

Pizza Anyone?

Wyoming Health, Mathematics

Objectives:

- Take information and develop a graph to show results.
- Identify the ingredients of a pizza and tell where the ingredients come from.

Background:

Farming and agriculture are part of everyone's life in one way or another. From the job you might have someday to the lunch you eat today—each of these things relate to agriculture in some way. Agriculture is the industry that gives many people jobs. One out of every five students will someday work in jobs related to agriculture. Just imagine...five or six of your classmates will work in a job related to agriculture when they grow up!

How are farming and agriculture related to you? Take a look at a typical school cafeteria lunch of ham, corn, tator tots, chocolate pudding, and a bread roll. Each part of the meal is somehow related directly to agriculture. Milk comes from cows on a dairy farm. After the cows are milked on the farm, the milk must go to a dairy plant to be heated, cooled, and then bottled. The cartons are then delivered to stores—and to your school. Some of the milk will even be made into cheese and other dairy products!

Ham is a pork product that comes from pigs. And the bread is made from flour, a product of wheat. Wheat is grown and harvested on a farm, and then ground to make flour at a mill. The flour is mixed with other ingredients—like yeast—and baked in an oven at a large bakery. The loaf of bread is taken out of the bakery's oven, sliced, and packaged for delivery to the store or the school's cafeteria.

Corn is grown on a farm, as are the potatoes that were shredded for the tator tots. Both corn and potatoes are harvested and used for many things. The corn on your tray was probably canned in a factory, but the potatoes are delivered whole to a processing plant. The plant is like a big kitchen. Potatoes are peeled, shredded, cooked, and frozen in a package before they are delivered to your cafeteria. Then the cook prepares them for you to eat!

Are you ready for dessert? Even chocolate pudding is made of milk, soybeans, and corn from farms. Agriculture is as close to you everyday as your cafeteria and so are the jobs needed to bring your lunch from the farm, processor, and grocery store. This lesson focuses on pizza ingredients and their origins. Students will learn how the ingredients get from the farm to their plate while working on their math skills.



Standards

Health

Health Promotion & Disease Prevention: 1.5
Accessing Health Information, Products and Services: 2.1

Mathematics

3rd Grade

Data Analysis & Probability
5.1, 5.2, 5.3

4th Grade

Data Analysis & Probability
5.1, 5.2, 5.3, 5.4

Materials

- "Who Makes the Best Pizza?" worksheet
- "My Favorite Pizza" worksheet
- Supplies to make a pizza or pre-made pizza (optional)
- Oven (optional)
- Knife (optional)
- Napkins (optional)
- Actual products (tomato, pictures of animals, wheat)

Estimated Time

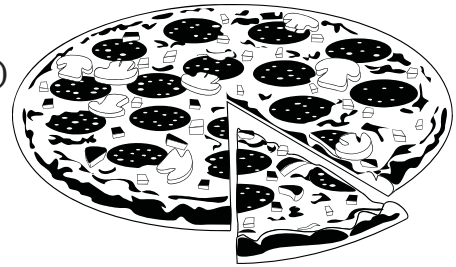
40 Minutes

Grades 3-4

notes:

Activity Procedures:

- Display the pizza items and discuss the items on display.
- As a class, gather data for “Who Makes the Best Pizza?” Worksheet. Make tallies on the chalkboard.
- Have the students graph the information on their worksheets.
- Collect data for “My Favorite Pizza” Worksheet.
- Have the students graph the information on their worksheets.
- Have the students answer the questions on each worksheet.
- Using information from “Ingredients in a Pizza—Where Do They Come From?” create a chart on the chalkboard (as a class) representing the journey from farm to the end ingredient.
- Make a pizza. (optional)



Ingredients in a Pizza; Where Do They Come From ?

Wheat—Grain

Pizza crust is made from wheat. When wheat is ready to harvest, the farmer combines the wheat, loads it onto trucks or wagons, and takes it to the county elevator. The county elevator then ships the wheat by truck, rail, or barge to a terminal. At the terminal, the wheat is sold to the various industries which make food and feed, or it is shipped overseas.

The place where wheat is shipped to make food is called the mill. The mill breaks the wheat kernels into pieces and sifts the pieces to get the bran and germ (parts of the wheat kernels) out. This is repeated many times to make the substance we know as flour. The miller then adds B-vitamins and iron for nutrients. The flour is shipped in bags to the bakery or grocery store. Bakers use wheat flour because it contains a magical protein called gluten. To make crust, active yeast, warm water, and oil are added to the flour. The gluten traps the air bubbles the yeast releases and causes the crust to rise.

Tomato Sauce—Fruit

Tomato seeds require 75-85 days to develop into mature plants with ripe fruits. When the tomatoes are ripe enough to ship, they are carefully packed in boxes. The boxes are then loaded into semi-trailers for transporting to grocery stores. Some tomatoes are sent to a cannery where they are processed (cooked, squashed, preservatives added) to make sauces or ketchup.

Cheese—Dairy

Cheese is a healthy, tasty food that is made from milk. The cows on the farm are milked by using suction cups to pump the milk from the cow into huge storage tanks. These storage tanks cool the milk until refrigerated tank trucks come to pick it up. The milk is then made into cheese. First, the milk is heated and quickly cooled. This is called pasteurizing. Pasteurizing is a process that kills any harmful bacteria. The processed milk is then treated to form a soft, custard-like substance called curd. The curd contains liquid called whey, which must be taken out through a special process before cheese can be made. Special knives cut the curd into thousands of small cubes, and the whey oozes from them. Heating and motion force more whey from the curd, and the curd “ball” is then lifted from the vat. The “ball” is broken up into small pieces and put into presses that keep the cheese under great pressure for a few hours to a few days. During pressing more whey drains out, and the curd is shaped into blocks or wheels. After it is pressed, it is immediately wrapped in plastic. The cheese is then aged in cool storage rooms or warehouses. The aging times vary for different cheeses. Brick cheese and others need two months to age while Parmesan requires about a year. After being aged, the cheese is packaged in a wide variety of shapes and sizes.

Pepperoni & Sausage—Meat

Pigs go to market in only five to six months at the weight of 240-260 pounds. Pigs may be sold at an auction market or sale barn, or may be bought directly by an order buyer who buys for a packer. Meat inspectors employed by the United States Department of Agriculture inspect live hogs, hog carcasses, and the entire packing plant to make sure that pork is safe to eat. The pork is ground up, and special seasonings are added to make sausage, salami, hot dogs, and pepperoni.

About half of the pork produced in the United States is sold in supermarkets. The other half is eaten at restaurants, hospitals, schools, and business cafeterias. Yet, we get a lot more from pigs than pork—we also get insulin to treat human diabetes, and the skin from hogs is used to treat victims of severe burns. Other by-products are glue, glass, rubber, plastics, and heart valves.

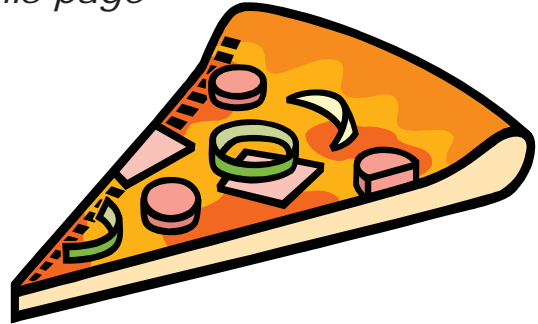
Materials Adapted from the Illinois Agriculture in the Classroom.

vocabulary:

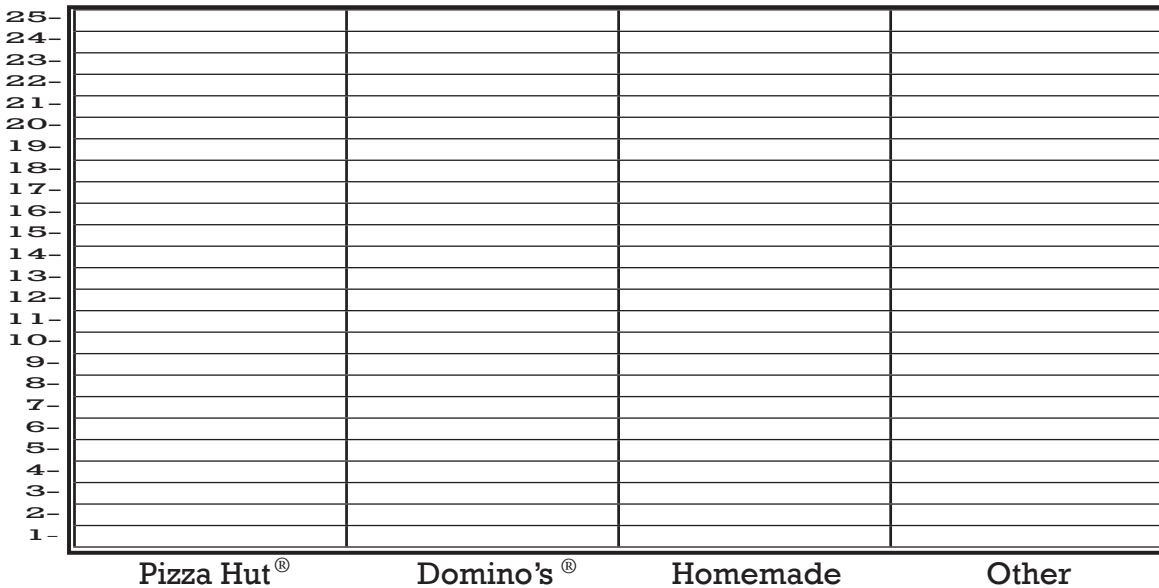
- *gluten*
- *preservatives*
- *pasteurize*
- *cannery*
- *nutrients*
- *curd*
- *auction*
- *wheat germ*

Who Makes the Best Pizza?

Survey each class member about his/her pizza preference. Total the number for each category on this page and then record the totals by completing the graph below.



of students



1. Who made the best pizza? _____
2. What was the least favorite pizza? _____
3. How many people said that home made pizza was the best? _____
4. How many thought that Pizza Hut was the best pizza? _____
5. How many thought Domino's was the best pizza? _____

