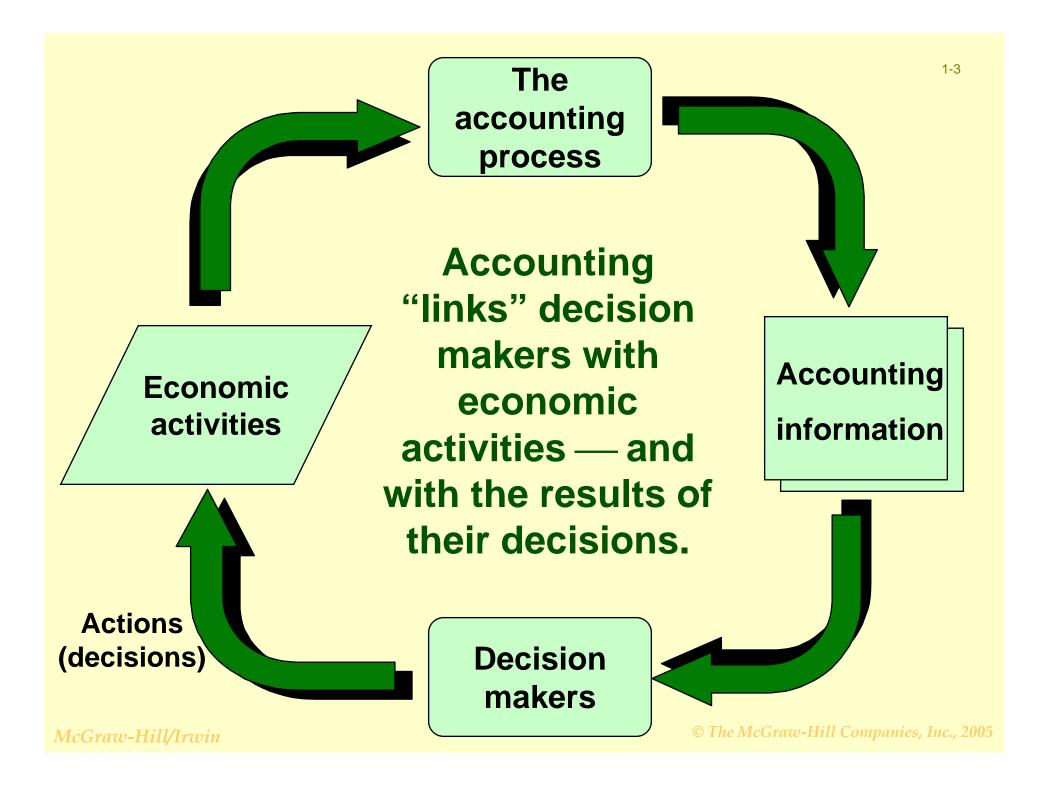
# Accounting for Management and decision Making

Prof. Ahmed Farghally
Professor of Accounting, Cairo University

## **Part** (1)

## **Introducing Accounting**





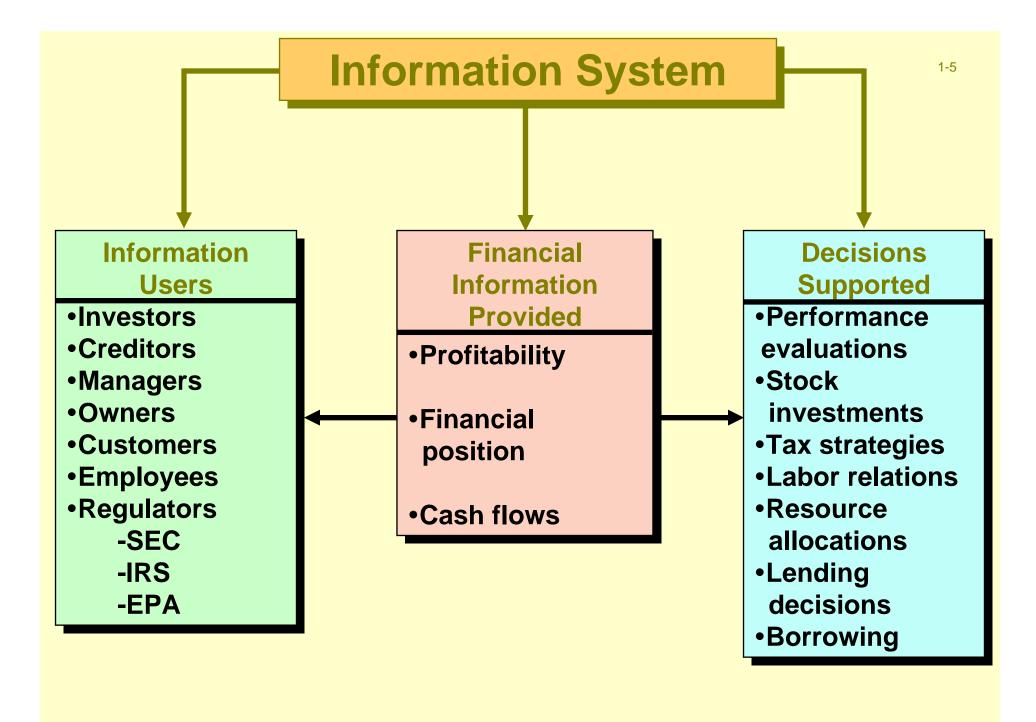
## Types of Accounting Information

**Financial** 

Tax

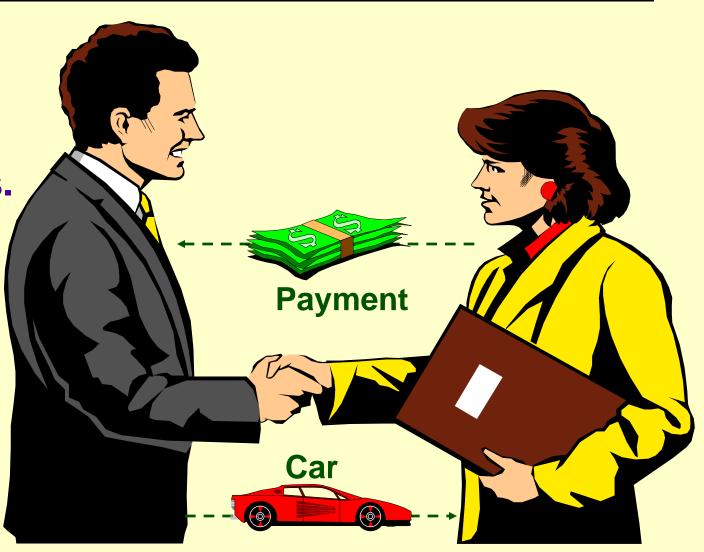
Managerial





# Basic Functions of an Accounting System

Interpret and record business transactions.



# Basic Functions of an Accounting System

• Interpret and record business transactions.

O Classify similar transactions into useful reports.

Summarize and communicate information to decision makers.



# External Users of Accounting Information

- Owners
- Creditors
- Labor unions
- Governmental agencies
- Suppliers
- Customers
- Trade associations
- General public







#### (Specific)

Provide information about economic resources, claims to resources, and changes in resources and claims.

Provide information useful in assessing amount, timing and uncertainty of future cash flows.

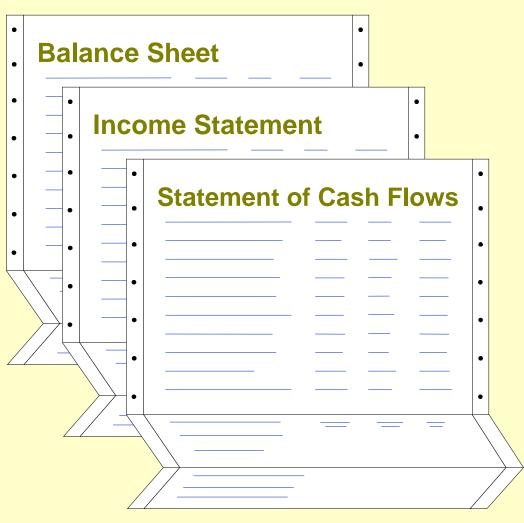
Provide information useful in making investment and credit decisions.

(General)

# Objectives of Financial Reporting

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# Objectives of External Financial Reporting



# The primary financial statements.

# Characteristics of Externally Reported Information

A Means to an End

Usefulness Enhanced via Explanation

Broader than Financial Statements

Based on General-Purpose Assumption



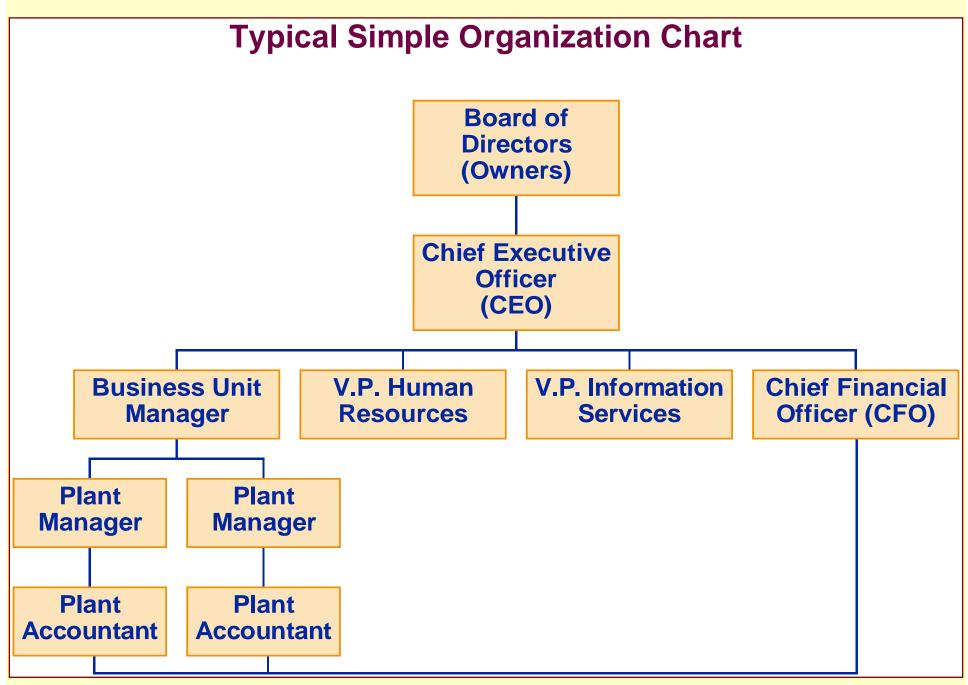
Historical in Nature

Results from Inexact and Approximate Measures

# Users of Internal Accounting Information

- Board of directors
- Chief executive officer (CEO)
- Chief financial officer (CFO)
- Vice presidents
- Business unit managers
- Plant managers
- Store managers
- Line supervisors





# Objectives of Management Accounting Information

To help achieve goals and missions

To help evaluate and reward decision makers



# Characteristics of Management Accounting Information

**Timeliness** 

A Means to an End

Identify Decision Maker

Measures of Efficiency and Effectiveness

Oriented Toward Future

#### **Institutional Features**

- Generally Accepted Accounting Principles (GAAP)
- Financial Accounting Standards Board
- Securities and Exchange Commission
- Internal Control Structure
- Audits
- Legislation



#### **Professional Organizations**

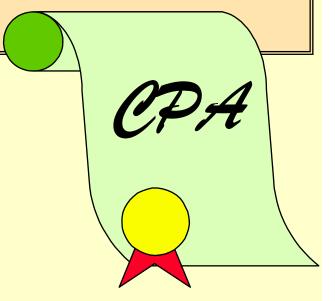
- American Institute of Certified Public Accountants
- Institute of Management Accountants
- Institute of Internal Auditors

American Accounting Association



#### Competence, Judgment and Ethical Behavior

- Certified Public Accountants (CPAs)
- Certificate in Management Accounting (CMA)
- Certificate in Internal Auditing (CIA)
- Code of Professional Conduct

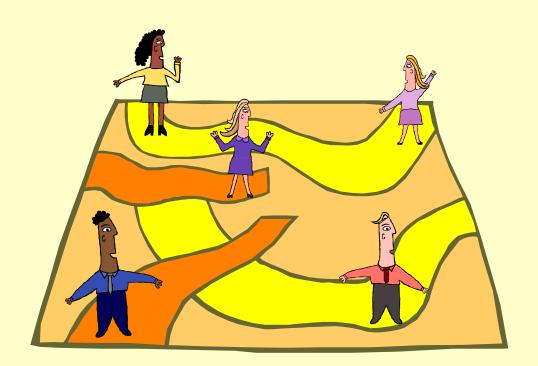


#### **Careers in Accounting**

- Public Accounting
- Management Accounting
- Governmental Accounting
- Accounting Education

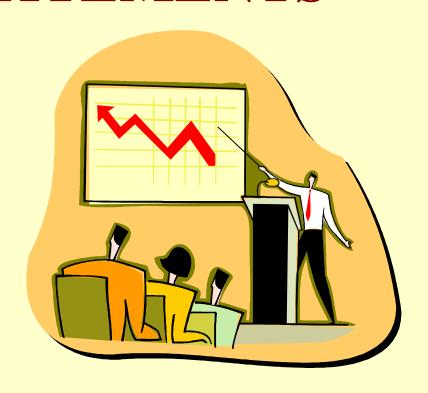


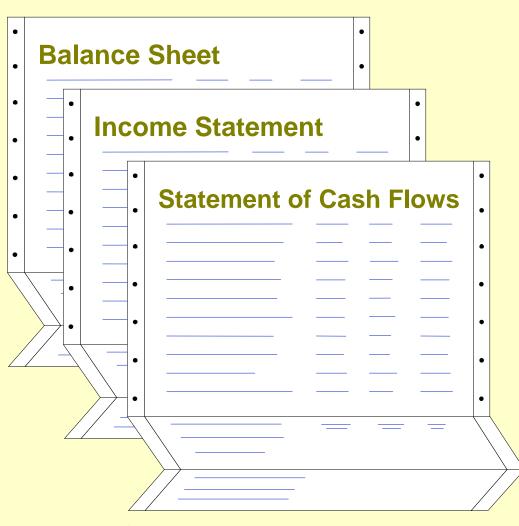
## End of Part (1)



## **Part (2)**

## FINANCIAL STATEMENTS

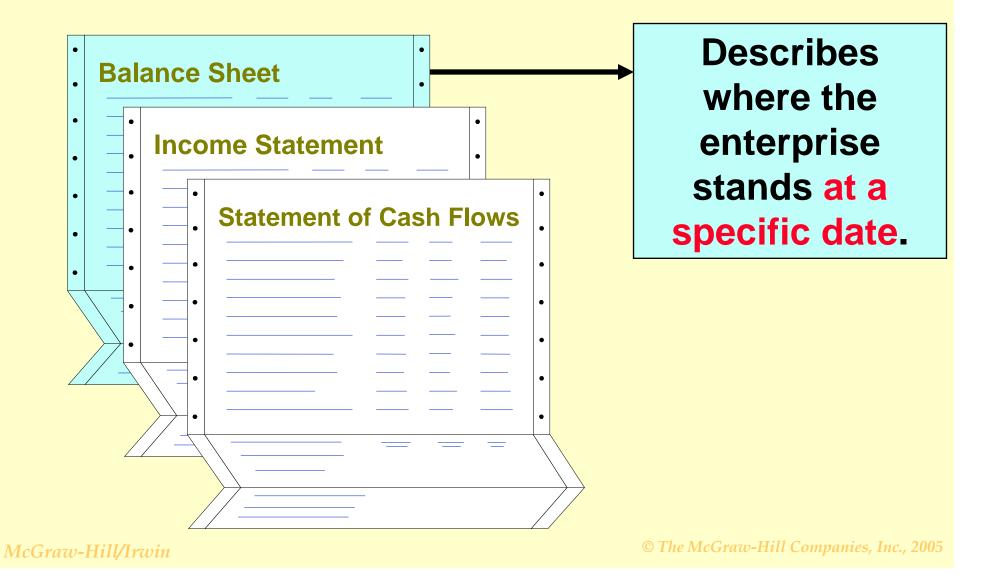


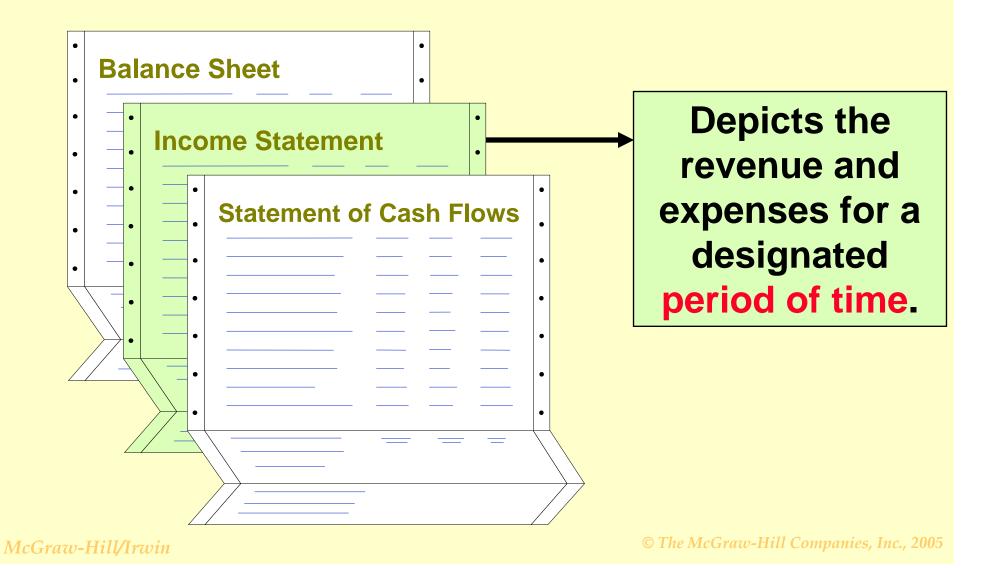


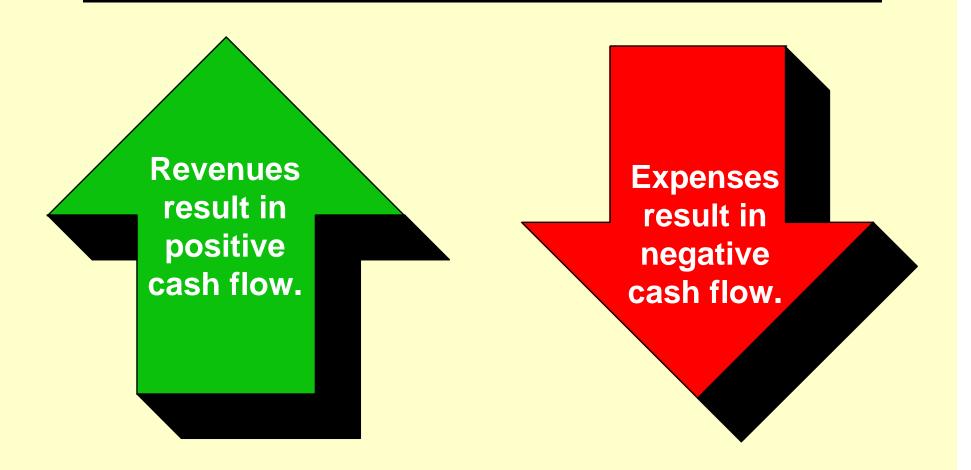
# Three primary financial statements.

We will use a corporation to describe these statements.

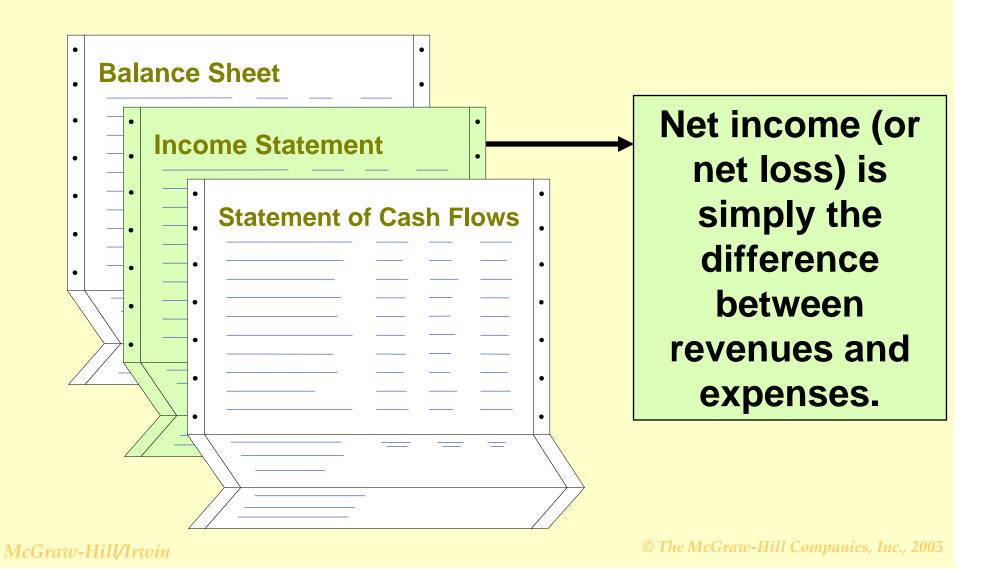


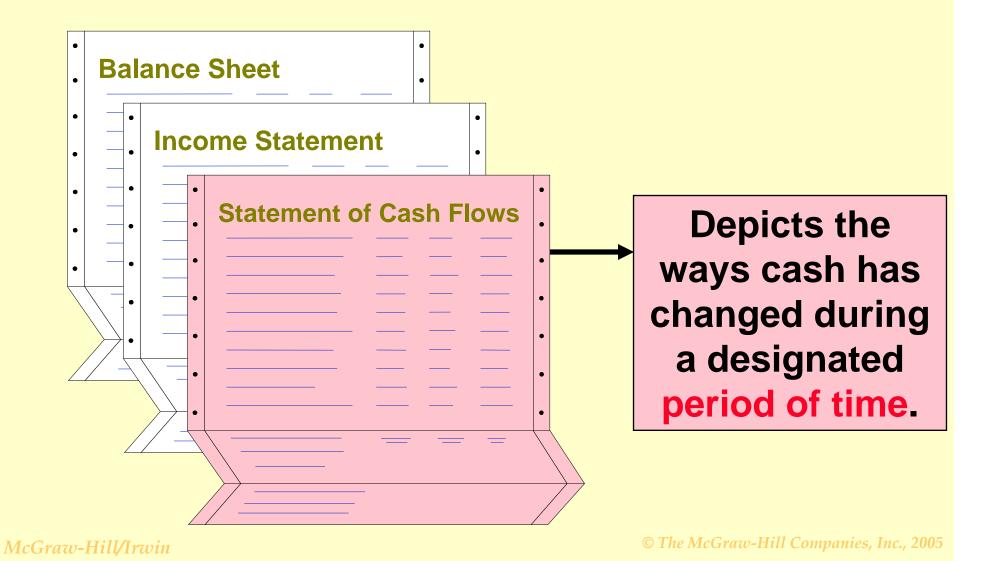






Either in the past, present, or future.





# A Starting Point: Statement of Financial Position

Vagabond Travel Agency						
Balance Sheet						
December 31, 2005						
Assets	Assets Liabilities & Owners' Equity		rs' Equity			
Cash	\$ 22,500	Liabilities:				
Notes receivable	10,000	Notes payable	\$ 41,000			
Accounts receivable	60,500	<b>Accounts payable</b>	36,000			
Supplies	2,000	Salaries payable	3,000			
Land	100,000	Total liabilities	\$ 80,000			
Building	90,000	Owners' Equity:				
Office equipment	15,000	Capital stock	150,000			
		Retained earnings	70,000			
Total	\$300,000	Total	\$300,000			

## The Concept of the Business Entity



A business entity is separate from the personal affairs of its owner.

#### Assets

Vagabond Travel Agency
Balance Sheet
December 31, 2005

**Assets** 

Cash	\$ 22,500
Notes receivable	10,000
Accounts receivable	60,500
Supplies	2,000
Land	100,000
Building	90,000
Office equipment	15,000

Total \$300,000

Assets are economic resources that are owned by the business and are expected to provide positive future cash flows.

#### Assets

Cost Principle

Stable-Dollar Assumption

These accounting principles support cost as the basis for asset valuation.

Going-Concern Assumption

Objectivity Principle

#### Liabilities

Vagabond Travel Agency
Balance Sheet
December 31, 2005

Liabilities are debts that represent negative future cash flows for the enterprise.

Liabilities & Owners' Equity

#### Liabilities:

Notes payable \$ 41,000 Accounts payable 36,000 Salaries payable 3,000 Total liabilities \$ 80,000

**Owners' Equity:** 

Capital stock 150,000 Retained earnings 70,000

Total \$300,000

## Owners' Equity

Vagabond Travel Agency
Balance Sheet
December 31, 2005

**Total** 

\$300,000

Owners' equity represents the owners' claims to the assets of the business.

Liabilities & Owners' Equity					
Liabilities:					
Notes payable	\$ 41,000				
Accounts payable	36,000				
Salaries payable	3,000				
Total liabilities	\$ 80,000				
Owners' Equity:					
Capital stock	150,000				
Retained earnings	70,000				

\$300,000

**Total** 

## Owners' Equity

Changes in Owners'
Equity

•Owners'
Investments

BusinessEarnings

Payments to Owners

BusinessLosses

McGraw-Hill/Irwin

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## The Accounting Equation

	Assets = Liabilities + Owners' Equity			iity
	\$300,000 =	\$80,000	0 + \$220,000	uity
Cash		\$ 22,500	Liabilities:	
Notes	receivable	10,000	Notes payable	\$ 41,000
Αςςοι	ınts receivable	60,500	Accounts payable	36,000
Suppl	ies	2,000	Salaries payable	3,000
Land		100,000	Total liabilities	\$ 80,000
Buildi	ng	90,000	Owners' Equity	
Office	equipment	15,000	Capital stock	150,000
			Retained earnings	70,000
Total		\$300,000	Total	\$300,000



# Let's analyze some transactions for JJ's Lawn Care Service.

# On May 1, 2005, Jill Jones and her family invested \$8,000 in JJ's Lawn Care Service and received 800 shares of stock.

JJ's Lawn Care Service Balance Sheet May 1, 2005

Assets Owners' Equity

Cash \$ 8,000 Capital Stock \$ 8,000

Total \$ 8,000 Total \$ 8,000

# On May 2, JJ's purchased a riding lawn mower for \$2,500 cash.

JJ's Lawn Care Service Balance Sheet May 2, 2005

Assets Owners' Equity

**Cash** \$ 5,500 Capital Stock \$ 8,000

Tools & Equipment 2,500

Total \$ 8,000 Total \$ 8,000

#### On May 8, JJ's purchased a \$15,000 truck.

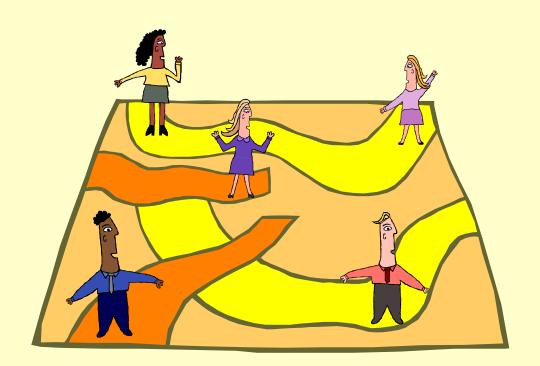
JJ's paid \$2,000 down in cash and issued a note payable for the remaining \$13,000.

•	JJ's	Lawn C	are Service	
		Balance	Sheet	
		May 8	, <b>2005</b>	
Assets			Liabilities and O	wners' Equity
Cash	\$	3,500	Liabilities:	
<b>Tools &amp; Equipment</b>		2,500	<b>Notes Payable</b>	\$ 13,000
Truck		15,000	Owners' Equity:	
			Capital Stock	8,000
			_	
Total	\$	21,000	Total	\$ 21,000

# On May 11, JJ's purchased some repair parts for \$300 on account.

JJ's Lawn Care Service									
Balance Sheet									
May 11, 2005									
Assets			<b>Liabilities and Own</b>	ers	' Equity				
Cash	\$	3,500	Liabilities:						
<b>Tools &amp; Equipment</b>		2,800	Notes Payable	\$	13,000				
Truck		15,000	<b>Accounts Payable</b>		300				
			<b>Total Liabilities</b>	\$	13,300				
			Owners' Equity:						
Capital Stock 8,0									
Total	\$	21,300	Total	\$	21,300				

## End of Part (2)



## **Part (3)**

# ACCOUNTING REPORTING of FINANCIAL RESULTS



#### JJ's Lawn Care Service Adjusted Trial Balance May 31, 2005

May 31, 2005		
Cash	\$ 3,925	
Accounts receivable	<b>75</b>	
Tools & equipment	2,650	
Accum. depreciation: tools & eq.		\$ <b>50</b>
Truck	15,000	
Accum. depreciation: truck		<b>250</b>
Notes payable		13,000
Accounts payable		<b>150</b>
Capital stock		8,000
Dividends	200	
Sales revenue		<b>750</b>
Gasoline expense	<b>50</b>	
Depreciation exp.: tools & eq.	<b>50</b>	
Depreciation exp.: truck	250	
Total	\$ 22,200	\$ 22,200

# This is the Adjusted Trial Balance for JJ's.



Now, let's prepare the financial statements for JJ's Lawn Care Service for May.

# JJ's Lawn Care Service Income Statement

For the month ending May 31, 2005

Sales revenue

\$ 750

**Operating expenses:** 

**Gasoline expense** 

\$ 50

Depr. exp.: tools & eq.

**50** 

Depr. exp.: truck

**250** 

350

**Net income** 

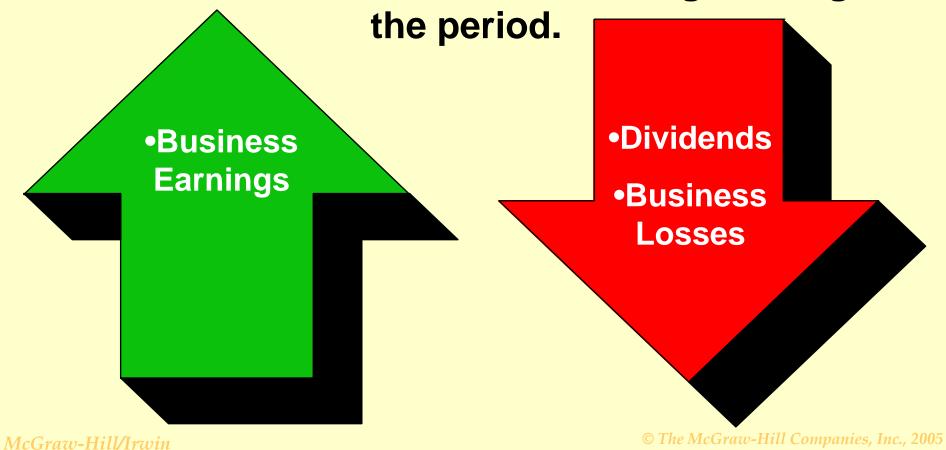
\$ 400

Net income also appears on the Statement of Retained Earnings.

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### Statement of Retained Earnings

This statement summarizes the increases and decreases in Retained Earnings during



JJ's Lawn Care Service

Statement of Retained Earnings

For the Month Ended May 31, 2005

Retained	earnings,	May 1	\$ -
----------	-----------	-------	------

Add: Net income 400

Subtotal \$ 400

Less: Dividends 200

Retained earnings, May 31 \$ 200

Now, let's prepare the Balance Sheet.

1-47



#### JJ's Lawn Care Service **Balance Sheet** May 31, 2005

**Assets** 

3,925 Cash **75** Accounts receivable **Tools & equipment** 2,650 2,600 Less: Accum. depr.: tools & eq. **50** \$ 15,000 Truck Less: Accum. depr.: truck 250 14,750 \$ 21,350 Total assets

**Liabilities & Stockholders' Equity** 

Liabilities:

\$ 13,000 Notes payable **Accounts payable** 150 **Total liabilities** \$ 13,150

Stockholders' equity:

Capital stock 8,000 **Retained earnings** 200

Total stockholders' equity \$ 21,350

Total liabilities & stockholders' equity

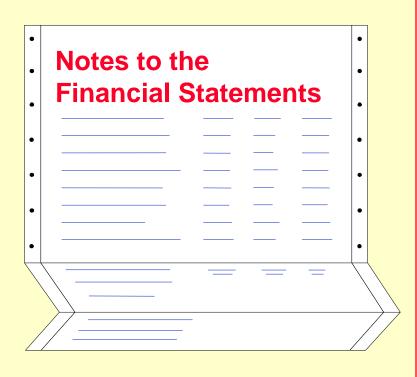
Next, let's prepare the Statement of Cash Flows for JJ's Lawn **Care Service** for May.

8,200

1-48

JJ's Lawn Care Service			
Statement of Cash Flow	S		
For the Month Ended May 31	, 20	005	
Cash flows from operating activities:			
Cash received from revenue transactions	\$	<b>750</b>	
Cash paid for expenses		(50)	
Net cash provided by operating activities			\$ 700
Cash flows from investing activities:			
Purchase of lawn mower	\$	(2,500)	
Purchase of truck		(2,000)	
Collection for sale of repair parts		<b>75</b>	
Payment for repair parts		(150)	
Net cash used by investing activities			(4,575)
Cash flows from financing activities:			
Investment by owners	\$	8,000	
Dividends		(200)	
Net cash provided by financing activities			7,800
Increase in cash for month			\$ 3,925
Cash balance, May 1, 2005		_	-
Cash balance, May 31, 2005		· · · · · · · · · · · · · · · · · · ·	\$ 3,925

# Drafting Notes to the Financial Statements



#### **Examples of Items Disclosed**

- Lawsuits pending
- Scheduled plant closings
- Governmental investigations
- Significant events occurring after the balance sheet date
- Specific customers that account for a large portion of revenue
- Unusual transactions and related party transactions

# Closing the Temporary Equity Accounts

- OClose Revenue accounts to Income Summary.
- **OClose Expense accounts** to Income Summary.
- Close Income Summary account to Retained Earnings.
- **4** Close Dividends to Retained Earnings.

The closing process gets the temporary accounts ready for the next accounting period.

# Closing the Temporary Equity Accounts

#### JJ's Lawn Care Service Adjusted Trial Balance May 31, 2005

May 31, 2005		
Cash	\$ 3,925	
Accounts receivable	<b>75</b>	
Tools & equipment	2,650	
Accum. depreciation: tools & eq.		\$ <b>50</b>
Truck	15,000	
Accum. depreciation: truck		<b>250</b>
Notes payable		13,000
Accounts payable		<b>150</b>
Capital stock		8,000
Dividends	200	
Sales revenue		<b>750</b>
Gasoline expense	<b>50</b>	
Depreciation exp.: tools & eq.	<b>50</b>	
Depreciation exp.: truck	250	
Total	\$ 22,200	\$ 22,200



Let's prepare the closing entries for JJ's Lawn Care Service.

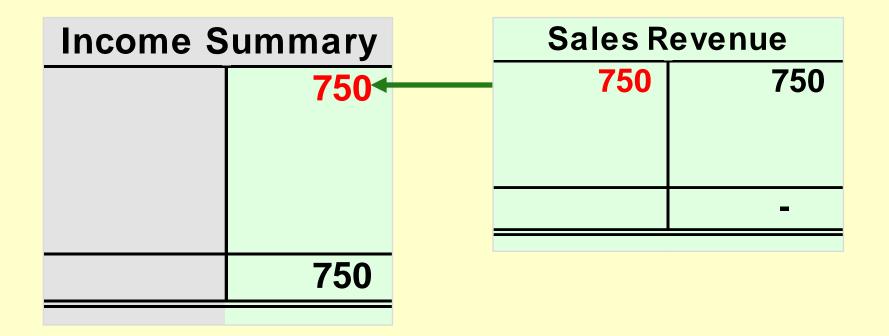
#### Closing Entries for Revenue Accounts

# Since Sales Revenue has a credit balance, the closing entry requires a debit to the Sales Revenue account.

#### **GENERAL JOURNAL**

Da	te	Account Titles and Explanation	Debit	Credit
May	31	Sales Reveune	750	
		Income Summary		750
		To close the revenue account.		

#### Closing Entries for Revenue Accounts



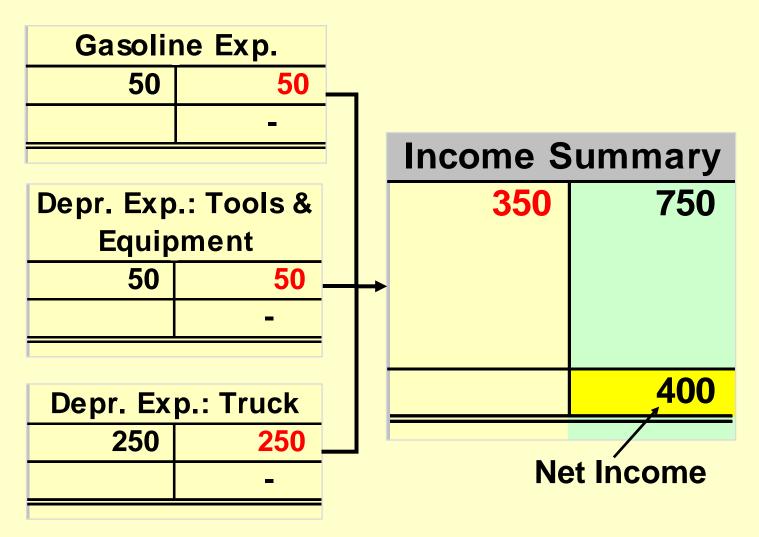
#### Closing Entries for Expense Accounts

# Since expense accounts have a debit balance, the closing entry requires a credit to the expense accounts.

#### **GENERAL JOURNAL**

Dat	te	Account Titles and Explanation	Debit	Credit
May	31	Income Summary	350	
		Gasoline Expense		50
		Depreciation Exp.: Tools & Equipment		50
		Depreciation Exp.: Truck		250
		To close the expense accounts.		

#### Closing Entries for Expense Accounts



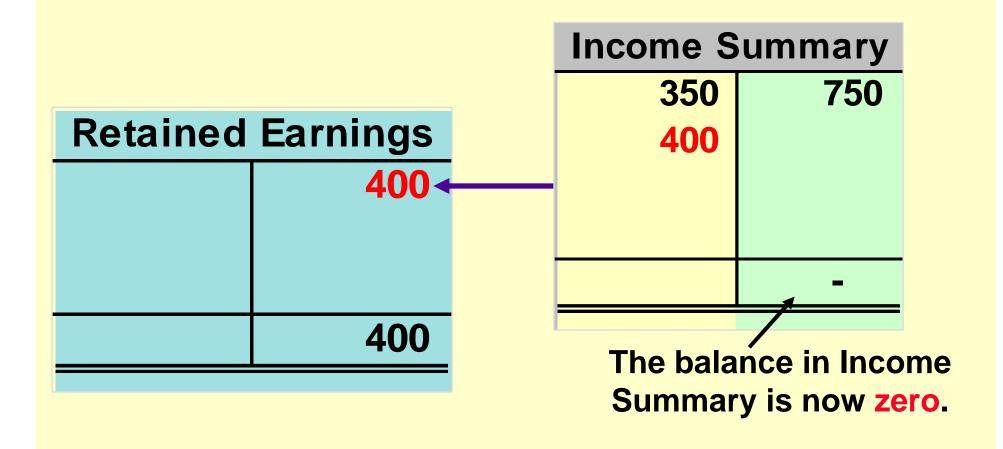
#### Closing the Income Summary Account

# Since Income Summary has a \$400 credit balance, the closing entry requires a debit to Income Summary.

#### **GENERAL JOURNAL**

Da	te	Account Titles and Explanation	Debit	Credit
May	31	Income Summary	400	
		Retained Earnings		400
		To close Income Summary.		

#### Closing the Income Summary Account



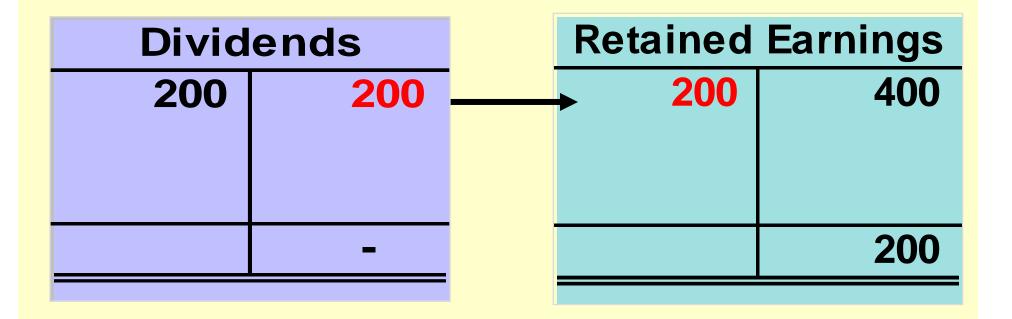
### Closing the Dividends Account

Since the Dividends account has a debit balance, the closing entry requires a credit to the Dividends account.

#### **GENERAL JOURNAL**

Da	te	Account Titles and Explanation	Debit	Credit
May	31	Retained Earnings	200	
		Dividends		200
		To close the Dividends account.		

## Closing the Dividends Account



JJ's Lawn Care Service
<b>After-Closing Trial Balance</b>
May 31, 2005

may 51, 2000		
Cash	\$ 3,925	
Accounts receivable	<b>75</b>	
Tools & equipment	2,650	
Accum. depreciation: tools & eq.		\$ <b>50</b>
Truck	15,000	
Accum. depreciation: truck		<b>250</b>
Notes payable		13,000
Accounts payable		150
Capital stock		8,000
Retained earnings		200
Total	\$ 21,650	\$ 21,650

After all closing entries are made, JJ's After-Closing Trial Balance looks like this.

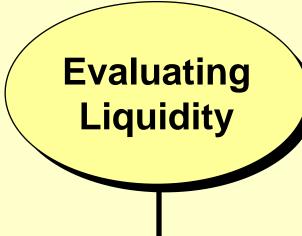


### Evaluating the Business



Did the business earn a profit or loss in the current period?

What is the business's future potential for a profit?



Does the business have assets available to pay debts as they become due?

## Evaluating the Business



Evaluating Liquidity

Net Income Percentage = Net Income Total Revenue

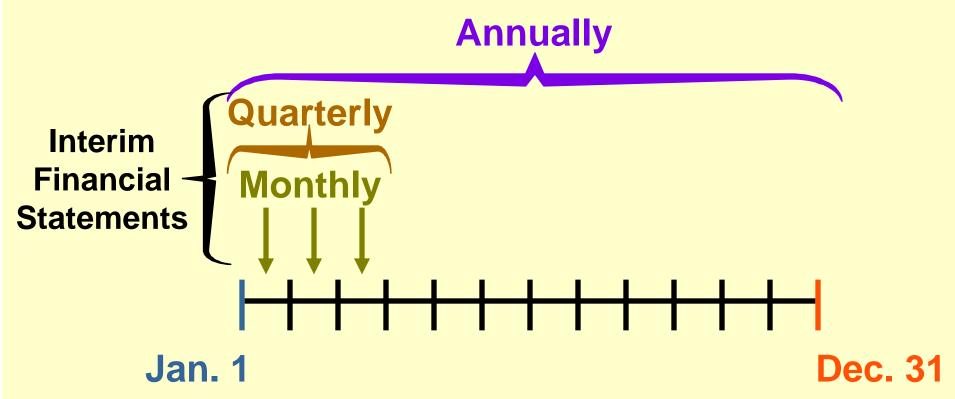
Return on Equity = Net Income Avg. Stockholders' Equity

Working = Current Assets - Current Liabilities

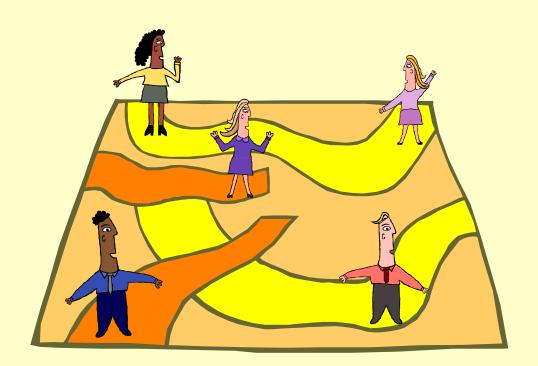
Current Assets
Ratio = Current Assets
Current Liabilities

## Preparing Financial Statements Covering Different Periods of Time

Many companies prepare financial statements at various points throughout the year.



## End of Part (3)



## **Part (4)**

# COST ACCOUNTING FOR MANAGEMENT



## Inventory Defined

## Inventory

Goods owned and held for sale to customers

**Current** asset

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### The Flow of Inventory Costs

As purchase cost (or manufacturing costs) are incurred

**BALANCE SHEET** 

**Current assets:** 

► Inventory

\$

**INCOME STATEMENT** 

Revenue

\$

Cost of goods sold

**Gross profit** 

**Expenses** 

**Net income** 

as goods are sold

\$

### The Flow of Inventory Costs

## In a perpetual inventory system, inventory entries parallel the flow of costs.

#### **GENERAL JOURNAL**

Dat	e Account Titles and Explanation	Debit	Credit
	Entry on Purchase Date		
	Inventory	<b>\$\$\$\$</b>	
	Accounts Payable		<b>\$\$\$\$</b>
	Entry on Sale Date		
	Cost of Goods Sold	\$\$\$\$	
	Inventory		\$\$\$\$

#### Which Unit Did We Sell?

When identical units of inventory have different unit costs, a question naturally arises as to which of these costs should be used in recording a sale of inventory.

#### **GENERAL JOURNAL**

Date	Account Titles and Explanation	Debit	Credit	
	Entry on Sale Date			
	Cost of Goods Sold	\$\$\$\$		
	Inventory		\$\$\$\$	

### Inventory Subsidiary Ledger

A separate subsidiary account is maintained for each item in inventory.

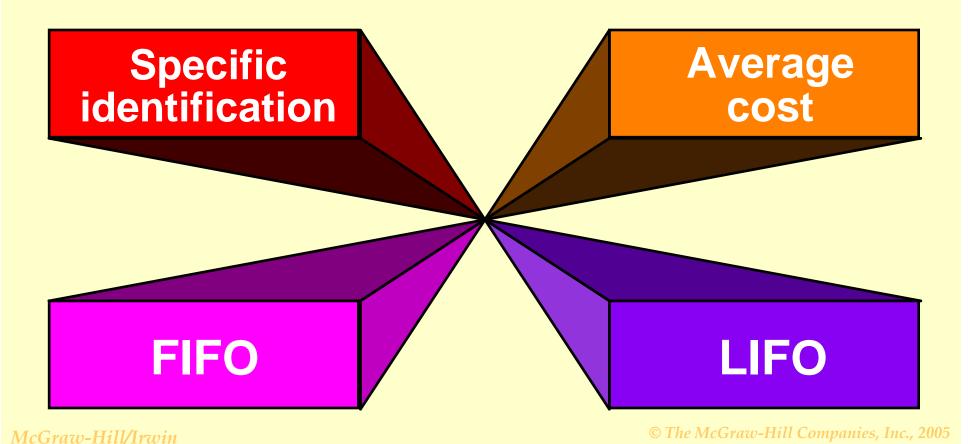
Item LL002Primary supplier Electronic CityDescription Laser LightSecondary supplier Electric CompanyLocation Storeroom 2Inventory level: Min: 25 Max: 200

	Purchased			Sold		Balance			
						Cost of			
		Unit			Unit	Goods		Unit	
Date	Units	Cost	Total	Units	Cost	Sold	Units	Cost	Total
Sept. 5	100	\$ 30	\$ 3,000				100	\$ 30	\$ 3,000
Sept. 9	75	50	3,750				100	30	3,000
							75	50	3,750
Sept. 10				10	<b>4</b> ?	?	?	?	?
							?	?	?

How can we determine the unit cost for the Sept. 10 sale?

## **Inventory Cost Flows**

We use one of these inventory valuation methods to determine cost of inventory sold.



# Information for the Following Inventory Examples

#### The Bike Company (TBC)

#### Cost of Goods Available for Sale

Aug. 1 Beg. Inventory 10 units @ \$91 = \$910

Aug. 3 Purchased 15 units @ \$ 106 = \$ 1,590

Aug. 17 Purchased 20 units @ \$115 = \$2,300

Aug. 28 Purchased 10 units @ \$ 119 = \$ 1,190

#### **Retail Sales of Goods**

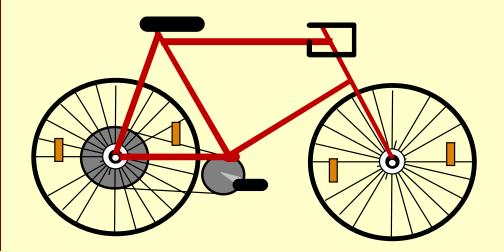
Aug. 14 Sales

Aug. 31 Sales





When a unit is sold, the specific cost of the unit sold is added to cost of goods sold.







Date		ļ	Puro	cha	ses		Cost of Goods Sold	ventory alance
Aug. 1	10	@	\$	91	=	\$ 910		\$ 910
Aug. 3	15	@	\$ 1	06	=	\$ 1,590		\$ 2,500

On August 14, TBC sold 20 bikes for \$130 each.

Nine bikes originally cost \$91 and 11 bikes

originally cost \$106.





Date			Purcl	าล	ses		(	Cost	of	Goo	ds S	Sold	entory alance
Aug. 1	10	@	\$ 9	1	=	\$ 910							\$ 910
Aug. 3	15	@	\$ 10	6	=	\$ 1,590							\$ 2,500
<b>Aug. 14</b>							9	@	\$	91	=	\$ 819	
							11	@	\$	106	=	\$ 1,166	\$ 515

The Cost of Goods Sold for the August 14 sale is \$1,985, leaving \$515 and 5 units in inventory.



Let's look at the entries for the Aug. 14 sale.



#### **GENERAL JOURNAL Account Titles and Explanation Debit** Credit Date Retail **2,600** Aug. 14 Cash Sales 2,600 Cost 1,985 14 Cost of Goods Sold 1,985 Inventory

A similar entry is made after each sale.





		Inventor	y
Date		Cost of Goods Sold Balance	)
Aug. 1	Cost of Goods	\$ 91	0
Aug. 3	Sold for	\$ 2,50	0
Aug. 14		9 @ \$ 91 = \$ 819	
	August 31 =	11 @ \$ 106 = \$ 1,166 \$ 51	5
Aug. 17	DZ.UIU —	\$ 2,81	5
Aug. 28	<b>4</b> _, <b>5</b>	\$ 4,00	5
Aug. 31		1	
		3 @ \$ 106 = \$ 318	
		15 @ \$ 115 = [ \$ 1,725 ]	
		4 @ \$ 119 = \\$ 476 \\$ 1,39	5





•	Income Statement .  COGS = \$4,595  .	
•		

							ln۱	<i>e</i> ntory
Cost of Goods Sold						Balance		
							\$	910
							\$	2,500
9	@	\$	91	=	\$	819		
11	@	\$	106	=	\$ '	1,166	\$	515
							\$	2,815
							\$	4,005
1	@	\$	91	=	\$	91		
3	@	\$	106	=	\$	318		
15	@	\$	115	=	\$	1,725		
4	@	\$	119	=	\$	476	\$	1,395

\_\_\_\_\_

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1 @ \$ 106 = \$ 106 5 @ \$ 115 = 575 6 @ \$ 119 = 714

End. Inv. \$1,395

Companies, Inc., 2005



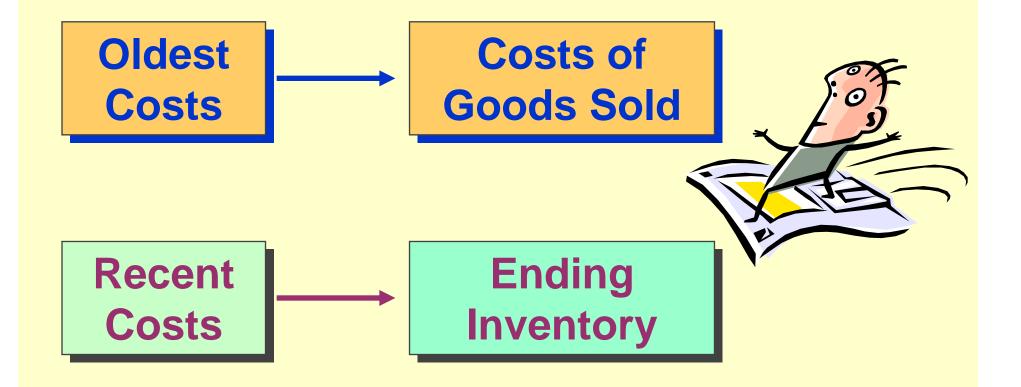
### Average-Cost Method

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

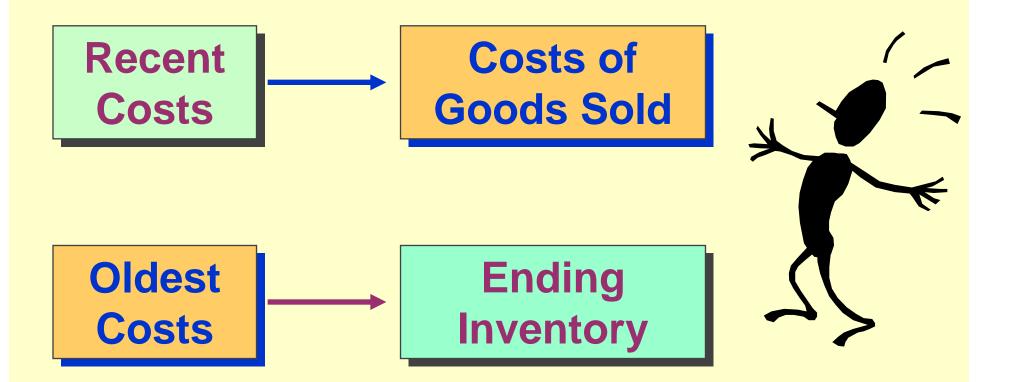
Cost of Goods Units on hand Available for ÷ on the date of Sale sale



### First-In, First-Out Method (FIFO)



### Last-In, First-Out Method (LIFO)



### The Principle of Consistency

Once a company has adopted a particular accounting method, it should follow that method consistently, rather than switch methods from one year to the next.



### Just-In-Time (JIT) Inventory Systems

This inventory arrived just in time for us to use it in the manufacturing process.



# In a periodic inventory system, inventory entries are as follows.

#### **GENERAL JOURNAL**

Date	Account Titles and Explanation	Debit	Credit	
	Entry on Purchase Date			
	Purchases	<b>\$\$\$\$</b>		
1	Accounts Payable		<b>\$\$\$\$</b>	

Note that an entry is not made to inventory.

# In a periodic inventory system, inventory entries are as follows.

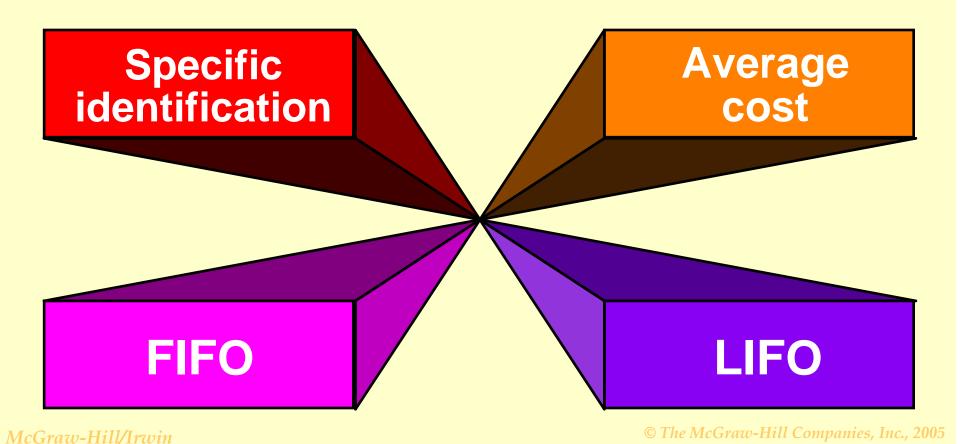
#### **GENERAL JOURNAL**

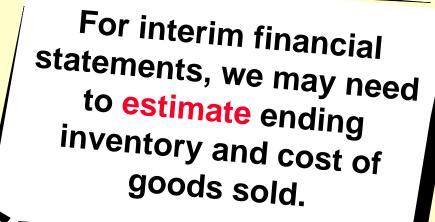
Date	Account Titles and Explanation	Debit	Credit
	Entry on Sale Date		
	No entry to inventory.		
	Accounts Receivable	\$\$\$\$	
	Sales		\$\$\$\$

The inventory on hand and the cost of goods sold for the year are not determined until year-end.



We use one of these inventory valuation methods in a periodic inventory system.







### The Gross Profit Method



- Determine cost of goods available for sale.
- ② Estimate cost of goods sold by multiplying the net sales by the cost ratio.
- O Deduct cost of goods sold from cost of goods available for sale to determine ending inventory.

### The Gross Profit Method

In March of 2005, ChemCo's inventory was destroyed by fire. ChemCo's normal gross profit ratio is 30% of net sales. At the time of the fire, ChemCo showed the following balances:

Sales	\$ 31,500
Sales returns	1,500
<b>Beginning Inventory</b>	12,000
Net cost of goods purchased	20,500



#### The Retail Method

The retail method of estimating inventory requires that management determine the value of ending inventory at retail prices.

In March of 2005, ChemCo's inventory was destroyed by fire. At the time of the fire, ChemCo's management collected the following information:

## Information for ChemCo The Retail Method

Goods available for sale at cost	\$ 32,500
Goods available for sale at retail	50,000
Physical count of ending inventory priced at retail	22,000



### Financial Analysis

Measures how quickly a company sells its merchandise inventory.

Inventory
Turnover Rate = Cost of Goods Sold
Average Inventory

Average Inventory = (Beg. Inv. + End. Inv.) ÷ 2

A ratio that is low compared to competitors suggests inefficient use of assets.

### Financial Analysis

Avg. Number of Days to Sell Inventory

Days in the Year Inventory Turnover

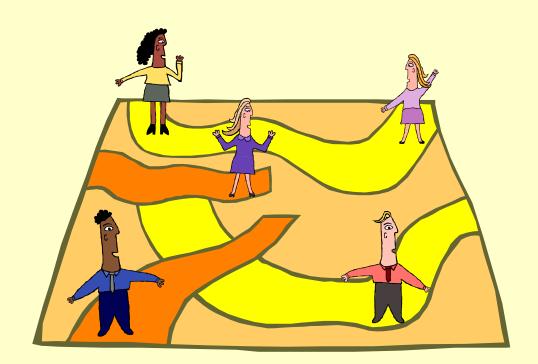
Measures how many days on average it takes to sell its inventory.



# Accounting Methods Can Affect Financial Ratios

Remember that identical companies that use different inventory methods (e.g., FIFO and LIFO) will have different inventory turnover ratios.

## End of Part (4)



## **Part (5)**

### MANAGEMENT ACCOUNTING



### Management Accounting: Basic Framework

Management accounting and assigning decision-making authority.



Accounting systems help to identify who has authority over assets.

Accounting information supports planning and decision-making.

Accounting reports provide a means of monitoring, evaluating, and rewarding performance.



**Top Management Actual Results:** Performance **Budget:** Future Plans Current Evaluation: Past Assign **Support Evaluate** Decision-Making Decision-Making **Decision-Making** © The McGraw-Hill Companies, Inc., 2005

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# Comparing Financial Accounting and Management Accounting

	Financial Accounting	Management Accounting		
	Provide information about the	Provide information for		
Purpose	financial position and	planning, evaluating, and		
	performance of the company.	rewarding performance.		
Types of	Balance sheet, income			
Reports	statement, and statement of	Various, non-standard reports		
Reports	cash flows.			
Standards	GAAP	None		
Standards Reporting	GAAP Usually, the company taken	None A component of the		
	0.1 11 11			
Reporting	Usually, the company taken	A component of the company's value chain.		
Reporting Entity	Usually, the company taken as a whole.	A component of the		
Reporting Entity Time	Usually, the company taken as a whole. Usually a year, quarter, or a	A component of the company's value chain.		

# Accounting for Manufacturing Operations

The cost to produce a unit of product includes:

- Direct material
- Direct labor
- Manufacturing overhead



### **Direct Materials**

Raw materials
& component
parts that
become an
integral part
of finished
products.

Can be traced directly and conveniently to products.

If materials cannot be traced directly to products, the materials are considered indirect and are part of manufacturing overhead.

### Direct Labor

Includes the payroll cost of direct workers.

Direct labor x Wage hours rate

Those employees who work directly on the goods being manufactured.

The cost of employees who do not work directly on the goods is considered indirect labor and is part of manufacturing overhead.

### Manufacturing Overhead

All manufacturing costs other than direct materials and direct labor.

### **Includes:**

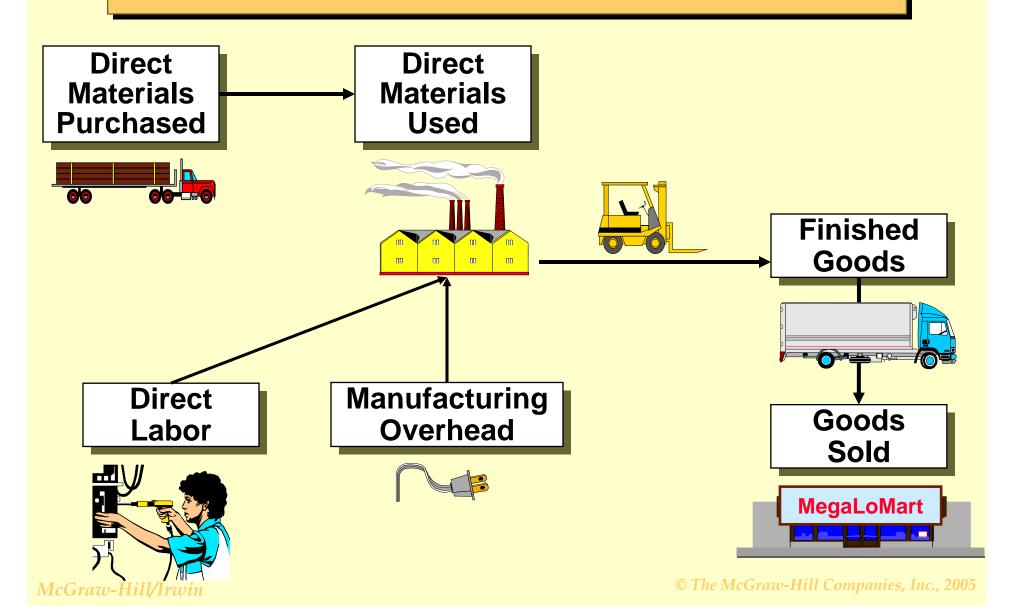
- Indirect materials.
- Indirect labor.
- Machinery and equipment costs.
- Cost of regulatory compliance.



Does not include selling or general and administrative expenses.

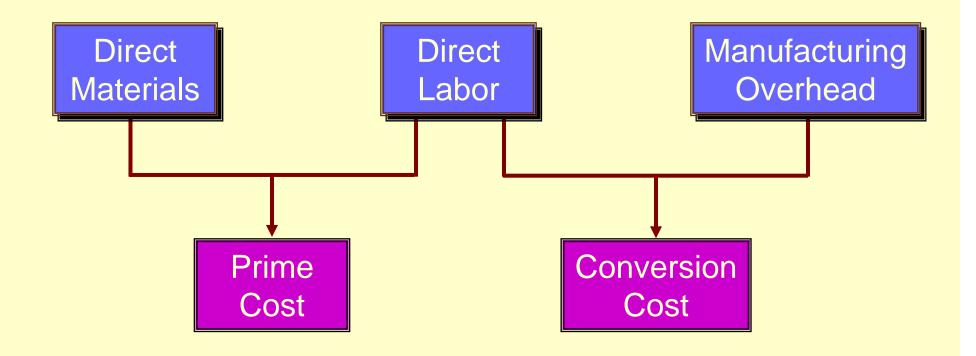
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# Flow of Physical Goods in Production



# Accounting for Manufacturing Operations

Manufacturing costs are often combined as follows:



### Product Costs Versus Period Costs

Product Costs (manufacturing costs)



#### **Balance Sheet**

**Current assets** and inventory

Period Costs
(operating
expenses and
income taxes.)



Income Statement

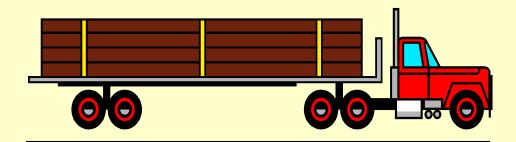
Revenue
COGS
Gross profit
Expenses

Net income.

When goods are sold.

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# Inventories of a Manufacturing Business



Raw materials - inventory on hand and available for use.



Finished
goodscompleted
goods awaiting
sale.



Work in process - partially completed goods.



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Direct Direct Work in Process **Materials** materials materials Inventory Inventory purchased used \$\$\$ \$\$\$ \$\$\$ \$\$\$ Direct labor & Manufacturing Overhead Cost of goods **Finished Goods** Cost of manufactured Goods Sold Inventory \$\$\$ \$\$\$ \$\$\$ © The McGraw-Hill Companies, Inc., 2005 McGraw-Hill/Irwin

# Flow of Costs Associated With Production

Pure-Ice Inc. had \$52,000 of inventory in direct materials inventory on January 1, 2005. During the year, Pure-Ice purchased \$586,000 of additional direct materials. At December 31, 2005, \$78,000 of the direct materials were still on hand. How much direct material was placed into production during 2005?



# Flow of Costs Associated With Production

Beginning materials inventory

+ Materials purchased
 Materials available to be

= placed into production

Materials placed into production

Ending materials

= inventory

\$ 52,000 586,000

638,000

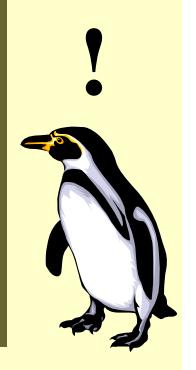


\$ 78,000



# Flow of Costs Associated With Production

	Beginning materials	
	inventory	\$ 52,000
+	Materials purchased	586,000
	Materials available to be	
_	placed into production	638,000
	Materials placed into	
	production	560,000
=	Ending materials	
	inventory	\$ 78,000



## End of Part (5)

