

# FIFO

by Sophia



## WHAT'S COVERED

This tutorial will cover the inventory cost flow assumption known as FIFO, which is an acronym for First In First Out.

Our discussion breaks down as follows:

## 1. FIFO

FIFO is an inventory valuation method, which stands for First In First Out:



As an inventory valuation method, FIFO helps to provide information about cost of goods sold and ending inventory. Under FIFO, goods that were purchased first are the first to be sold, meaning goods are assumed to be sold oldest to newest. A benefit to using FIFO is that it resembles the physical flow of goods.

➔ **EXAMPLE** Grocery stores or electronic stores, for example, want the inventory that they purchased first--their oldest products--to be sold first. In the case of grocery stores, they want to sell the oldest merchandise first so that their food doesn't spoil.



### BIG IDEA

FIFO is First In First Out. Goods are assumed to be sold oldest to newest, which means that the most recent purchases are what remain in the ending inventory.

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## 2. FIFO and Cost of Goods Sold

Next we will discuss FIFO and cost of goods sold. Remember, the cost of goods sold calculation starts with beginning inventory, then we add cost of goods purchased, which gives us goods available for sale. Then, we subtract out ending inventory, which equals cost of goods sold.

$$\begin{array}{r}
 \text{Beginning Inventory} \\
 + \text{Cost of Goods Purchased} \\
 \hline
 \text{Goods Available for Sale} \\
 - \text{Ending Inventory} \\
 \hline
 \text{Cost of Goods Sold}
 \end{array}$$

Let's walk through an example of calculating cost of goods sold using the inventory valuation method of FIFO. Below you will see a spreadsheet outlining the cost of goods sold calculation. We will begin with the first line, beginning inventory. Beginning inventory is pulled from our balance sheet or from our trial balance. You can also see there is a schedule, detailing beginning inventory and purchases.

Cost of Goods Sold Calculation				
			Beginning Inventory	\$500
			+ Cost of Goods Purchased	
			= Goods Available for Sale	
			- Ending Inventory	
			= Cost of Goods Sold	
Beginning Inventory and Purchases				
Date	Explanation	Units	Cost/Unit	Total Cost
1/1	Beginning Inventory	50	\$10	\$500
Ending Inventory				

Once we have plugged in beginning inventory, we need to determine cost of goods purchased. If you look at the detail of all the purchases made, you can see that we made three purchases throughout the year.

**Purchase Total**  
= **\$5400**

Now we need to know what our ending inventory is. If you look at the ending inventory schedule below, we're going to make the assumption that we have 100 units left in our ending inventory.

Cost of Goods Sold Calculation				
		Beginning Inventory		\$500
		+ Cost of Goods Purchased		\$5400
		= Goods Available for Sale		\$5900
		- Ending Inventory		\$1500
		= Cost of Goods Sold		
Beginning Inventory and Purchases				
Date	Explanation	Units	Cost/Unit	Total Cost
1/1	Beginning Inventory	50	\$10	\$500
4/1	Purchase	150	\$12	\$1800
7/1	Purchase	200	\$14	\$2800
10/1	Purchase	50	\$16	\$800
	Total	450		\$5900
Ending Inventory*				
Date		Units	Cost/Unit	Total Cost
10/1		50	\$16	\$800
7/1		50	\$14	\$700
	Total	100		\$1500
*assume 100 units left in ending inventory				

If we have 100 units left, we know that we can take 50 units from the purchase made on the most recent

purchase of 10/1, and then we can take another 50 units from the purchase made on July 1. This means that our ending inventory, 100 units, is \$1,500.

Then, we take that number, and drop it into our cost of goods sold calculation. We subtract out our ending inventory to give us cost of goods sold.

Cost of Goods Sold Calculation					
				Beginning Inventory	\$500
				+ Cost of Goods Purchased	\$5400
				= Goods Available for Sale	\$5900
				- Ending Inventory	\$1500
				= Cost of Goods Sold	\$4400
Beginning Inventory and Purchases					
Date	Explanation	Units	Cost/Unit	Total Cost	
1/1	Beginning Inventory	50	\$10	\$500	
4/1	Purchase	150	\$12	\$1800	
7/1	Purchase	200	\$14	\$2800	
10/1	Purchase	50	\$16	\$800	
	Total	450		\$5900	
Ending Inventory*					
Date		Units	Cost/Unit	Total Cost	
10/1		50	\$16	\$800	
7/1		50	\$14	\$700	
	Total	100		\$1500	
*assume 100 units left in ending inventory					



#### BIG IDEA

To perform our cost of goods sold calculation, we started with our beginning inventory and added cost of goods purchased, to give us goods available for sale. We subtracted out ending inventory, which we calculated using FIFO, meaning the most recent purchases are the units that are assumed to be remaining in inventory.

#### IN CONTEXT

Consider the following table:

Beginning Inventory and Purchases			
Purchased	Units	Unit Cost	Total Cost
Beginning Inventory	100	\$5	\$500
September	120	\$6	\$720
October	140	\$7	\$980
November	130	\$8	\$1,040

Units Available For Sale	490		\$3,240
Ending Inventory			
Units on Hand	290	Cost of Units on Hand	\$
Units Sold	200	Cost of Goods Sold	\$

Using the FIFO method and the information in this table, what is the cost of units on hand and cost of goods sold during this period?

First, find the ending inventory. With FIFO, the ending inventory is going to be our newest units. We have 290 items on hand, which means we will take all 130 units from November, all 140 units from October, and 20 units from September:

*November:*  $130 \cdot \$8 = \$1,040$

*October:*  $140 \cdot \$7 = \$980$

*September:*  $20 \cdot \$6 = \$120$

*Ending Inventory:*  $\$1,040 + \$980 + \$120 = \$2,140$

The ending inventory, or cost of units on hand, for these 290 items is \$2,140. Now we can subtract this value from the goods available for sale to find the cost of goods sold.

*Goods Available for Sale*  
*– Ending Inventory*  


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*Cost of Goods Sold*

$\$3,240$   
 $– \$2,140$   


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 $\$1,100$

The cost of goods sold using FIFO method is \$1,100.

Beginning Inventory and Purchases			
Purchased	Units	Unit Cost	Total Cost
Beginning Inventory	100	\$5	\$500
September	120	\$6	\$720
October	140	\$7	\$980
November	130	\$8	\$1,040
Units Available For Sale	490		\$3,240
Ending Inventory			
Units on Hand	290	Cost of Units on Hand	\$2,140
November	130	\$8	\$1,040

October	140	\$7	\$980
September	20	\$6	\$120
<b>Units Sold</b>	<b>200</b>	<b>Cost of Goods Sold</b>	<b>1,100</b>
September	100	\$6	\$600
Beginning Inventory	100	\$5	\$500



## SUMMARY

Today we learned about **FIFO**, First In First Out, which is an inventory valuation method that helps to provide information about cost of goods sold as well as ending inventory. Under FIFO, goods are assumed to be sold oldest to newest, so the oldest inventory items are sold first and the newer inventory items are what remains in ending inventory. We also performed a calculation of **cost of goods sold using FIFO**.

Source: Adapted from Sophia instructor Evan McLaughlin.