

Exercise 8-16

Periodic inventory system is used

Beginning inventory, January 1, 2021 600 units @\$80 = \$48,000

Purchases:

January 15 1,000 units @\$95 = \$95,000

January 21 800 units @\$100= \$80,000

Sales:

January 5 400 units @\$120

January 22 800 units @\$130

January 29 400 units @\$135

Ending inventory, January 31, 2021 800 units

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 1(a): Which method, FIFO or LIFO will result in the higher COGS figure for January 2021? Why?

LIFO: The unit cost is rising, moving from \$80/unit at the beginning of January to \$100/unit. There were 2,400 units available and 1,600 units sold, so the quantity of merchandise is also rising. The Cost of Goods sold under LIFO will include the higher later costs.

Part 1(b): Which method, FIFO or LIFO will result in the higher ending inventory balance? Why?

FIFO: The unit cost is rising, moving from \$80/unit at the beginning of January to \$100/unit. There were 2,400 units available and 1,600 units sold, so the quantity of merchandise is also rising. The ending inventory under FIFO will include the higher later costs.

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 2: Compute the COGS for January and the ending inventory using both FIFO and LIFO.

Units available for sale: $600+1,000+800 = 2,400$

Units sold: $400 + 800 + 400 = \underline{1,600}$

Units in ending inventory: 800

Cost of goods available for sale: $\$48,000+\$95,000+\$80,000 = \$223,000$

FIFO: COGS

600@\$80 = \$48,000

1,000@\$95 = 95,000 \$ **143,000**

Ending inventory

800@\$100 = 80,000

Total \$ **223,000**

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 2: Compute the COGS for January and the ending inventory using LIFO.

Units available for sale: $600+1,000+800 = 2,400$

Units sold: $400 + 800 + 400 = \underline{1,600}$

Units in ending inventory: 800

Cost of goods available for sale: $\$48,000+\$95,000+\$80,000 = \$223,000$

LIFO: COGS

$800@\$100 = \$80,000$

$800@ \$95 = \underline{76,000}$ \$ **156,000**

Ending inventory

$600@ \$80 = \$48,000$

$200@ \$95 = \underline{19,000}$ **67,000**

Total \$223,000

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 3: Assume inventory costs were declining during January. The inventory purchased on January 15 had a unit cost of \$70, and the inventory purchased on January 21 had a unit cost of \$65. All other information is the same. Repeat parts 1 and 2.

Part 1(a): Which method will result in the highest cost of goods sold in January? Why?

FIFO – The cost of the merchandise declined and the quantity of merchandise increased during the period.

Part 1(b): Which method will result in the higher ending inventory balance?

LIFO – The cost of the merchandise declined and the quantity of merchandise increased during the period.

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 2: Compute the COGS for January and the ending inventory using both FIFO and LIFO.

Units available for sale: $600+1,000+800 = 2,400$

Units sold: $400 + 800 + 400 = \underline{1,600}$

Units in ending inventory: 800

Cost of goods available for sale: $\$48,000+\$70,000+\$52,000 = \$170,000$

FIFO: COGS

$600@\$80 = \$48,000$

$1,000@\$70 = \underline{70,000}$ \$ **118,000**

Ending inventory

$800@\$65 = \underline{52,000}$

Total \$170,000

©Dr. Chula King
All Rights Reserved

Exercise 8-16 (continued)

Part 2: Compute the COGS for January and the ending inventory using LIFO.

Units available for sale: $600 + 1,000 + 800 = 2,400$

Units sold: $400 + 800 + 400 = \underline{1,600}$

Units in ending inventory: 800

Cost of goods available for sale: $\$48,000 + \$70,000 + \$52,000 = \$170,000$

LIFO: COGS

800@ \$65 = \$52,000

800@ \$70 = 56,000 \$ **108,000**

Ending inventory

600@ \$80 = \$48,000

200@ \$70 = 14,000 **62,000**

Total \$170,000
