cHAPTER 7

inventory and cost of goods sold

# Student Learning Objectives and Related Assignment Materials

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| **Student Learning Objectives** | **Mini-Exercises** | **Exercises** | **Coached Problems** | **Problems (Groups  A & B)** | **Compre-hensive Problems** | **Skills Develop-ment Cases** | **Continuing Cases** |
| LO 7-1 Describe the issues in managing different types of inventory. | 1, 2 | 1, 2, 3 |  |  |  | 3 |  |
| LO 7-2 Explain how to report inventory and cost of goods sold. | 3 | 2, 3, 14 |  |  |  | 1, 2, 3, 4 |  |
| LO 7-3 Compute costs using four inventory costing methods. | 4, 5, 6\*, 7\*, 8 | 4, 5\*, 6, 7, 8, 9, 14 | 1 | A1, B1 | 1+, 2^+ | 3, 5, 6 | 1†, 2^£ |
| LO 7-4 Report inventory at the lower of cost or market. | 9, 10 | 2, 3, 10\*, 11, 12 | 2 | A2, B2 |  | 1, 2, 3, 4, 7 | 2^£ |
| LO 7-5 Evaluate inventory management by computing and interpreting the inventory turnover ratio. | 11, 12^, 13 | 13\*, 14 | 3 | A3, B3 | 2^+, 3 | 1, 2, 3 | 1† |
| LO 7-S1 Compute inventory costs in perpetual systems. | 14, 15 | 15, 16 | 4 | A4, B4 |  |  |  |
| LO 7-S2 Determine the effects of inventory errors. | 16, 17 | 17 | 5 | A5, B5 |  |  |  |

\* Animated solution included in the PowerPoint Slides.

*(Table footnotes are continued on next page.)*

# Student Learning Objectives and Related Assignment Materials, continued

^ Particularly challenging; requires students to combine multiple concepts in order to advance to the next level of accounting knowledge.

+ The Comprehensive Problems are comprised of CP7-1, which also covers LO 2-5, CP7-2, which also covers LO 4-2, and CP7-3, which also covers LO 6-5.

† Continuing Case 7-1 builds on the story of Nicole’s Getaway Spa, introduced in earlier chapters. This case focuses on explaining how the transportation cost included in each purchase should be recorded, computing the cost of goods available for sale, cost of goods sold, and cost of ending inventory using the FIFO method, calculating and interpreting the inventory turnover ratio, and explaining how a different inventory cost flow assumption would allow Nicole’s Getaway Spa to better minimize its income tax. The case will be extended in future chapters.

£ Continuing Case 7-2 builds on the story of Wiki Art Gallery (WAG), an instructional case in Connect. This case focuses on determining the inventory costing method used, the cost of artwork included in ending inventory, the cost of artwork sold, and reporting inventory at the lower of cost or market. The case will be extended in future chapters.

# Overview

We outline the key inventory management issues facing this retailer, demonstrate its accounting practices, and use accounting information to analyze its inventory management performance.

Students learn how to apply the various inventory costing, valuation, and recording methods. Inventory costing is demonstrated with examples where purchases precede sales (akin to a periodic system).

# Synopsis of Chapter Revisions

* Removed journal entries for inventory purchases (now in Chapter 6) to accompany inventory sales in that chapter
* Updated focus company illustrations
* New Spotlight on Financial Reporting discussing the LCM write-down at Lululemon for its see-through yoga pants fiasco
* Updated inventory turnover analysis in Exhibit 7.7, involving Harley-Davidson, McDonalds, and American Eagle
* New Spotlight on Financial Reporting to tie inventory turnover and gross profit to LCM
* Updated demonstration case featuring Oakley and Sunglass Hut
* Reviewed, updated, and introduced new end-of-chapter material, including new problem formats that automatically post journal entries to T-accounts and prepare trial balances

# PowerPoint Slides

|  |  |
| --- | --- |
| **Student Learning Objective** | **PowerPoint® Slides** |
| LO 7-1 Describe the issues in managing different types of inventory. | 7-2 through 7-4 |
| LO 7-2 Explain how to report inventory and cost of goods sold. | 7-5 through 7-8 |
| LO 7-3 Compute costs using four inventory costing methods. | 7-9 through 7-20 |
| LO 7-4 Report inventory at the lower of cost or market. | 7-21 through 7-24 |
| LO 7-5 Evaluate inventory management by computing and interpreting the inventory turnover ratio. | 7-25 through 7-27 |
| LO 7-S1 Compute inventory costs in perpetual systems. | 7-28 through 7-34 |
| LO 7-S2 Determine the effects of inventory errors. | 7-35 through 7-38 |

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| **Animated Builds and Animated Solutions** | **PowerPoint® Slides** |
| Mini-Exercise 7-6 | 7-40 through 7-44 |
| Mini-Exercise 7-7 | 7-45 through 7-48 |
| Exercise 7-5 | 7-49 through 7-53 |
| Exercise 7-10 | 7-54 through 7-55 |
| Exercise 7-13 | 7-56 through 7-57 |

# Summary of Related Video Program

**Spotlight Video Series   
Chapter 7 – Dodging Bullets (approximately 4:00)**

This video covers the lower of cost or market concept. Body armor made by DHB Industries in 2004-05 for the U.S. Marines and local police departments did not meet quality standards. Knowing the impact of an inventory write-down, DHB tried to conceal its problems. By telling these events, this video invites students to consider how fraudulent actions may put innocent people in harm’s way.

# Chapter Summary

**LO 7-1 Describe the issues in managing different types of inventory.**

* Make or buy a sufficient *quantity* of *quality* products, at the lowest possible *cost*, so that they can be sold as quickly as possible to earn the desired amount of gross profit.
* *Merchandise inventory* is bought by merchandisers in a ready-to-sell format. When *raw materials* enter a manufacturer’s production process, they become *work in process* inventory, which is further transformed into *finished goods* that are ultimately sold to customers.

**LO 7-2 Explain how to report inventory and cost of goods sold.**

* The costs of goods purchased are added to Inventory (on the balance sheet).
* The cost of goods sold are removed from Inventory and reported as an expense called Cost of Goods Sold (on the income statement).
* The costs remaining in Inventory at the end of a period become the cost of Inventory at the beginning of the next period.
* The relationships among beginning inventory (BI), purchases (P), ending inventory (EI), and cost of goods sold (CGS) are: BI + P – EI = CGS or BI + P – CGS = EI.

**LO 7-3 Compute costs using four inventory costing methods.**

* Under GAAP, any of four generally accepted methods can be used to allocate the cost of inventory available for sale between goods that are sold and goods that remain on hand at the end of the accounting period.
* Specific identification assigns costs to ending inventory and cost of goods sold by tracking and identifying each specific item of inventory.
* Under FIFO, the costs first in are assigned to cost of goods sold and the costs last in (most recent) are assigned to the inventory that is still on hand in ending inventory.
* Under LIFO, the costs last in are assigned to cost of goods sold and the costs first in (oldest) are assigned to the inventory that is still on hand in ending inventory.
* Under weighted average cost, the weighted average cost per unit of inventory is assigned equally to goods sold and those still on hand in ending inventory.

**LO 7-4 Report inventory at the lower of cost or market.**

* The LCM rule ensures inventory assets are not reported at more than they are worth.

**LO 7-5 Evaluate inventory management by computing and interpreting the inventory turnover ratio.**

* The inventory turnover ratio measures the efficiency of inventory management. It reflects how many times average inventory was acquired and sold during the period. The inventory turnover ratio is calculated by dividing Cost of Goods Sold by Average Inventory.

***Accounting Decision Tools***

1. **Inventory Turnover Ratio = Cost of Goods Sold ÷ Average Inventory**

* It tells you the number of times inventory turns over during the period.
* A higher ratio means faster turnover.

1. **Days to Sell = 365 ÷ Inventory Turnover Ratio**

* It tells you the average number of days from purchase to sale.
* A higher number means a longer time to sell.

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| Chapter Outline | Teaching Notes |
| I. Understand the Business |  |
| ***LO 7-1 Describe the issues in managing different types of inventory.*** | |
| A. Inventory Management Decisions |  |
| 1. The primary goals of inventory managers are to (1) maintain a sufficient quantity of inventory to meet customers’ needs and (2) ensure inventory quality meets customers’ expectations and company standards |  |
| a. Maintain a sufficient quantity of inventory to meet customers’ needs. |  |
| b. Ensure inventory quality meets customers’ expectations and company standards. |  |
| 2. At the same time, managers try to (3) minimize the cost of acquiring and carrying inventory (including costs related to purchasing, production, storage, spoilage, theft, obsolescence, and financing). |  |
| 3. Tricky to manage; as one factor changes so do the others. |  |
| B. Types of Inventory |  |
| 1. Merchandisers hold merchandise inventory, which consists of products acquired in a finished condition, ready for sale without further processing. |  |
| 2. Manufacturers often hold three types of inventory, with each representing a different stage in the manufacturing process. |  |
| a. They start with raw materials inventory such as plastic, steel, or fabrics. |  |
| b. When these raw materials enter the production process, they become part of work in process inventory, which includes goods that are in the process of being manufactured. |  |
| c. When completed, work in process inventory becomes finished goods inventory, which is ready for sale just like merchandise inventory. |  |
| 3. Consignment inventory refers to goods a company is holding on behalf of the goods’ owner. |  |
| a. Typically, this arises when a company is willing to sell the goods for the owner (for a fee) but does not want to take ownership of the goods in the event the goods are difficult to sell. |  |
| b. Consignment inventory is reported on the balance sheet of the owner, not the company holding the inventory. |  |

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| Chapter Outline | Teaching Notes |
| 4. Goods in transit are inventory items being transported. This type of inventory is reported on the balance sheet of the owner, not the company transporting it. |  |
| a. If a sale is made FOB destination, the goods belong to the seller until they are delivered to the customer. |  |
| b. If a sale is made FOB shipping point, inventory belongs to the customer at the moment it leaves the seller’s premises. |  |
| II. Study the Accounting Methods | |
| ***LO 7-2 Explain how to report inventory and cost of goods sold.*** | |
| A. Balance Sheet and Income Statement Reporting |  |
| 1. Inventory is reported on the balance sheet as a current asset. | Illustrated in Exhibit 7.1 |
| 2. Goods placed in inventory are initially recorded at cost, which is the amount paid to acquire the asset and prepare it for sale. |  |
| 3. When goods are sold, their cost is removed from the inventory account and reported on the income statement as an expense called Cost of Goods Sold. | Illustrated in Exhibit 7.2 |
| 4. Gross Profit = Net Sales – Cost of Goods Sold. |  |
| 5. The balance sheet account Inventory is related to the income statement account Cost of Goods Sold through the cost of goods sold equation. |  |
| 6. Cost of goods equation can take one of two forms, depending on whether the inventory costs are updated periodically at year-end (or month-end) when inventory is counted *or* perpetually each time inventory is sold. |  |
| a. Periodic Updating:  Beginning Inventory + Purchases – Ending Inventory = Cost of Goods Sold | Illustrated in Exhibit 7.3 |
| b. Perpetual Updating:  Beginning Inventory + Purchases – Cost of Goods Sold = Ending Inventory | Illustrated in Exhibit 7.3 |
| ***LO 7-3 Compute costs using four inventory costing methods.*** | |
| B. Inventory Costing Methods |  |
| 1. Four generally accepted inventory costing methods are available for determining the cost of goods sold (and the cost of goods remaining in ending inventory): | * Video Program #7 |
| a. Specific identification  b. First-in, first-out (FIFO)  c. Last-in, first-out (LIFO)  d. Weighted average | *Note that the chapter assumes a periodic inventory system; a perpetual inventory system is covered in* |
| 2. These four methods are alternative ways for splitting the total dollar amount of goods available for sale between (1) ending inventory and (2) cost of goods sold. | *Supplement 7A.* |

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| Chapter Outline | Teaching Notes |
| 3. Method chose does not have to correspond to the physical flow of goods, so any one of these four methods is considered GAAP. |  |
| 4. **Specific identification––**The inventory costing method that identifies the cost of the specific item that was sold; this method requires keeping track of the purchase cost of each item; this method tends to be used only when dealing with individually expensive and unique items. | * Supplement Enrichment Activity (Activity) #1 |
| 5. Cost Flow Assumptions |  |
| a. Most companies use one of the three other cost flow methods. |  |
| b. Under these cost flow assumptions, inventory costs are not based on the actual physical flow of goods on and off the shelves. Rather, they are based on assumptions that accountants make about the flow of inventory costs. | Cost flow assumptions and financial statement effects illustrated in Exhibit 7.4 |
| c. Although they although they’re called “inventory” costing methods, their names actually describe how to calculate the cost of goods sold. |  |
| C. First-In, First-Out (FIFO) Method |  |
| 1. **FIFO (First-in, first-out)**––Assumes that the oldest goods (the first in to inventory) are the first ones sold (the first out of inventory). | * Activity #1 |
| 2. To calculate the cost of the units sold, use the costs of the first-in (oldest) goods. |  |
| 3. The costs of any remaining units are reported as ending inventory. |  |
| 4. The costs of the newer goods are included in the cost of the ending inventory. |  |
| D. Last-In, First-Out (LIFO) Method | * Activity #1 |
| 1. **LIFO (Last-in, first-out)**––Assumes that the newest goods (the last in to inventory) are the first ones sold. |  |
| 2. To calculate the cost of the units sold, use the costs of the last-in (newest) goods. |  |
| 3. The costs of the older goods are included in the cost of the ending inventory. |  |
| E. Weighted Average Cost Method | * Activity #1 |
| 1. **Weighted average cost**––Uses the weighted average of the costs of goods available for sale for both the cost of each item sold and those remaining in inventory. | *Stress that the weighted average cost usually differs from a simple average cost.* |
| 2. The first step is to calculate the total cost of the goods available for sale. | *An example is the calculation of a student’s GPA.* |
| 3. Then, the weighted average unit cost of goods available for sale is calculated; weighted average unit cost equals cost of goods available for sale divided by number of units available for sale. |  |

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| Chapter Outline | Teaching Notes |
| 4. Weighted average unit cost is then used to assign a dollar amount to cost of goods sold and to ending inventory. |  |
| F. Financial Statement Effects |  |
| 1. The FIFO, LIFO, and weighted average costing methods differ only in how they split the cost of goods available for sale between ending inventory and cost of goods sold. | Effects summarized in Exhibit 7.5 |
| a. If a cost goes into ending inventory, it doesn’t go into cost of goods sold. |  |
| b. For that reason, the method that gives the highest dollar amount to ending inventory also gives the lowest to cost of goods sold. |  |
| 2. When costs are rising, FIFO leads to a higher inventory value (making the balance sheet *appear* stronger) and a lower cost of goods sold (resulting in a higher gross profit, making the company *look* more profitable). |  |
| 3. When costs are falling, the effects are reversed, with FIFO giving the lowest ending inventory amount as well as the highest cost of goods sold. |  |
| 4. These are not “real” economic effects because the same number of units is either sold or still on hand in ending inventory. |  |
| G. Tax Implications and Cash Flow Effects |  |
| 1. When faced with increasing costs per unit, a company that uses FIFO will have a higher income tax expense. |  |
| 2. This income tax effect is a real cost, in the sense that the company will actually have to pay more income taxes in the current year, thereby reducing the company’s cash. |  |
| H. Consistency in Reporting |  |
| 1. A change in method is allowed only if it will improve the accuracy with which financial results and financial position are measured. | The “Spotlight on the World” notes that LIFO is not allowed under IFRS |
| 2. Companies can, however, use different inventory methods for different product lines of inventory, as long as the methods are used consistently over time. |  |
| 3. Tax rules also limit the methods that managers use. The LIFO Conformity Rule requires that if LIFO is used on the income tax return, it also must be used in financial statement reporting. |  |

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| Chapter Outline | Teaching Notes |
| ***LO 7-4 Report inventory at the lower of cost or market.*** | |
| I. Reporting Inventory at Lower of Cost or Market |  |
| 1. The value of inventory can fall below its recorded cost for two reasons: | * Video Spotlight Chapter 7 |
| a. It’s easily replaced by identical goods at a lower cost. |  |
| b. It’s become outdated or damaged. |  |
| 2. **Lower of cost or market (LCM)**—A valuation rule that requires the Inventory account to be reduced when the value of the inventory falls to an amount less than its cost. | * Activity #2 |
| 3. LCM is based on the conservatism concept, which ensures that inventory assets are not reported at more than they are worth |  |
| 4. When the market value of inventory is lower than the recorded cost, the amount recorded for ending inventory needs to be written down by debiting Cost of Goods Sold and crediting Inventory. | The “Spotlight on Financial Reporting” feature addresses the impact of a LCM write-down on stock prices |
| 5. Most companies report the inventory write-down as cost of goods sold even though the written-down goods may not yet have been sold. |  |
| a. This reporting is appropriate because writing down goods that haven’t yet sold is a necessary cost of carrying the goods that did sell. |  |
| b. By recording the write-down in the period in which a loss in value occurs, companies better match their revenues and expenses of that period. | The “Spotlight on Ethics” feature addresses a fraud involving the failure to write- |
| III. Evaluate Inventory Management | down inventory |
| ***LO 7-5 Evaluate inventory management by computing and interpreting the inventory turnover ratio.*** | |
| A. Inventory Turnover Analysis |  |
| 1. **Inventory turnover**—The process of buying and selling inventory. | Illustrated in Exhibit 7.6 |
| a. **Inventory turnover ratio** equals Cost of Goods Sold divided by Average Inventory. |  |
| b. The inventory turnover ratio measures the number of times inventory turns over during the period. |  |
| c. A higher ratio means faster turnover; more efficient purchasing and production techniques as well as high product demand will boost this ratio. |  |
| d. Sudden decline may signal an unexpected drop in demand for the company’s products or sloppy inventory management. |  |
| 2. **Days to sell**—A measure of the average number of days from the time inventory is bought to the time it is sold. |  |
| a. Days to sell equals 365 divided by the year-long inventory turnover ratio. |  |
| b. Days to sell measures average number of days from purchase to sale. |  |

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| Chapter Outline | Teaching Notes |
| B. Comparison to Benchmarks | Illustrated in Exhibit 7.7 |
| 1. Inventory turnover ratios and the number of days to sell can be helpful in comparing different companies’ inventory management practices. |  |
| 2. These measures can vary significantly between industries: |  |
| a. For merchandisers, inventory turnover refers to buying and selling goods. |  |
| b. For manufacturers, it refers to producing and delivering inventory to customers |  |
| 3. Inventory turnover measures also can vary significantly between companies within the same industry, particularly if they take different approaches to pricing their inventories. | The “Spotlight on Financial Reporting” feature suggests |
| 4. Often, the company with a lower gross profit percentage has a faster inventory turnover | That worsening inventory turnover and gross profit |
| 5. With this big a range in ratios between industries and companies, it’s most useful to compare a company’s turnover with its own results from prior periods. | percentages may signal the need for a write-down to report inventory at LCM |
| IV. Supplement 7A—FIFO, LIFO, and Weighted Average in a Perpetual Inventory System |  |
| ***LO 7-S1 Compute inventory costs in perpetual systems.*** | |
| A. Reasons for Showing Cost Flow Assumptions in a Periodic Inventory System: |  |
| 1. First, only the LIFO and weighted average calculations differ between periodic and perpetual inventory systems. |  |
| 2. FIFO calculations don’t differ between periodic and perpetual systems. |  |
| 3. Nearly half of all U.S. companies use FIFO, so even if they calculate costs under a perpetual system, it is identical to calculating costs under a periodic system. |  |
| 4. Also, most LIFO companies actually use FIFO during the period and then adjust to LIFO at the end of the period. By waiting to the end of the period to calculate this LIFO adjustment, it’s as if all purchases during the period were recorded before the Cost of Goods Sold is calculated and recorded. |  |
| B. FIFO (First-in, First-Out)—FIFO calculations don’t differ between periodic and perpetual systems. |  |
| C. LIFO (Last-in, First-Out) |  |
| 1. LIFO numbers are calculated using the cost of goods last in as of the date of sale. |  |
| 2. This differs from a periodic system, where the cost of goods sold is calculated as if all sales occurred at the end of the period. |  |

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| Chapter Outline | Teaching Notes |
| D. Weighted Average Cost—In a perpetual inventory system, the weighted average cost must be calculated each time a sale is recorded. |  |
| E. Financial Statement Effects | Summarized in Exhibit 7A.1 |
| 1. These methods differ only in the way they split the cost of goods available for sale between ending inventory and cost of goods sold. |  |
| 2. If a cost goes into Cost of Goods Sold, it must be taken out of Inventory. |  |
| 3. Thus, the method that assigns the highest cost to cost of goods sold assigns the lowest cost to ending inventory (and vice versa). |  |
| V. Supplement 7B—The Effects of Errors in Ending Inventory |  |
| ***LO 7-S2 Determine the effects of inventory errors.*** | |
| A. Impact of Errors on Current Year’s Financial Statements |  |
| 1. Errors in inventory affect both the balance sheet and income statement. | *Impact on income taxes ignored in the discussion.* |
| 2. As the cost of goods sold equation indicates, a direct relationship exists between ending inventory and cost of goods sold because items not in the ending inventory are assumed to have been sold. |  |
| 3. Thus, any errors in ending inventory will affect the balance sheet (current assets) and the income statement (cost of goods sold, gross profit, and net income). |  |
| B. Impact of Errors on Following Year’s Financial Statements | Illustrated in Exhibit 7B.1 |
| The effects of inventory errors are felt in more than one year because the ending inventory for one year becomes the beginning inventory for the next year. |  |
| C. Determining the Effects of Errors in Inventory |  |
| To determine the effects of inventory errors on the financial statements in both the current year and the following year, use the cost of goods sold equation. |  |

# Supplemental Enrichment Activities

Note: These activities would be suitable for individual or group activities.

1. Handout 7–1

Use Handout 7–1 for an in-class activity designed to review the calculation of costs using all four inventory costing methods. The solution follows the handout master.

1. Handout 7–2

Use Handout 7–2 for an in-class activity designed to review the application of the lower of cost or market rule. The solution follows the handout master.

# HANDOUT 7–1

# INVENTORY COSTING METHODS

Quickie Grocery acquired the following five bottles of Corporate-Cola soft drink:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 |

A January 31 inventory count revealed that two bottles remained on the shelf. How many bottles were sold in January?

Specific Identification

The Quickie Grocery keeps track of each individual bottle. Suppose the Grocery knows that it sold the bottles acquired on Jan. 2, 12, and 16.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 | Total |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS |  |  |  |  |  |  |
| Inventory |  |  |  |  |  |  |

What was the value of inventory on January 31?

What was the cost of goods sold for January?

First-in, First-out (FIFO)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 | Total |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS |  |  |  |  |  |  |
| Inventory |  |  |  |  |  |  |

What was the value of inventory on January 31?

What was the cost of goods sold for January?

# HANDOUT 7–1, CONTINUED

Last-in, First-out (LIFO)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 | Total |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS |  |  |  |  |  |  |
| Inventory |  |  |  |  |  |  |

What was the value of inventory on January 31?

What was the cost of goods sold for January?

Weighted Average

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |  |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |

What was the value of inventory on January 31?

What was the cost of goods sold for January?

Complete the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Specific Identification | FIFO | LIFO | Weighted Average |
| Cost of Goods Sold |  |  |  |  |
| Inventory |  |  |  |  |

# HANDOUT 7–1 SOLUTION

# INVENTORY COSTING METHODS

Quickie Grocery acquired the following five bottles of Corporate-Cola soft drink:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 |

A January 31 inventory count revealed that two bottles remained on the shelf.

How many bottles were sold in January?

5 – 2 = 3 bottles

Specific Identification

The Quickie Grocery keeps track of each individual bottle. Suppose the Grocery knows that it sold the bottles acquired on Jan. 2, 12, and 16.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |  |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS | $1.00 |  | $3.00 | $4.00 |  | $8.00 |
| Inventory |  | $2.00 |  |  | $5.00 | $7.00 |

What was the cost of goods sold for January?

$8.00

What was the value of inventory on January 31?

$7.00

First-in, First-out (FIFO)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |  |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS | $1.00 | $2.00 | $3.00 |  |  | $6.00 |
| Inventory |  |  |  | $4.00 | $5.00 | $9.00 |

What was the cost of goods sold for January?

$6.00

What was the value of inventory on January 31?

$9.00

# HANDOUT 7–1 SOLUTION, CONTINUED

Last-in, First-out (LIFO)

Assume that the *last* bottles purchased were the first to be sold. *First* bottles are still here.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |  |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |
| COGS |  |  | $3.00 | $4.00 | $5.00 | $12.00 |
| Inventory | $1.00 | $2.00 |  |  |  | $3.00 |

What was the cost of goods sold for January?

$12.00

What was the value of inventory on January 31?   
$3.00

Weighted Average

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Date | Jan. 2 | Jan. 10 | Jan. 12 | Jan. 16 | Jan. 25 |  |
| Cost | $1.00 | $2.00 | $3.00 | $4.00 | $5.00 | $15.00 |

What was the cost of goods sold for January?

$15.00 / 5 = $3.00 average cost per unit

$3 × 3 units = $9.00

What was the value of inventory on January 31?

$15.00 / 5 = $3.00 average cost per unit

$3 × 2 units= $6.00

Complete the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Specific Identification | FIFO | LIFO | Weighted Average |
| Cost of Goods Sold | 8 | 6 | 12 | 9 |
| Inventory | 7 | 9 | 3 | 6 |

# HANDOUT 7–2

# LOWER OF COST OR MARKET (LCM)

Amanda Corporation is preparing its financial statements for the year ending December 31, 2013. Ending inventory information about the three major items stocked for regular sale follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Quantity on Hand | Unit Cost When Acquired (FIFO) | Replacement Cost (Market) at Year-End |
| AA | 100 | $ 30 | $ 26 |
| BB | 150 | 80 | 80 |
| CC | 200 | 100 | 104 |

Compute the valuation that should be used for the ending inventory using the LCM rule applied on an item-by-item basis.

# HANDOUT 7–2 SOLUTION

# LOWER OF COST OR MARKET (LCM)

Amanda Corporation is preparing its financial statements for the year ending December 31, 2013. Ending inventory information about the three major items stocked for regular sale follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Quantity  on Hand | Unit Cost When Acquired  (FIFO) | Replacement Cost (Market) at Year-End |
| AA | 100 | $ 30 | $ 26 |
| BB | 150 | 80 | 80 |
| CC | 200 | 100 | 104 |

Compute the valuation that should be used for the ending inventory using the LCM rule applied on an item-by-item basis.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Quantity | Total Cost | Total Market | LCM Valuation |
| AA | 100 | $ 3,000 (1) | $ 2,600 (2) | $ 2,600 |
| BB | 150 | 12,000 (3) | 12,000 (3) | 12,000 |
| CC | 200 | 20,000 (4) | 20,800 (5) | 20,000 |
|  |  |  |  | $34,600 |

Calculations:

(1) 100 units @ $30 per unit = $3,000

(2) 100 units @ $26 per unit = $2,600

(3) 150 units @ $80 per unit = $12,000

(4) 200 units @ $100 per unit = $20,000

(5) 200 units @ $104 per unit = $20,800