

Corny Math Facts

Grade Level: 2-3

Approximate Length of Activity: One class period

Objective

Teacher

1. Describe the simple concepts of economics through corn.
2. Challenge students to solve math story problems.

Students

1. Solve math story problems on corn economics.
2. Work cooperatively in groups.
3. Understand basic economic concepts.

Michigan Content Standards: (Math) M.PS.02.10, N.ME.03.05

Introduction

Corn is one of nature's most amazing energy-storing devices. A corn seed weighs about one hundredth of an ounce. Yet this tiny seed can produce a corn plant that will grow seven to ten feet tall and will produce between 600 and 1000 seeds like the one from which the plant started. The seeds of a corn plant are the kernels that you find on an ear of corn. The kernels are arranged in rows along the ear. An ear of corn may have as few as eight or as many as 36 rows, but the number of rows is always even.

When corn is harvested, about 60 percent of it is fed to livestock and 25 percent is exported. Corn also has industrial uses such as ethanol, degradable plastics and starch for recycled paper. Ethanol is a motor fuel that contains nearly twice as much oxygen as any other gasoline additive. This means that ethanol burns cleaner and more efficiently. Ethanol is made from the starch portion of a kernel of corn.

Corn can also be processed into foods such as cereal, bread, ketchup, soda pop, corn syrup, peanut butter, corn oil, corn meal, flour and pickle sweetener. Many soft drink manufacturers now use corn sweeteners to replace part of the sugar in their products. Corn derived sweeteners and syrups are also used in baked goods, canned foods, candies, ice cream and other dairy products. More than 2,400 products in a typical supermarket contain some product or byproduct of corn. Corn provides our bodies with complex carbohydrates, fiber, B-vitamins and potassium.

Trade and marketing are necessary to American agriculture. The United States exports agricultural products, such as corn, around the world to countries that cannot grow livestock and crops as efficiently as the American farmers do. The U.S. also exports to countries that cannot grow agricultural products at all because of their climate. The United States imports products, some agricultural, from other countries that produce different, less expensive, or better quality foods.

Agriculture is extremely affected by the economic concepts of supply and demand. When crops are available in big quantities and product demand is low, the price people are willing to pay goes down. When a small amount of crops are available and people want to buy large quantities, the price goes up.

To keep the price of a commodity such as corn as high as possible, producers need to regulate the size of their crop and encourage scientific research to create new uses for their product. This way the demand is high and the supply meets, but does not exceed, the need.

Materials Needed

- Copies of “Corny Math Facts” worksheet

Activity Outline

1. Have a class discussion on corn facts and stress vocabulary words such as seed, bushel, yield, ethanol, livestock and carbohydrates.
2. Explain supply and demand to the students. Discuss how supply and demand affect the prices of crops.
3. Ask students to complete the “Corny Math Facts” worksheet. You may choose to have students work in cooperative groups.
4. Discuss the results.

Discussion Questions

1. What unit of measurement is used for measuring corn? (bushel)
2. What is supply?
3. What is demand?
4. If there is too much corn, prices are high or low?
5. If there is not enough corn, prices are high or low?

Related Activities

1. For more information and activities contact the Corn Marketing Program of Michigan, 12800 Escanaba Dr., DeWitt, MI 48820, 1-888-323-6601, www.micorn.org
2. The lesson “Biodegradable Plastic from Corn” located in the science section of this curriculum guide.
3. The lesson “The Journey of Corn with Kid Kernel” located in the science section of this curriculum guide.
4. Ask students to write their own problems using corn facts.
5. Ask a farmer to visit your classroom to discuss corn production.
6. Plant corn seeds and keep an observation journal.

Book Resources

1. “Why Are All the Cars Green?” and “I Love Corn” For copies, contact the Corn Marketing Program of Michigan, 1-888-323-6601.
2. “I like Corn” by Robin Pickering

Corny Math Facts

Answer the following math story problems.

1. One year there was an abundance of corn in Michigan. Since there was more corn than the people needed, do you think the price of corn went up or down? Why?
2. When would the price of corn be high?
3. A corn plant can grow 7 to 10 feet tall. Do corn plants grow taller than you?
4. One bushel of corn can sweeten 413 cans of soda. Is 413 greater or less than 100?
5. Circle the odd numbers below.

5 8 6 12 21 26 33 36 45

6. Kernels grow in rows on ears of corn. An ear of corn may have 8-36 rows and the number of rows are always even. Circle the numbers that are possible numbers of rows.

14 17 37 4 32 26 5 102

7. 4,800,000 bushels of corn were fed to livestock in 1993. How many "0s" are in 4,800,000?
8. The average American will eat 45 acres of corn in his/her lifetime. Is 45 greater or less than 50?
9. Pretend you are making cornbread. If you have 3 cups of cornmeal in separate cups and one cup spills on the floor, how many are still usable?

Corny Math Facts

Answer the following math story problems.

1. One year there was an abundance of corn in Michigan. Since there was more corn than the people needed, do you think the price of corn went up or down? Why?
 - The price of corn went down. Since there was a lot of corn available, there was too much corn to go around. This causes the price to go down so people will buy the corn and use it in various ways.
2. When would the price of corn be high?
 - The price of corn would be high when there is not enough corn to meet the amount needed by people and industry.
3. A corn plant can grow 7 to 10 feet tall. Do corn plants grow taller than you?
 - Yes, corn plants grow taller.
4. One bushel of corn can sweeten 413 cans of soda. Is 413 greater or less than 100?
 - Greater
5. Circle the odd numbers below.

(5) 8 6 12 (21) 26 (33) 36 (45)

6. Kernels grow in rows on ears of corn. An ear of corn may have 8-36 rows and the number of rows are always even. Circle the numbers that are possible numbers of rows.

(14) 17 37 4 (32) (26) 5 102

7. 4,800,000 bushels of corn were fed to livestock in 1993. How many "0s" are in 4,800,000?
 - There are 5 zeros in 4,800,000
8. The average American will eat 45 acres of corn in his/her lifetime. Is 45 greater or less than 50?
 - Less than
9. Pretend you are making cornbread. If you have 3 cups of cornmeal in separate cups and one cup spills on the floor, how many are still usable?
 - 2 cups