BIZWORLD®

Version 4.0

Online Resources
Part B: Manufacturing

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Memo: The Assembly Line

Name _____ Date_____

Many products that are produced in large numbers use a manufacturing technique known as an assembly line. One example of a product commonly manufactured through the use of the assembly line process is the automobile.

1. Explain how an automobile is assembled by the assembly line process.

2. What other products are made by the assembly line process?

3. Identify three benefits of, or advantages to, using the assembly line process.

   a. _____

   b. _____

   c. _____

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Memo: The Assembly Line

Name _____ Date_____

Many products that are produced in large numbers use a manufacturing Technique known as an assembly line. One example of a product commonly Manufactured through the use of the assembly line process is the automobile.

1. Explain how an automobile is assembled by the assembly line process.

   The assembly line is defined as a manufacturing process in Which a product is assembled by many people or machines Doing specific parts of production. Automobiles are assembled In this way as people or machines repeatedly perform specific Tasks as each automobile moves along the assembly line.

2. What other products are made by the assembly line process?

   (answers will vary)

3. Identify three benefits or advantages to using the assembly line process.

   (answers will vary)

   A. *Decreased production time*

   B. *Decreased production costs*

   C. *Product consistency*

Mr. Vincent's Computers

1. Mr. Vincent wants to purchase four new computers for his classroom, but he doesn't have enough money in his budget. If he borrows $3,273.67 at 12.5% interest, how much will he have to pay in interest? Show your work.

Answer:_____

2. The School Board is willing to give Mr. Vincent 25% of the money that he needs to pay for the computers. If he has to borrow the rest at the above interest rate, how much will he have to pay in interest? Show your work.

Answer:_____

3. In order to avoid having to borrow so much money from the bank, Mr. Vincent organizes several fundraisers at school. The goal is to raise at least $1,500.00. How much money would Mr. Vincent save in interest fees if he and his students are able to raise this much money? Show your work.

Answer:_____

4. Unfortunately, Mr. Vincent and his students are only able to raise 60% of their goal. How much money will they save in interest fees now? Show your work.

Answer:_____

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Mr. Vincent's Computers

1. Mr. Vincent wants to purchase four new computers for his classroom, but he doesn't have enough money in his budget. If he borrows $3,273.67 at 12.5% interest, how much will he have to pay in interest? Show your work.

   0.125 x $3,273.67 = $409.208

   Answer: $409.21

2. The School Board is willing to give Mr. Vincent 25% of the money that he needs to pay for the computers. If he has to borrow the rest at the above interest rate, how much will he have to pay in interest? Show your work.

   0.75 x $3,273.67 x 0.125 = $306.906

   or

   0.75 x $409.208 = $306.906

   Answer: $306.91

3. In order to avoid having to borrow so much money from the bank, Mr. Vincent organizes several fundraisers at school. The goal is to raise at least $1,500.00. How much money would Mr. Vincent save in interest fees if he and his students are able to raise this much money? Show your work.

   $1,500 x 0.125 = $187.50

   Answer: $187.50

4. Unfortunately, Mr. Vincent and his students are only able to raise 60% of their goal. How much money will they save in interest fees now? Show your work.

   ($1,500 x 0.60) x 0.125 = $112.50

   Answer: $112.50

Memo: How Much Can Your Company Manufacture?

Name _____ Date_____

The following is a series of questions designed to assist you and your company in estimating the number of products you will be able to produce today.

1. Approximately how long did it take you to make a prototype during Session Six?

   Answer_____

2. Based on your answer in the question above, how many bracelets do you estimate you will be able to produce in 30 minutes?

   Answer_____

3. How many people does your company employ?

   Answer_____

4. If everyone in your company is able to make a product at the above rate, how many bracelets would you estimate your company will produce in 30 minutes? This is your estimated production.

   Answer_____

5. Identify ways in which your company could increase its estimated production.

Memo: How Much Can Your Company Manufacture? Key

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Memo: How Much Can Your Company Manufacture?

Name _____ Date_____

The following is a series of questions designed to assist you and your company in estimating the number of products you will be able to produce today.

1. Approximately how long did it take you to make a prototype during Session Six?

   Answer__(answers will vary)__

2. Based on your answer in the question above, how many bracelets do you estimate you will be able to produce in 30 minutes?

   Answer__(answers will vary)__

3. How many people does your company employ?

   Answer__(answers will vary)__

4. If everyone in your company is able to make a product at the above rate, how many bracelets would you estimate your company will produce in 30 minutes? This is your estimated production.

   Answer__(answers will vary)__

5. Identify ways in which your company could increase its estimated production.

   1. The double twist style is faster to produce; 2. Use of an assembly line; 3. Define our specific design(s) before starting; 4. Set personal goals

Estimated vs. Actual Production

1. How many bracelets did you estimate your company would be able to produce?

   Estimated Production_____

2. What is the actual number of bracelets that your company was able to produce?

   Actual Production_____

3. What is the difference between your estimated production and actual production?

4. What percentage of your estimated production did you actually produce?

5. Identify three factors that could have increased your company's actual production.

   a._____

   b._____

   c._____

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Estimated vs. Actual Production

1. How many bracelets did you estimate your company would be able to produce?

   Estimated Production_(answers will vary)_

2. What is the actual number of bracelets that your company was able to produce?

   Actual Production_(answers will vary)_

3. What is the difference between your estimated production and actual production?

   Actual - Estimated = Difference

4. What percentage of your estimated production did you actually produce?

   (Estimated ÷ Actual) x 100 = % of estimated production

5. Identify three factors that could have increased your company's actual production.

   a. use of an assembly line

   b. better planning

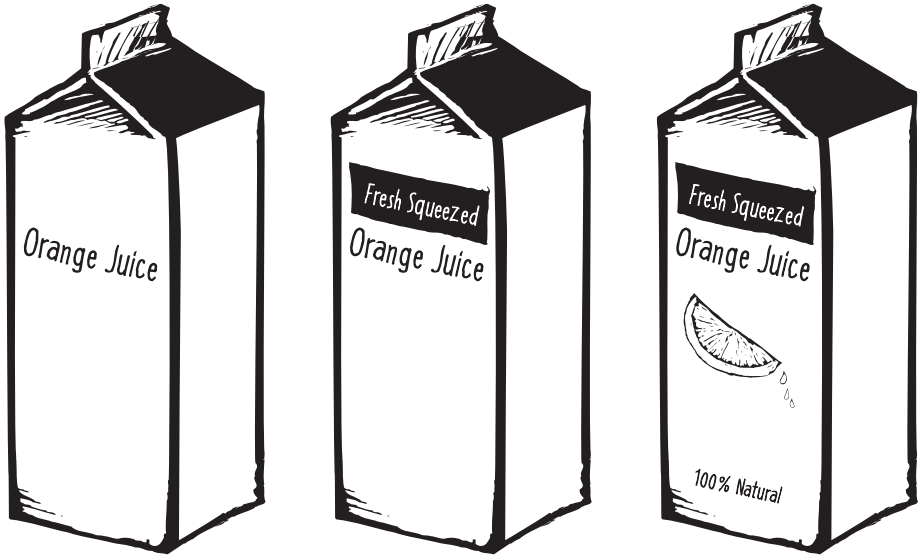
   c. setting goals

Memo: The Effects of Packaging

Name _____ Date_____

Imagine walking into a local supermarket to buy orange juice. The store has three brands from which to choose. The packaging of each brand is illustrated below.

1. Which brand of orange juice would you buy? Explain your decision below.



1 2 3

2. You grab your first choice from the refrigerator, but as you turn to walk away, you notice the difference in prices. The price for each brand is marked as follows.

   (1) = $1.99 (2) = $3.29 (3) = $5.49

   Based upon this new information, would you still buy your first choice? Explain your decision below.

Tony's Pizzeria

Tony is the owner and founder of Tony's Pizzeria, which is a well established pizza shop in town. Tony keeps his business model simple: he offers only two sizes, medium and large, and keeps his pricing structure simple. On average, Tony's Pizzeria sells 175 large pizzas per week and 125 medium pizzas per week. Over the last three years of business, Tony has calculated his total expenses to be an average of $2,600.00 a week and his profit to be approximately $1,150.00 per week.

1. How much money does Tony's Pizzeria generate in total revenue each week?

Answer_____

2. Tony charges $15.00 for a large pizza. How much does he charge for a medium pizza? Show your work.

Answer_____

3. Tony's landlord is about to increase his rent by $150.00 per week. As a result, Tony is planning to increase the price of his pizzas by $1.00 each. Assuming business remains steady, what will be Tony's new weekly profit? Show your work.

Answer_____

Tony's Pizzeria Key

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Tony's Pizzeria

Tony is the owner and founder of Tony's Pizzeria, which is a well established pizza shop in town. Tony keeps his business model simple: he offers only two sizes, medium and large, and keeps his pricing structure simple. On average, Tony's Pizzeria sells 175 large pizzas per week and 125 medium pizzas per week. Over the last three years of business, Tony has calculated his total expenses to be an average of $2,600.00 a week and his profit to be approximately $1,150.00 per week.

1. How much money does Tony's Pizzeria generate in total revenue each week?

   $2,600.00 + $1,150.00 = $3,750.00

   Answer *$3,750.00*

2. Tony charges $15.00 for a large pizza. How much does he charge for a medium pizza? Show your work.

   $15.00 x 175 = $2,625.00
   $3,750.00 - $2,625.00 = $1,125.00
   $1,125.00 ÷ 125 = $9.00

   Answer *$9.00*

3. Tony's landlord is about to increase his rent by $150.00 per week. As a result, Tony is planning to increase the price of his pizzas by $1.00 each. Assuming business remains steady, what will be Tony's new weekly profit? Show your work.

   [($16 x 175) + ($10 x 125)] – ($2,600 + $150) = $1,300.00

   Answer *$1,300.00*

Lesson Plan: Packaging Your Product

Packaging a Product (30 minutes)

Packaging is the act of enclosing or protecting a product. Sometimes, products need to be protected because they are fragile. This is why items like glasses and plates are packaged in boxes with bubble wrap and Styrofoam. With this packaging, the product will not be damaged. Other products are pack-aged because they are small and could be easily lost or stolen. Many electronics are packaged in boxes for this reason. The type of packaging a product has can make a big impact on how well a product sells and how much it costs.

Ask students to name examples of products that need packaging and give the reason why packaging is necessary. *[shampoo - without the bottle, it would spill all over the store shelf; shoes - shoes are put in boxes to keep the matching pairs together]*

Students do not have to package their product. In fact, many products are sold without any packaging at all. Ask students to name examples of products that often do not have packaging. *[fruit, clothing, baseball bats]*

Even though some products need packaging, companies must take many factors into account before purchasing packaging supplies for their product. Some of these factors are:

- How much do packaging supplies cost?
- Does the company have time/manpower to package their product?
- Are the packaging materials environmentally friendly or wasteful?
- Does the package add to the value of the product?

Each company should discuss these questions to help them decide whether or not to purchase pack-aging supplies from BizMart. If the company wants to purchase packaging supplies, the VP Manufacturing should do so and lead their team in recording the cost on their Company Ledger (Student Packet, pg. 14-15).

Instruct companies to package their products.

Teaching Tip

Prior to beginning this lesson, gather different packaging materials and determine the price they will sell for at BizMart. Update your BizMart Price List before class. Suggested packaging supplies are included, but not limited to: Ziploc bags, price tags, small boxes, safety pins, ribbons.