



LIFO: Last-In, First-Out Method

The costs of the **oldest purchases** are in **ending inventory**. Start with 1,000 units in beginning inventory and add units purchased until you reach 1,200 units in ending inventory.

Given Information				Ending Inventory		Cost of Goods Sold	
Beg. Inv.	1,000	@	5.25	↓ 1,000	@	5.25	
Jan 3	500	@	5.30	↓ 200	@	5.30	
Jun 20	300	@	5.60				
Sep 15	250	@	5.80				
Nov 29	200	@	5.90				
	<u>2,250</u>	Units		<u>1,200</u>	Units		
				\$ 6,310 Cost			

Now we have allocated the cost to all 1,200 units in ending inventory.
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LIFO: Last-In, First-Out Method

The costs of the **most recent purchases** are allocated to **cost of goods sold**. Start with 200 units from Nov 29 and add units purchased until you reach 1,050 units sold.

Given Information				Ending Inventory		Cost of Goods Sold	
Beg. Inv.	1,000	@	5.25	1,000	@	5.25	
Jan 3	500	@	5.30	200	@	5.30	
Jun 20	300	@	5.60			↑ 300	@ 5.30
Sep 15	250	@	5.80			↑ 300	@ 5.60
Nov 29	200	@	5.90			↑ 250	@ 5.80
	<u>2,250</u>	Units		<u>1,200</u>	Units	<u>1,050</u>	Units
				\$ 6,310 Cost		\$ 5,900 Cost	

Now we have allocated the cost to all 1,050 units sold.



LIFO: Last-In, First-Out Method

Here is the cost of ending inventory and cost of goods sold using LIFO.

Computers, Inc.
Mouse Pad Inventory
As of December 31, 2011

Date	Units	\$ per Unit	Total \$
Beginning Inventory	1,000	5.25	5,250.00
Purchases:			
Jan 3	500	5.30	2,650.00
Jun 20	300	5.60	1,680.00
Sep 15	250	5.80	1,450.00
Nov 29	200	5.90	1,180.00
Goods Available for Sale	2,250		12,210.00
Ending Inventory	1,200		6,310.00
Cost of Goods Sold	1,050		5,900.00

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Average Cost Method

The **average cost** is used for **both cost of goods sold** and **ending inventory**.



$$\text{Average Cost} = \frac{\text{Cost of Goods Available for Sale}}{\text{Number of Units Available for Sale}}$$



Average Cost Method

Computers, Inc.
Mouse Pad Inventory
As of December 31, 2011

Date	Units	\$ per Unit	Total \$
Beginning Inventory	1,000	5.25	5,250.00
Purchases:			
Jan 3	500	5.30	2,650.00
Jun 20	300	5.60	1,680.00
Sep 15	250	5.80	1,450.00
Nov 29	200	5.90	1,180.00
Goods Available for Sale	2,250		12,210.00
Ending Inventory	1,200		6,512.00
Cost of Goods Sold	1,050		5,698.00

Average Cost = $\$ 12,210 / 2,250 = \$ 5.42667$
 $= 1,200 \times \$ 5.42667$
 $= 1,050 \times \$ 5.42667$

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Comparison of Methods

Computers, Inc.
Income Statement
For Year Ended December 31, 2011

	FIFO	LIFO	Weighted Average
Net sales	\$ 25,000	\$ 25,000	\$ 25,000
Cost of goods sold:			
Merchandise inventory, beginning	\$ 5,250	\$ 5,250	\$ 5,250
Net purchases	6,960	6,960	6,960
Goods available for sale	\$ 12,210	\$ 12,210	\$ 12,210
Merchandise inventory, ending	6,695	6,310	6,512
Cost of goods sold	\$ 5,515	\$ 5,900	\$ 5,698
Gross profit	\$ 19,485	\$ 19,100	\$ 19,302
Operating expenses	750	750	750
Income before taxes	\$ 18,735	\$ 18,350	\$ 18,552
Income taxes expense (30%)*	5,621	5,505	5,566
Net income	\$ 13,114	\$ 12,845	\$ 12,986

* Tax expense amounts were rounded.



Financial Statement Effects of Costing Method

Advantages of Methods

First-In, First-Out

Last-In, First-Out

Weighted Average

Ending inventory approximates current replacement cost.

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

Smooths out price changes.

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International Perspective LIFO and International Comparisons

While U.S. GAAP allows companies to choose between FIFO, LIFO, and weighted average inventory methods, International Financial Reporting Standards (IFRS) currently **prohibit the use of LIFO**.

GAAP allows different inventory accounting methods to be used for different types of inventory items.

IFRS requires that the same method be used for all inventory items that have a similar nature and use.

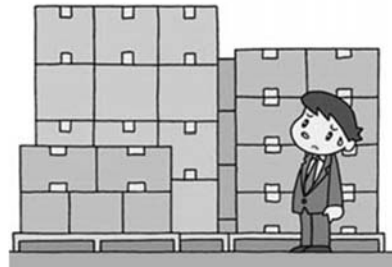
These differences can create comparability problems when one attempts to compare companies across international borders.

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Valuation at Lower of Cost or Net Realizable Value



Valuation at Lower of Cost or Net Realizable Value

Ending inventory is reported at
the **lower of cost or net realizable value**.

Net realizable value (NRV) is the estimated selling price
in the ordinary course of business
less the estimated costs of completion
and the estimated costs necessary to make the sale.



The company will recognize a “holding” loss
in the current period
rather than the period in which the item is sold.
This practice is **Conservative**.



Valuation at Lower of Cost or Net Realizable Value

Item	Quantity	Cost	NRV	Lower of Cost or NRV	Total
Intel chips	1,000	\$ 250	\$ 200	\$ 200	\$ 200,000
Disk drives	400	100	110	100	40,000
Total		<u>290,000</u>			<u>240,000</u>

$$(1,000 \text{ Intel chips} \times \$50) = \$50,000$$

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Date	Description	Debit	Credit
Dec 31, 11	Cost of goods sold (+E, -SE)	50,000	
	Inventory (-A)		50,000
	To adjust the Intel chips to net realizable value.		

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Inventory Turnover Ratio

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Average Inventory is
 $(\text{Beginning Inventory} + \text{Ending Inventory}) \div 2$



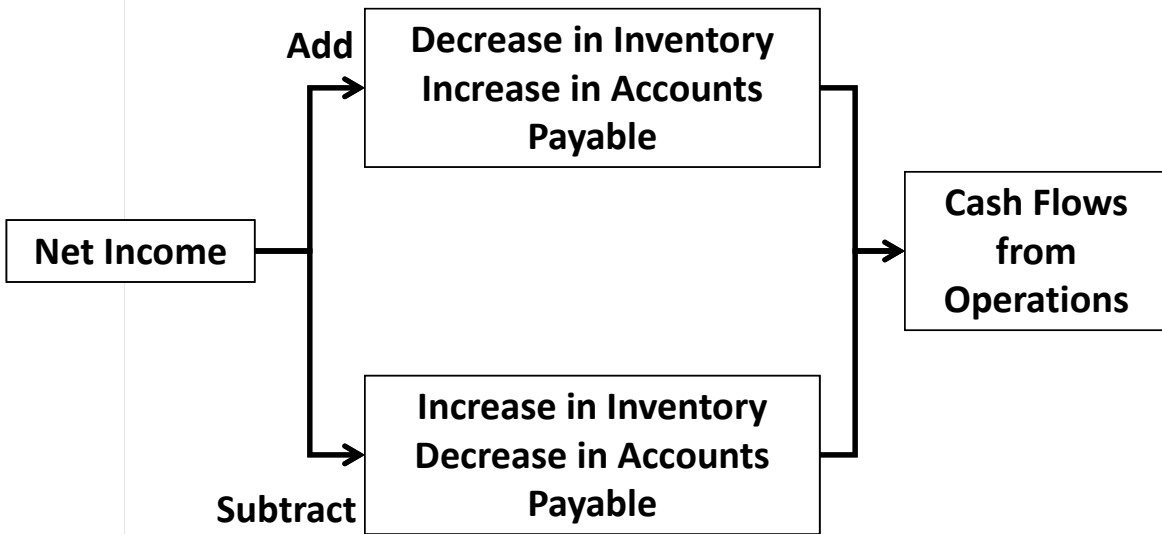
This ratio reflects how many times average inventory was produced and sold during the period. A higher ratio indicates that inventory moves more quickly thus reducing storage and obsolescence costs.

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Inventory and Cash Flows

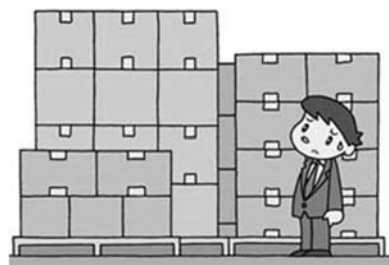


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Control of Inventory





Internal Control of Inventory

Separation of inventory accounting & physical handling of inventory.

Storage in a manner that protects from theft and damage.

Limiting access to authorized employees.

Maintaining perpetual inventory records.

Comparing perpetual records to periodic physical counts.



Perpetual and Periodic Inventory Systems

Perpetual Inventory System

Provides up-to-date inventory records.



Provides up-to-date cost of sales records.

In a **Periodic Inventory System**, ending inventory and cost of goods sold are determined at the end of the accounting period based on a **physical count**.



Perpetual and Periodic Inventory Systems

Item	Inventory System	
	Periodic System	Perpetual System
Beginning Inventory	Carried over from prior period	Carried over from prior period
Add: Purchases	Accumulated in the <i>Purchases account</i>	Accumulated in the <i>Inventory account</i>
Less: Ending Inventory	Measured at end of period by physical inventory count	Perpetual record updated at every sale
Cost of Goods Sold	Computed as a residual amount at end of period	Measured at every sale based on perpetual record



Supplement B: Additional Issues in Measuring Purchases

Purchase returns and allowances are a reduction in the cost of purchases associated with unsatisfactory goods.

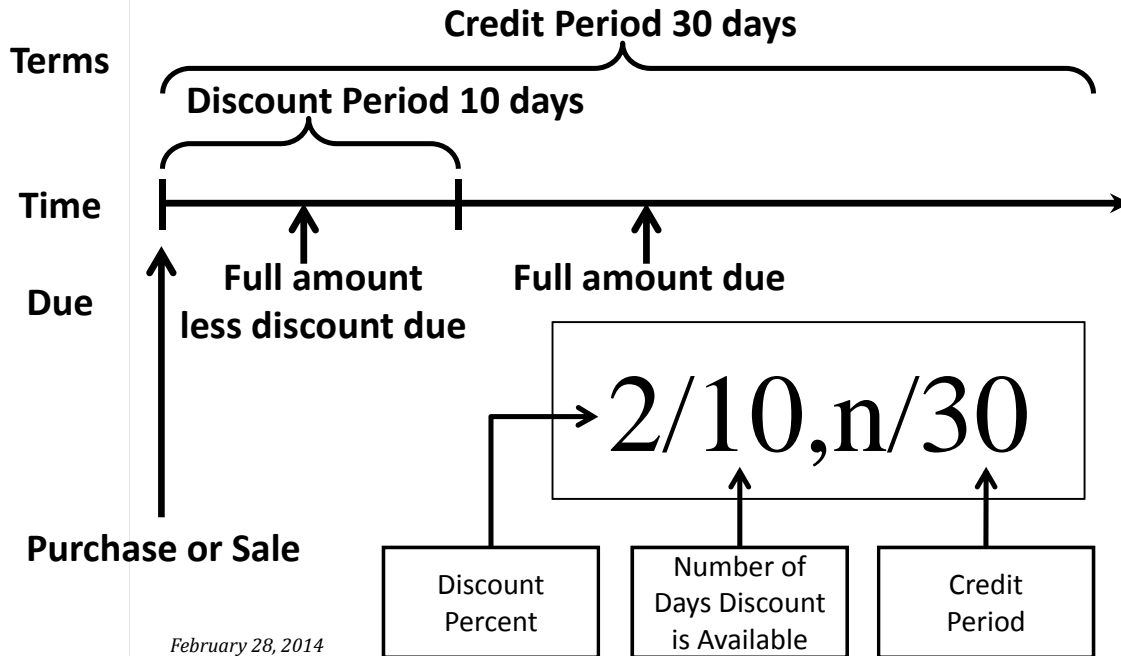


A purchase discount is a cash discount received for prompt payment of an account.





Supplement B: Additional Issues in Measuring Purchases



Supplement C: Comparison of Perpetual and Periodic Inventory Systems

Perpetual Inventory System

Jan. 1	Had beginning inventory of 800 units at a unit cost of \$50.		
Apr. 14	Purchased 1,100 units at a unit cost of \$50.		
	Inventory (+A)	55,000	
	Accounts payable (-L)		55,000
Nov. 30	Sold 1,300 units at a sales price of \$83.		
	Accounts receivable (+A)	107,900	
	Sales revenue (+R, +SE)		107,900
	Cost of goods sold (+E, -SE)	65,000	
	Inventory (-A)		65,000
Dec. 31	Use cost of goods sold and inventory amounts.		



Supplement C: Comparison of Perpetual and Periodic Inventory Systems

Periodic Inventory System

Jan. 1	Had beginning inventory of 800 units at a unit cost of \$50.	
Apr. 14	Purchased 1,100 units at a unit cost of \$50.	
	Purchases (+A) 55,000	
	Accounts payable (+L) 55,000	
Nov. 30	Sold 1,300 units at a sales price of \$83.	
	Accounts receivable (+A) 107,900	
	Sales revenue (+R, +SE) 107,900	
Dec. 31	<p>Count the number of units on hand. Compute the dollar valuation of the ending inventory. Compute and record the cost of goods sold.</p>	
	Cost of goods sold (+E, -SE) 95,000	← Transfer to CoGS
	Inventory (beginning) (-A) 40,000	(40,000)
	Purchases (-A) 55,000	(55,000)
	Inventory (ending) (+A) 30,000	←
	Cost of goods sold (-E, +SE) 30,000	(30,000)

To establish ending inventory bal. {



End of Chapter 7

