What is a Company?

Lesson Summary

What is a Company? uses the Hershey Chocolate Company to help students discover advantages and entrepreneurial gains by establishing a corporation that will develop, produce, and sell a new product.

Lesson Objectives

- Identify and describe the terms: company, partnership, and corporation.
- Explain the characteristics, advantages, and disadvantages of various types of companies.
- Explain how companies are formed.
- Describe the benefits of forming a business to sell a product.

NCTM Standards

No matches for these activities

Mathematical Strands

	Thinking Algebraically	Students use information from a chart to evaluate investment decisions. Students will explain their thinking.	
	Interpreting Statistics	Students evaluate profits and profit trends presented in a table to make decisions about potential investments.	
	Communicating Quantitative Information	Students analyze and synthesize large amounts of information organized in charts into a coherent, persuasive presentation.	
	Tackling Complex Problems	Students work with large numbers and solve problems presented in paragraph format. The representations of large numbers have been purposely mixed to give students practice interpreting numbers in different representations.	

Companies need money to expand and grow. “Going public,” or selling shares of stock to investors, is one way to raise money. Borrowing money from a bank is another way for companies to pay for expansion and growth.

This is a list of interest rates over a seven-year period:

2000	2001	2002	2003	2004	2005	2006
8.50%	9.50%	4.75%	4.25%	4.00%	5.25%	7.25%

1. From a company’s perspective, is it better to have a high interest rate or a low interest rate when it borrows money? Why?

2. In which year would it have cost companies the most to borrow money? In which year would it have cost the least? How do you know?

3. Write a formula that expresses the interest, ***i***, that a company will pay on a one-year loan, ***l***, at a specified interest rate, ***r***.

Below are the profiles of three companies that are thinking of going public. Each company sells high-end fashion accessories. Based on the information provided, give reasons why an investor might be interested in the company.

	Company A	Company B	Company C
Profits 2002	$635,000	-	$1,199,000
Profits 2003	$654,000	-	$1,103,000
Profits 2004	$719,000	-	$1,048,000
Profits 2005	$848,000	-	$1,017,000
Profits 2006	$992,000	$2,881,000	$1,220,000
Company founded in:	Dec. 2000	Nov. 2005	May 1988

1. Which company had the greatest profits in 2006?

2. Describe the trend in profits for Company A.

3. Describe the trend in profits for Company C.

4. Can you describe the trend in profits for Company B?

5. Based on the information in the table, in which company would you invest? Why?

Dayton Superior Corporation, based in Dayton, OH, was trying to decide whether to go public in 2006. Pretend you are a junior sales analyst at the company and are invited to give your opinion about what the company should do. Write a memo or prepare a PowerPoint presentation that would explain to your boss, the company's CEO, why you think the company should or should not go public.

<u>HINT</u>: Your CEO is very busy, so keep your memo or presentation short and to the point. Use the statistics you think are the most persuasive. Not every piece of information needs to be included. If you choose to use graphs, make sure they are easy to read.

In order to make your recommendations, make notes next to each chart. State what information is presented and how this information will help your boss make the decision to go public or remain private.

Dayton Superior Corporation Profile

The Dayton Superior Corporation makes metal accessories and forms for keeping concrete and masonry structures in place while under construction. Dayton Superior's products include concrete accessories (anchoring and bracing for walls, positioning steel reinforcing bars, and supporting bridge framework), masonry products (wire support for masonry walls), welded dowel assemblies (metal dowels), paving products, and corrosive-preventing epoxy coatings and other chemicals. The company also rents concrete forming and shoring systems to other companies. (*Hoover's.* February 2008 <http://hoovers.com/dayton-superior/--ID__51673--/free-co-profile.xhtml>).

Basic Information

Fiscal Year-End	December
2005 Sales (mil.)	$419.0
1-Year Sales Growth	0.1%
2005 Net Income (mil.)	($114.7)
2005 Employees	1,800

Annual Income (in millions)

Year	Revenue	Gross Profit	Operating Income	Total Net Income
Dec 05	419.0	98.6	(66.2)	(114.7)
Dec 04	418.6	107.7	15.0	(48.4)
Dec 03	377.9	104.3	14.0	(17.1)

Dayton Superior's Top Competitors

	Dayton Superior	Commercial Metals	Insteel	MMI Products
Annual Sales	419.0	7,555.9	329.5	721.4
Employees	1,800	--	--	2,500
Market Cap ($ mil.)	0.0	3,065.3	311.1	0.0

Hoovers. Dayton Superior's Financial Statements. 18 January 2007 <http://www.hoovers.com/dayton-superior/--ID__51673, period__A--/free-co-fin-income.xhtml>

Based on the notes from your analysis of each chart, what is your recommendation to your boss? Choose the three most important pieces of information that you would use to persuade him/her.

1. Company A has decided to go public, hoping to raise $3 million in capital. In the initial public offering, there will be 250,000 shares offered. If all the shares are sold, at what price per share would the company raise its $3,000,000? At what price would the company raise 110% of its goal?

2. Company B needs to generate $80,000,000 by going public and having an initial public offering of 1.5 million shares. If all the shares are sold, at what price would the company meet its capital goal?

3. Company C has decided to go public because it would like to raise $158,000,000 in capital. It thinks that an initial public offering of stock would be traded at $45 per share. At this price, how many shares need to be offered to raise the $158,000,000?

4. Corporation X has decided to go public, hoping that it will raise at least $1.25 million dollars. There are 80,000 shares in the initial public offering. Assuming all the shares are sold, write an algebraic expression that defines the price per share that will generate capital of $1.25 million.

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ANSWER KEY

Please Note: 1. Prices included in lesson are not representative of actual market data and are for instructional purposes only. 2. Discrepancies may occur between student responses and the answer keys as a result of how far calculations were taken past the decimal point. In most instances, numbers were rounded from the thousandth or ten thousandth place.

Companies need money to expand and grow. "Going public," or selling shares of stock to investors, is one way to raise money. Borrowing money from a bank is another way for companies to pay for expansion and growth.

This is a list of interest rates over a seven-year period:

2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
8.50%	9.50%	4.75%	4.25%	4.00%	5.25%	7.25%

1. From a company's perspective, is it better to have a high interest rate or a low interest rate when it borrows money? Why?
Answer: When a company borrows money, it is better to have a low interest rate. The lower the interest rate, the less money the company has to pay back as interest on the loan.

2. In which year would it have cost companies the most to borrow money? In which year would it have cost the least? How do you know?
Answer: The cost of borrowing money would have been greatest in 2001 and lowest in 2004. We know this because the interest rate had its greatest value in 2001 and its lowest value in 2004.

3. Write a formula that expresses the interest, ***i***, that a company will pay on a one-year loan, ***l***, at a specified interest rate, ***r***.
Answer: The formula for finding the interest on a loan is: i = r x l
Assume a company takes a loan of $100.00 for one year at an interest rate of 5%. The interest it must pay on that loan is: i = 0.05 x $100.00 = $5.00

Below are the profiles of three companies that are thinking of going public. Each company sells high-end fashion accessories. Based on the information provided, give reasons why an investor might be interested in the company.

	Company A	Company B	Company C
Profits 2002	$635,000	-	$1,199,000
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Company founded in:	Dec. 2000	Nov. 2005	May 1988

1. Which company had the greatest profits in 2006?
Answer: Company B had the greatest profits.
2. Describe the trend in profits for Company A.
Answer: Profits for Company A increased each year from 2002 through 2006.
3. Describe the trend in profits for Company C.
Answer: Profits for Company C had three straight declining years. However, in 2006, there was an increase in Company C's profits.
4. Can you describe the trend in profits for Company B?
Answer: No. Company B was founded in 2005 and has reported profits for only one year.
5. Based on the information in the table, in which company would you invest? Why?
Possible Answer: Company A has had steady profit increases for the past four years. Some investors might favor Company B because its profits for 2006 were much greater than the other two companies. Because it is a new company, Company B could be considered a risky investment.

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HINT: Your CEO is very busy, so keep your memo or presentation short and to the point. Use the statistics you think are the most persuasive. Not every piece of information needs to be included. If you choose to use graphs, make sure they are easy to read.

In order to make your recommendations, make notes next to each chart. State what information is presented and how this information will help your boss make the decision to go public or remain private.

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Based on the notes from your analysis of each chart, what is your recommendation to your boss? Choose the three most important pieces of information that you would use to persuade him/her.

Possible Answer: Dayton Superior is a much smaller company than its top competitors. It ranks third out of four in annual sales. Going public will provide an opportunity to expand and grow. The total net income has decreased over the past three years. In 2005, the operating income was in the red. Though revenue has increased, gross profit has decreased. Going public will allow the company to grow, expand, and compete with the competition.

1. Company A has decided to go public, hoping to raise $3 million in capital. In the initial public offering, there will be 250,000 shares offered. If all the shares are sold, at what price per share would the company raise its $3,000,000? At what price would the company raise 110% of its goal?

Answer: The price per share is found by dividing the desired capital amount by the number of shares issued.

price per share = $3,000,000 ÷ 250,000 = $12.00

To raise 110% of its goal, the price would have to be $13.20. This can be found two ways:

(1) price = $12.00 x 1.10 = $13.20

(2) price = ($3,000,000 x 1.10) ÷ 250,000 = $13.20

2. Company B needs to generate $80,000,000 by going public and having an initial public offering of 1.5 million shares. If all the shares are sold, at what price would the company meet its capital goal?

Answer: $80,000,000 ÷ 1,500,000 = $53.33

3. Company C has decided to go public because it would like to raise $158,000,000 in capital. It thinks that an initial public offering of stock would be traded at $45 per share. At this price, how many shares need to be offered to raise the $158,000,000?

Answer: $158,000,000 ÷ $45.00 = 3,511,111.11 = 3,511,112 shares

4. Corporation X has decided to go public, hoping that it will raise at least $1.25 million dollars. There are 80,000 shares in the initial public offering. Assuming all the shares are sold, write an algebraic expression that defines the price per share that will generate capital of $1.25 million.

Answer: m = money for IPO, s = number of shares, p = price per share

p = m ÷ s = $1,250,000 ÷ 80,000 = $15.63