17 | Purchases.....           | 20 units @ \$115 = \$ 2,300    |                          | 25 units                   |
| Aug. 28 | Purchases.....           | 10 units @ \$119 = \$ 1,190    |                          | 35 units                   |
| Aug. 30 | Sales.....               |                                | 23 units @ \$150         | <u>12 units</u>            |
|         | Totals .....             | <u>55 units</u> <u>\$5,990</u> | <u>43 units</u>          |                            |
|         |                          | Units available for sale       | Goods available for sale | Units sold      Units left |

# Specific Identification

|                                                                     |              |                              |
|---------------------------------------------------------------------|--------------|------------------------------|
| Total cost of 55 units available for sale (from Exhibit 6.3) .....  |              | \$ 5,990                     |
| <b>Cost of goods sold*</b>                                          |              |                              |
| Aug. 14 (8 @ \$91) + (12 @ \$106).....                              | \$2,000      |                              |
| Aug. 30 (2 @ \$91) + (3 @ \$106) + (15 @ \$115) + (3 @ \$119) ..... | <u>2,582</u> | <u><b>4,582</b></u>          |
| <b>Ending Inventory</b> .....                                       |              | <u><u><b>\$1,408</b></u></u> |

\* Identification of items sold (and their costs) is from internal documents that track each unit from its purchase to its sale.

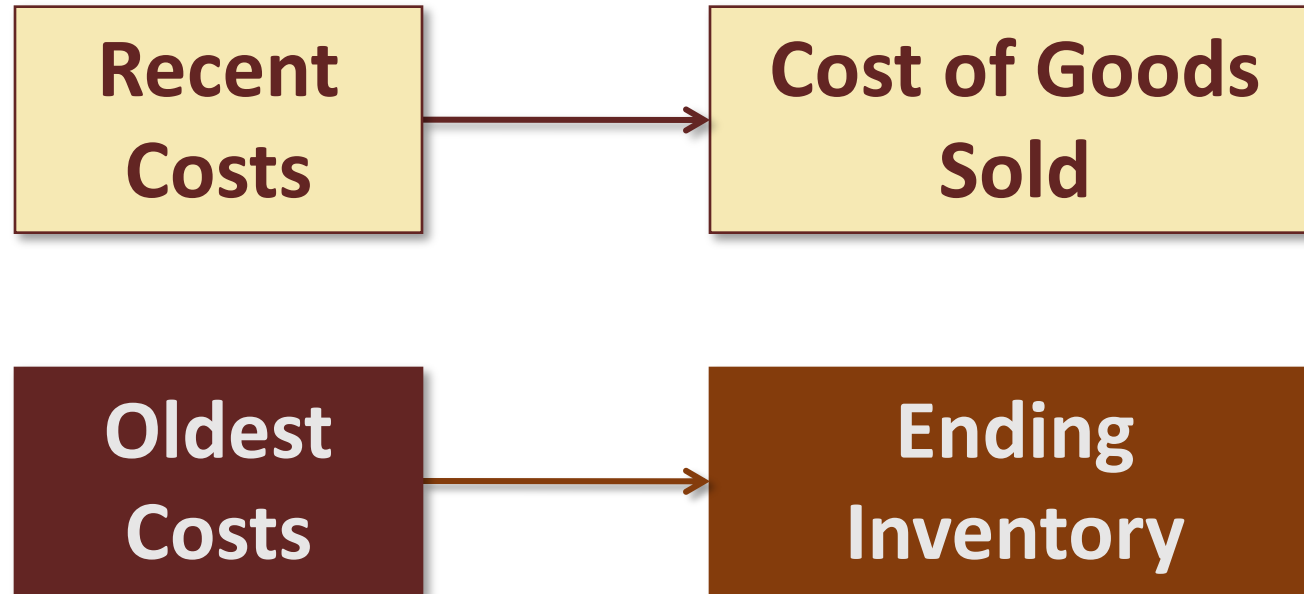
# First-In, First-Out (FIFO)



# First-In, First-Out (FIFO)

|                                                                                                                                                                                                                     | Date    | Goods Purchased      | Cost of Goods Sold                                                                       | Inventory Balance                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------|
|                                                                                                                                                                                                                     | Aug. 1  | Beginning balance    |                                                                                          | 10 @ \$ 91 = \$ 910                                    |
|                                                                                                                                                                                                                     | Aug. 3  | 15 @ \$106 = \$1,590 |                                                                                          | 10 @ \$ 91 }<br>15 @ \$106 } = \$ 2,500                |
| For the 20 units sold on Aug. 14, the first 10 sold are assigned the earliest cost of \$91 (from beg. bal.). The next 10 sold are assigned the next earliest cost of \$106.                                         | Aug. 14 |                      | 10 @ \$ 91 = \$ 910 }<br>10 @ \$106 = \$1,060 } = <b>\$1,970</b>                         | 5 @ \$106 = \$ 530                                     |
|                                                                                                                                                                                                                     | Aug. 17 | 20 @ \$115 = \$2,300 |                                                                                          | 5 @ \$106 }<br>20 @ \$115 } = \$ 2,830                 |
|                                                                                                                                                                                                                     | Aug. 28 | 10 @ \$119 = \$1,190 |                                                                                          | 5 @ \$106 }<br>20 @ \$115 }<br>10 @ \$119 } = \$ 4,020 |
| For the 23 units sold on Aug. 30, the first 5 sold are assigned the earliest available cost of \$106 (from Aug. 3 purchase). The next 18 sold are assigned the next earliest cost of \$115 (from Aug. 17 purchase). | Aug. 30 |                      | 5 @ \$106 = \$ 530 }<br>18 @ \$115 = \$2,070 } = <b>\$2,600</b><br><b><u>\$4,570</u></b> | 2 @ \$115 }<br>10 @ \$119 } = <b><u>\$1,420</u></b>    |

# Last-In, First-Out (LIFO)



# Last-In, First-Out (LIFO)

| Date    | Goods Purchased      | Cost of Goods Sold                                                                         | Inventory Balance                                      |
|---------|----------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Aug. 1  | Beginning balance    |                                                                                            | 10 @ \$ 91 = \$ 910                                    |
| Aug. 3  | 15 @ \$106 = \$1,590 |                                                                                            | 10 @ \$ 91 }<br>15 @ \$106 } = \$ 2,500                |
| Aug. 14 |                      | 15 @ \$106 = \$1,590 }<br>5 @ \$ 91 = \$ 455 } = <b>\$2,045</b>                            | 5 @ \$ 91 = \$ 455                                     |
| Aug. 17 | 20 @ \$115 = \$2,300 |                                                                                            | 5 @ \$ 91 }<br>20 @ \$115 } = \$ 2,755                 |
| Aug. 28 | 10 @ \$119 = \$1,190 |                                                                                            | 5 @ \$ 91 }<br>20 @ \$115 }<br>10 @ \$119 } = \$ 3,945 |
| Aug. 30 |                      | 10 @ \$119 = \$1,190 }<br>13 @ \$115 = \$1,495 } = <b>\$2,685</b><br><b><u>\$4,730</u></b> | 5 @ \$ 91 }<br>7 @ \$115 } = <b><u>\$1,260</u></b>     |

For the 20 units sold on Aug. 14, the first 15 sold are assigned the most recent cost of \$106. The next 5 sold are assigned the next most recent cost of \$91.

For the 23 units sold on Aug. 30, the first 10 sold are assigned the most recent cost of \$119. The next 13 sold are assigned the next most recent cost of \$115.

# Weighted Average

When a unit is sold, the **average cost** of each unit in inventory is assigned to cost of goods sold.

$$\frac{\text{Cost of Goods Available for Sale}}{\text{Units on hand on the date of sale}}$$

# Weighted Average

| Date    | Goods Purchased      | Cost of Goods Sold          | Inventory Balance                                                                                     |
|---------|----------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Aug. 1  | Beginning balance    |                             | 10 @ \$ 91 = \$ 910                                                                                   |
| Aug. 3  | 15 @ \$106 = \$1,590 |                             | <div> <div>10 @ \$ 91</div> <div>15 @ \$106</div> </div> } = \$2,500 (or \$100 per unit) <sup>a</sup> |
| Aug. 14 |                      | 20 @ \$100 = <b>\$2,000</b> | 5 @ \$100 = \$ 500 (or \$100 per unit) <sup>b</sup>                                                   |

On August 14, 20 bikes are sold. To determine the cost of the units sold, we first, need to compute the weighted average cost per unit of items in inventory.

|                                  |               |
|----------------------------------|---------------|
| Cost of goods available for sale | \$ 2,500      |
| Units available at time of sale  | ÷ 25          |
| Weighted average cost per unit   | <u>\$ 100</u> |

The cost of goods sold for the August 14 sale is **\$2,000**. After this sale, there are five \$100 units in inventory totaling \$500.

# Weighted Average

| Date    | Goods Purchased      | Cost of Goods Sold          | Inventory Balance                                                                                     |
|---------|----------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
| Aug. 1  | Beginning balance    |                             | 10 @ \$ 91 = \$ 910                                                                                   |
| Aug. 3  | 15 @ \$106 = \$1,590 |                             | <div> <div>10 @ \$ 91</div> <div>15 @ \$106</div> </div> } = \$2,500 (or \$100 per unit) <sup>a</sup> |
| Aug. 14 |                      | 20 @ \$100 = <b>\$2,000</b> | 5 @ \$100 = \$ 500 (or \$100 per unit) <sup>b</sup>                                                   |
| Aug. 17 | 20 @ \$115 = \$2,300 |                             | <div> <div>5 @ \$100</div> <div>20 @ \$115</div> </div> } = \$2,800 (or \$112 per unit) <sup>c</sup>  |

## August 17:

|                                               |                      |
|-----------------------------------------------|----------------------|
| <b>Cost of goods available for sale</b>       | <b>\$ 2,800</b>      |
| <b>Units available at time of sale 5 + 20</b> | <b>÷ 25</b>          |
| <b>Weighted average cost per unit</b>         | <b><u>\$ 112</u></b> |

After the August 14 sale, there are 5 units in inventory totaling \$500. On August 17, 20 units are purchased for \$2,300.  $\$2,300 + \$500 = \$2,800 / 25 = \$112$  per unit.

# Weighted Average

| Date    | Goods Purchased      | Cost of Goods Sold          | Inventory Balance                                                         |
|---------|----------------------|-----------------------------|---------------------------------------------------------------------------|
| Aug. 1  | Beginning balance    |                             | 10 @ \$ 91 = \$ 910 (10 @ \$ 91 per unit)                                 |
| Aug. 3  | 15 @ \$106 = \$1,590 |                             | 10 @ \$ 91 }<br>15 @ \$106 } = \$2,500 (25 @ \$100 per unit) <sup>a</sup> |
| Aug. 14 |                      | 20 @ \$100 = <b>\$2,000</b> | 5 @ \$100 = \$ 500 ( 5 @ \$100 per unit) <sup>b</sup>                     |
| Aug. 17 | 20 @ \$115 = \$2,300 |                             | 5 @ \$100 }<br>20 @ \$115 } = \$2,800 (25 @ \$112 per unit) <sup>c</sup>  |
| Aug. 28 | 10 @ \$119 = \$1,190 |                             | 25 @ \$112 }<br>10 @ \$119 } = \$3,990 (35 @ \$114 per unit) <sup>d</sup> |

For the 20 units sold on Aug. 14, the cost assigned is the \$100 average cost per unit from the Inventory Balance column at the time of sale.

## August 28:

|                                                |                 |
|------------------------------------------------|-----------------|
| <b>Cost of goods available for sale</b>        | <b>\$ 3,990</b> |
| <b>Units available at time of sale 5+20+10</b> | <b>35</b>       |
| <b>Weighted average cost per unit</b>          | <b>\$ 114</b>   |

After the August 28 purchase, there are 35 (5+20+10) units in inventory totaling (\$2,800+\$1,190) \$3,990.  $\$3,990 / 35 = \$114$  per unit.

# Weighted Average

| Date    | Goods Purchased      | Cost of Goods Sold          | Inventory Balance                                                                                                 |
|---------|----------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------|
| Aug. 1  | Beginning balance    |                             | 10 @ \$ 91 = \$ 910 (10 @ \$ 91 per unit)                                                                         |
| Aug. 3  | 15 @ \$106 = \$1,590 |                             | $\left. \begin{array}{l} 10 @ \$ 91 \\ 15 @ \$106 \end{array} \right\} = \$2,500 \text{ (25 @ \$100 per unit)}^a$ |
| Aug. 14 |                      | 20 @ \$100 = <b>\$2,000</b> | 5 @ \$100 = \$ 500 ( 5 @ \$100 per unit) <sup>b</sup>                                                             |
| Aug. 17 | 20 @ \$115 = \$2,300 |                             | $\left. \begin{array}{l} 5 @ \$100 \\ 20 @ \$115 \end{array} \right\} = \$2,800 \text{ (25 @ \$112 per unit)}^c$  |
| Aug. 28 | 10 @ \$119 = \$1,190 |                             | $\left. \begin{array}{l} 25 @ \$112 \\ 10 @ \$119 \end{array} \right\} = \$3,990 \text{ (35 @ \$114 per unit)}^d$ |
| Aug. 30 |                      | 23 @ \$114 = <b>\$2,622</b> | 12 @ \$114 = <b><u>\$1,368</u></b> (12 @ \$114 per unit) <sup>e</sup>                                             |
|         |                      | <b><u>\$4,622</u></b>       |                                                                                                                   |

Cost of goods sold for  
August 30 sale is = **\$2,622**

Ending inventory is  
composed of 12 units @  
an average cost of \$114  
each or **\$1,368.**

# Weighted Average

| Date    | Goods Purchased      | Cost of Goods Sold          | Inventory Balance                                                                                       |
|---------|----------------------|-----------------------------|---------------------------------------------------------------------------------------------------------|
| Aug. 1  | Beginning balance    |                             | 10 @ \$ 91 = \$ 910 (10 @ \$ 91 per unit)                                                               |
| Aug. 3  | 15 @ \$106 = \$1,590 |                             | <div> <div>10 @ \$ 91</div> <div>15 @ \$106</div> </div> } = \$2,500 (25 @ \$100 per unit) <sup>a</sup> |
| Aug. 14 |                      | 20 @ \$100 = <b>\$2,000</b> | 5 @ \$100 = \$ 500 ( 5 @ \$100 per unit) <sup>b</sup>                                                   |
| Aug. 17 | 20 @ \$115 = \$2,300 |                             | <div> <div>5 @ \$100</div> <div>20 @ \$115</div> </div> } = \$2,800 (25 @ \$112 per unit) <sup>c</sup>  |
| Aug. 28 | 10 @ \$119 = \$1,190 |                             | <div> <div>25 @ \$112</div> <div>10 @ \$119</div> </div> } = \$3,990 (35 @ \$114 per unit) <sup>d</sup> |
| Aug. 30 |                      | 23 @ \$114 = <b>\$2,622</b> | 12 @ \$114 = <b><u>\$1,368</u></b> (12 @ \$114 per unit) <sup>e</sup>                                   |
|         |                      | <b><u>\$4,622</u></b>       |                                                                                                         |

For the 20 units sold on Aug. 14, the cost assigned is the **\$100 average cost** per unit from the Inventory Balance column at the time of sale.

For the 23 units sold on Aug. 30, the cost assigned is the **\$114 average cost** per unit from the Inventory Balance column at the time of sale.

<sup>a</sup> \$100 per unit = (\$2,500 inventory balance ÷ 25 units in inventory).

<sup>b</sup> \$100 per unit = (\$500 inventory balance ÷ 5 units in inventory).

<sup>c</sup> \$112 per unit = (\$2,800 inventory balance ÷ 25 units in inventory).

<sup>d</sup> \$114 per unit = (\$3,990 inventory balance ÷ 35 units in inventory).

<sup>e</sup> \$114 per unit = (\$1,368 inventory balance ÷ 12 units in inventory).

## Learning Objective

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Analyze the effects of inventory methods for both financial and tax reporting.

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# Financial Statement Effects of Inventory Costing Methods

Because prices change, inventory methods nearly always assign different cost amounts.

| TREKKING COMPANY<br>For Month Ended August 31 |                            |          |          |                     |
|-----------------------------------------------|----------------------------|----------|----------|---------------------|
|                                               | Specific<br>Identification | FIFO     | LIFO     | Weighted<br>Average |
| <b><u>Income Statement:</u></b>               |                            |          |          |                     |
| Sales                                         | \$ 6,050                   | \$ 6,050 | \$ 6,050 | \$ 6,050            |
| Cost of goods sold                            | 4,582                      | 4,570    | 4,730    | 4,622               |
| Gross profit                                  | 1,468                      | 1,480    | 1,320    | 1,428               |
| Operating expenses                            | 450                        | 450      | 450      | 450                 |
| Income before taxes                           | \$ 1,018                   | \$ 1,030 | \$ 870   | \$ 978              |
| Income tax expense (30%)                      | 305                        | 309      | 261      | 293                 |
| Net income                                    | \$ 713                     | \$ 721   | \$ 609   | \$ 685              |
| <b><u>Balance Sheet:</u></b>                  |                            |          |          |                     |
| Inventory                                     | \$ 1,408                   | \$ 1,420 | \$ 1,260 | \$ 1,368            |

# Financial Statement Effects of Costing Methods

Because prices change, inventory methods nearly always assign different cost amounts.

| TREKKING COMPANY                |                            |          |          |                     |
|---------------------------------|----------------------------|----------|----------|---------------------|
| For Month Ended August 31       |                            |          |          |                     |
|                                 | Specific<br>Identification | FIFO     | LIFO     | Weighted<br>Average |
| <b><u>Income Statement:</u></b> |                            |          |          |                     |
| Sales                           | \$ 6,050                   | \$ 6,050 | \$ 6,050 | \$ 6,050            |
| Cost of goods sold              | 4,582                      | 4,570    | 4,868    | 4,683               |
| Gross profit                    | 1,468                      | 1,480    | 1,182    | 1,367               |
| Operating expenses              | 450                        | 450      | 450      | 450                 |
| Income before taxes             | \$ 1,018                   | \$ 1,030 | \$ 732   | \$ 917              |
| Income tax expense (30%)        | 305                        | 309      | 220      | 275                 |
| Net income                      | \$ 713                     | \$ 721   | \$ 512   | \$ 642              |
| <b><u>Balance Sheet:</u></b>    |                            |          |          |                     |
| Inventory                       | \$ 1,408                   | \$ 1,420 | \$ 1,122 | \$ 1,307            |

# Financial Statement Effects of Costing Methods

## Advantages of Methods

First-In, First-Out



Ending inventory approximates current replacement cost.

Last-In, First-Out



Better matches current costs in cost of goods sold with revenues.

Weighted Average



Smooths out price changes.

# Tax Effects of Costing Methods

The Internal Revenue Service (IRS) identifies several acceptable inventory costing methods for reporting taxable income.

If LIFO is used for tax purposes, the IRS requires it be used in financial statements.

# Consistency in Using Costing Methods

The **consistency concept** requires a company to use the same accounting methods period after period so that financial statements are comparable across periods.

A company reported the following December purchases and sales data for its only product.

| Date    | Activities          | Units Acquired at Cost      | Units Sold at Retail |
|---------|---------------------|-----------------------------|----------------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00  |                      |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00 |                      |
| Dec. 09 | Sales               |                             | 8 units @ \$7.00     |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00 |                      |
| Dec. 24 | Sales               |                             | 18 units @ \$8.00    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40  |                      |
|         |                     | <u>36 units</u>             | <u>26 units</u>      |
|         |                     | <u>\$167.40</u>             |                      |

The company uses a perpetual inventory system. Determine the cost assigned to ending inventory and to cost of goods sold using (a) specific identification, (b) FIFO, (c) LIFO, and (d) weighted average. (Round per unit costs and inventory amounts to cents.) For specific identification, ending inventory consists of 10 units, where eight are from the December 30 purchase and two are from the December 8 purchase.

A company reported the following December purchases and sales data for its only product.

| Date    | Activities          | Units Acquired at Cost      | Units Sold at Retail |
|---------|---------------------|-----------------------------|----------------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00  |                      |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00 |                      |
| Dec. 09 | Sales               |                             | 8 units @ \$7.00     |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00 |                      |
| Dec. 24 | Sales               |                             | 18 units @ \$8.00    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40  |                      |
|         |                     | <u>36 units</u>             | <u>26 units</u>      |
|         |                     | <u>\$167.40</u>             |                      |

The company uses a perpetual inventory system. Determine the cost assigned to ending inventory and to cost of goods sold using (a) specific identification, (b) FIFO, (c) LIFO, and (d) weighted average. (Round per unit costs and inventory amounts to cents.) For specific identification, ending inventory consists of 10 units, where eight are from the December 30 purchase and two are from the December 8 purchase.

Regardless of the method used, the cost of 26 units are included in Cost of Goods Sold, and the cost of 10 units are included in Ending Inventory

A company reported the following December purchases and sales data for its only product.

| Date    | Activities          | Units Acquired at Cost      | Units Sold at Retail |
|---------|---------------------|-----------------------------|----------------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00  |                      |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00 |                      |
| Dec. 09 | Sales               |                             | 8 units @ \$7.00     |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00 |                      |
| Dec. 24 | Sales               |                             | 18 units @ \$8.00    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40  |                      |
|         |                     | <u>36 units</u>             | <u>26 units</u>      |
|         |                     | <u>\$167.40</u>             |                      |

The company uses a perpetual inventory system. Determine the cost assigned to ending inventory and to cost of goods sold using (a) specific identification, (b) FIFO, (c) LIFO, and (d) weighted average. (Round per unit costs and inventory amounts to cents.) **For specific identification, ending inventory consists of 10 units, where eight are from the December 30 purchase and two are from the December 8 purchase.**

### Specific Identification Method

Not an inventory assumption - Actual

Cost of Goods Sold represents the actual cost of the units selected by the customer.

Ending Inventory represents the actual cost of the units that remain in ending inventory.

| Date    | Activities          | Units Acquired at Cost      | Units Sold at Retail |
|---------|---------------------|-----------------------------|----------------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00  |                      |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00 |                      |
| Dec. 09 | Sales               |                             | 8 units @ \$7.00     |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00 |                      |
| Dec. 24 | Sales               |                             | 18 units @ \$8.00    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40  |                      |
|         |                     | <u>36 units</u>             | <u>26 units</u>      |
|         |                     | <u>\$167.40</u>             |                      |

Ending inventory consists of 10 units, where eight are from the December 30 purchase and two are from the December 8 purchase.

**Specific Identification – Cost of exact units sold are expensed as Cost of Goods Sold.**

| Date    | Activities          | Units Acquired at Cost | Cost of Goods Sold    | Cost of Ending Inventory |
|---------|---------------------|------------------------|-----------------------|--------------------------|
| Dec. 01 | Beginning inventory | 5 @ \$3.00 = \$15.00   | 5 @ \$3.00 = \$15.00  |                          |
| Dec. 08 | Purchase            | 10 @ \$4.50 = \$45.00  | 8 @ \$4.50 = \$36.00  | 2 @ \$4.50 = \$9.00      |
| Dec. 19 | Purchase            | 13 @ \$5.00 = \$65.00  | 13 @ \$5.00 = \$65.00 |                          |
| Dec. 30 | Purchase            | 8 @ \$5.30 = \$42.40   |                       | 8 @ \$5.30 = \$42.40     |
|         |                     | <u>36 units</u>        | <u>26 units</u>       | <u>10 units</u>          |
|         |                     | <u>\$167.40</u>        | <u>\$116.00</u>       | <u>\$51.40</u>           |

Cost of Goods Sold      \$116.00  
Ending inventory      51.40  
Goods available for sale    \$167.40

| Date    | Activities          | Units Acquired at Cost                 | Units Sold at Retail |                          |              |
|---------|---------------------|----------------------------------------|----------------------|--------------------------|--------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00             |                      |                          |              |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00            |                      |                          |              |
| Dec. 09 | Sales               |                                        | 8 units @ \$7.00     | Cost of Goods Sold       | \$ 115.00    |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00            |                      | Ending inventory         | <u>52.40</u> |
| Dec. 24 | Sales               |                                        | 18 units @ \$8.00    | Goods available for sale | \$ 167.40    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40             |                      |                          |              |
|         |                     | 36 units                      \$167.40 | 26 units             |                          |              |

**Perpetual FIFO – Cost of Goods Sold is calculated at the time of the sale. The first items in are the first items out – expensed as Cost of Goods Sold.**

| Date    | Goods Purchased | Cost of Goods Sold                    | Inventory Balance                     |
|---------|-----------------|---------------------------------------|---------------------------------------|
| Dec. 1  |                 |                                       | 5 @ \$3.00 = \$15.00                  |
| Dec. 8  | 10 @ \$4.50     |                                       | 5 @ \$3.00 } = \$60.00<br>10 @ \$4.50 |
| Dec. 9  |                 | 5 @ \$3.00 } = \$28.50<br>3 @ \$4.50  | 7 @ \$4.50 = \$31.50                  |
| Dec. 19 | 13 @ \$5.00     |                                       | 7 @ \$4.50 } = \$96.50<br>13 @ \$5.00 |
| Dec. 24 |                 | 7 @ \$4.50 } = \$86.50<br>11 @ \$5.00 | 2 @ \$5.00 = \$10.00                  |
| Dec. 30 | 8 @ \$5.30      |                                       | 2 @ \$5.00 } = \$52.40<br>8 @ \$5.30  |
|         |                 | <u>\$115.00</u>                       |                                       |

| Date    | Activities          | Units Acquired at Cost      | Units Sold at Retail |
|---------|---------------------|-----------------------------|----------------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00  |                      |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00 |                      |
| Dec. 09 | Sales               |                             | 8 units @ \$7.00     |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00 |                      |
| Dec. 24 | Sales               |                             | 18 units @ \$8.00    |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40  |                      |
|         |                     | <u>36 units</u>             | <u>26 units</u>      |
|         |                     | <u>\$167.40</u>             |                      |

**Perpetual LIFO – Cost of Goods Sold is calculated at the time of the sale. The last items in are the first items out – expensed as Cost of Goods Sold.**

| Date    | Goods Purchased | Cost of Goods Sold                                  | Inventory Balance                                   |
|---------|-----------------|-----------------------------------------------------|-----------------------------------------------------|
| Dec. 1  |                 |                                                     | 5 @ \$3.00 = \$15.00                                |
| Dec. 8  | 10 @ \$4.50     |                                                     | 5 @ \$3.00 } = \$60.00<br>10 @ \$4.50               |
| Dec. 9  |                 | 8 @ \$4.50 = \$36.00                                | 5 @ \$3.00 } = \$24.00<br>2 @ \$4.50                |
| Dec. 19 | 13 @ \$5.00     |                                                     | 5 @ \$3.00 } = \$89.00<br>2 @ \$4.50<br>13 @ \$5.00 |
| Dec. 24 |                 | 3 @ \$3.00 } = \$83.00<br>2 @ \$4.50<br>13 @ \$5.00 | 2 @ \$3.00 = \$6.00                                 |
| Dec. 30 | 8 @ \$5.30      |                                                     | 2 @ \$3.00 } = \$48.40<br>8 @ \$5.30                |

\$119.00

Cost of Goods Sold      \$119.00  
Ending inventory      48.40  
Goods available for sale      \$167.40

| Date    | Activities          | Units Acquired at Cost                 | Units Sold at Retail |                          |              |
|---------|---------------------|----------------------------------------|----------------------|--------------------------|--------------|
| Dec. 01 | Beginning inventory | 5 units @ \$3.00 = \$15.00             |                      |                          |              |
| Dec. 08 | Purchase            | 10 units @ \$4.50 = \$45.00            |                      |                          |              |
| Dec. 09 | Sales               |                                        | 8 units @ \$7.00     |                          |              |
| Dec. 19 | Purchase            | 13 units @ \$5.00 = \$65.00            |                      | Cost of Goods Sold       | \$115.70     |
| Dec. 24 | Sales               |                                        | 18 units @ \$8.00    | Ending inventory         | <u>51.70</u> |
| Dec. 30 | Purchase            | 8 units @ \$5.30 = \$42.40             |                      | Goods available for sale | \$167.40     |
|         |                     | 36 units                      \$167.40 | 26 units             |                          |              |

**Weighted Average – Cost of Goods Sold is calculated at the time of the sale. Average cost is equal to cost of goods available at the time of the sale divided by number of units available at the time of the sale.**

| Date    | Goods Purchased | Cost of Goods Sold    | Inventory Balance                                                               |
|---------|-----------------|-----------------------|---------------------------------------------------------------------------------|
| Dec. 1  |                 |                       | 5 @ \$3.00 = \$15.00                                                            |
| Dec. 8  | 10 @ \$4.50     |                       | 5 @ \$3.00 } = \$60.00<br>10 @ \$4.50 }<br>\$60 / 15 units = \$4.00 avg. cost   |
| Dec. 9  |                 | 8 @ \$4.00 = \$32.00  | 7 @ \$4.00 = \$28.00                                                            |
| Dec. 19 | 13 @ \$5.00     |                       | 7 @ \$4.00 } = \$93.00<br>13 @ \$5.00 }<br>\$93 / 20 units = \$4.65 avg. cost   |
| Dec. 24 |                 | 18 @ \$4.65 = \$83.70 | 2 @ \$4.65 = \$9.30                                                             |
| Dec. 30 | 8 @ \$5.30      |                       | 2 @ \$4.65 } = \$51.70<br>8 @ \$5.30 }<br>\$51.70 / 10 units = \$5.17 avg. cost |

\$115.70

# Learning Objective

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Compute the lower of cost or market amount of inventory.

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# Lower of Cost or Market

Inventory must be reported at market value  
when market is *lower* than cost.

Defined as current  
**replacement cost** (not  
sales price).  
Consistent with  
the conservatism  
principle.

Can be applied three ways:

- (1) separately to each individual item.
- (2) to major categories of assets.
- (3) to the whole inventory.

# Lower of Cost or Market

A motor sports retailer has the following items in inventory:

| Inventory Items | Units | Per Unit |         | Total Cost       | Total Market | LCM Applied to Items    |
|-----------------|-------|----------|---------|------------------|--------------|-------------------------|
|                 |       | Cost     | Market  |                  |              |                         |
| Roadster.....   | 20    | \$8,500  | \$7,000 | \$170,000        | \$140,000    | \$ 140,000              |
| Sprint .....    | 10    | 5,000    | 6,000   | 50,000           | 60,000       | 50,000                  |
| Totals .....    |       |          |         | <u>\$220,000</u> |              | <u><b>\$190,000</b></u> |

\$140,000 is the lower of \$170,000 or \$140,000.

The amount of \$190,000 is lower than the \$220,000 recorded cost.

A company has the following products in its ending inventory. (a) Compute the lower of cost or market for its inventory when applied separately to each product. (b) If the LCM amount is less than the recorded cost of the inventory, then record the December 31 LCM adjustment to the Merchandise Inventory account.

|                | Units | Per Unit |        | Total           |         | LCM<br>By item  |
|----------------|-------|----------|--------|-----------------|---------|-----------------|
|                |       | Cost     | Market | Cost            | Market  |                 |
| Road bikes     | 5     | \$1,000  | \$800  | \$5,000         | \$4,000 | \$4,000         |
| Mountain bikes | 4     | 500      | 600    | 2,000           | 2,400   | 2,000           |
| Town bikes     | 10    | 400      | 450    | 4,000           | 4,500   | 4,000           |
| <b>Total</b>   |       |          |        | <u>\$11,000</u> |         | <u>\$10,000</u> |

| Date    | General Journal       | Debit | Credit |
|---------|-----------------------|-------|--------|
| Dec. 31 | Cost of Goods Sold    | 1,000 |        |
|         | Merchandise Inventory |       | 1,000  |
|         |                       |       |        |

## Learning Objective

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Analyze the effects of inventory errors on current and future financial statements.

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# Financial Statement Effects of Inventory Errors

## Income Statement Effects

| Ending Inventory    | Year 1             |               | Year 2             |               |
|---------------------|--------------------|---------------|--------------------|---------------|
|                     | Cost of Goods Sold | Net Income    | Cost of Goods Sold | Net Income    |
| Understated ↓ ..... | Overstated ↑       | Understated ↓ | Understated ↓      | Overstated ↑  |
| Overstated* ↑ ..... | Understated ↓      | Overstated ↑  | Overstated ↑       | Understated ↓ |

\* This error is less likely under a perpetual system versus a periodic because it implies more inventory than is recorded (or less shrinkage than expected). Management will normally follow up and discover and correct this error before it impacts any accounts.

# Financial Statement Effects of Inventory Errors

## Balance Sheet Effects

| Ending Inventory                                                                              | Assets                                                                                          | Equity                                                                                          |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Understated  | Understated  | Understated  |
| Overstated   | Overstated   | Overstated   |

A company had \$10,000 of sales in each of three consecutive years 2015-2017, and it purchased merchandise costing \$7,000 in each of those years. It also maintained a \$2,000 physical inventory from the beginning to the end of that three-year period. In accounting for inventory, it made an error at the end of year 2015 that caused its year-end 2015 inventory to appear on its statements as \$1,600 rather than the correct \$2,000.

(a) Determine the correct amount of the company's gross profit in each of the years 2015–2017. (b) Prepare comparative income statements to show the effect of this error on the company's cost of goods sold and gross profit for each of the years 2015–2017

| Correct Amounts          | Year 2015      | Year 2016      | Year 2017      | Total          |
|--------------------------|----------------|----------------|----------------|----------------|
| Sales                    | \$10,000       | \$10,000       | \$10,000       | \$30,000       |
| Cost of goods sold       |                |                |                |                |
| Beginning inventory      | \$2,000        | \$2,000        | \$2,000        |                |
| Cost of purchases        | <u>7,000</u>   | <u>7,000</u>   | <u>7,000</u>   |                |
| Goods available for sale | 9,000          | 9,000          | 9,000          |                |
| Ending inventory         | <u>2,000</u>   | <u>2,000</u>   | <u>2,000</u>   |                |
| Cost of goods sold       | <u>7,000</u>   | <u>7,000</u>   | <u>7,000</u>   | <u>21,000</u>  |
| Gross profit             | <u>\$3,000</u> | <u>\$3,000</u> | <u>\$3,000</u> | <u>\$9,000</u> |

| Inventory error          | Year 2015      | Year 2016      | Year 2017      | Total          |
|--------------------------|----------------|----------------|----------------|----------------|
| Sales                    | \$10,000       | \$10,000       | \$10,000       | \$30,000       |
| Cost of goods sold       |                |                |                |                |
| Beginning inventory      | \$2,000        | \$1,600        | \$2,000        |                |
| Cost of purchases        | <u>7,000</u>   | <u>7,000</u>   | <u>7,000</u>   |                |
| Goods available for sale | 9,000          | 8,600          | 9,000          |                |
| Ending inventory         | <u>1,600</u>   | <u>2,000</u>   | <u>2,000</u>   |                |
| Cost of goods sold       | <u>7,400</u>   | <u>6,600</u>   | <u>7,000</u>   | <u>21,000</u>  |
| Gross profit             | <u>\$2,600</u> | <u>\$3,400</u> | <u>\$3,000</u> | <u>\$9,000</u> |

## Learning Objective

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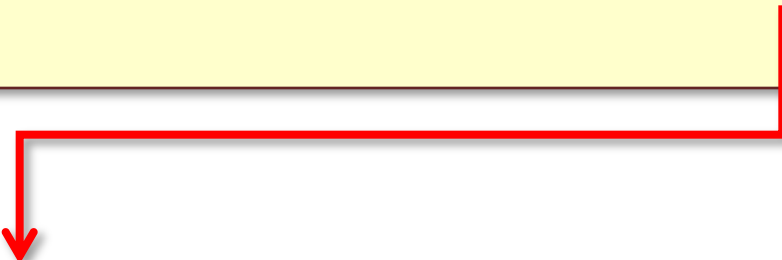
Assess inventory management using both inventory turnover and days' sales in inventory.

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# Inventory Turnover

Shows how many times a company turns over its inventory during a period. Indicator of how well management is controlling the amount of inventory available.

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$


$$\text{Average Inventory} = (\text{Beg. Inv.} + \text{End Inv.}) \div 2$$

# Days' Sales in Inventory

Reveals how much inventory is available in terms of the number of days' sales.

$$\text{Days' sales in inventory} = \frac{\text{Ending inventory}}{\text{Cost of goods sold}} \times 365$$



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الجميع الذكية  
للتعليم القابضة

MIDOCEAN  
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Thank You

