Pizza Time!

Math

Materials
◆ Copies of "Pizza Starts on the Farm" and "In Real Time" worksheets

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Background

Pizza crust is made from wheat. Farmers plant tiny wheat kernels in the ground using a drill. Wheat looks like fresh new grass when it comes out of the soil. It grows to about 24 inches high. The farmer harvests the wheat and hauls it in trucks or wagons to the country grain elevator. From there it is sold to food companies. There are a lot of steps to make wheat into flour for pizza dough. After the wheat is shipped to a mill, it is cleaned to remove weeds, stems, and other plant material. Then rollers press the kernels to break them into pieces. Finally, the small wheat pieces are shaken onto screens to sift out the bran and germ not used in wheat flour.

Activity 1: Fabulous Fractions and Pizza Probability

Have students complete the "Pizza Starts on the Farm" worksheet.

Activity 2: Pizza in Real Time

Share the background information with students and have them consider the time it actually takes to produce a pizza. Then have them complete the Pizza in Real Time worksheet.

Activity 3: Pizza Math

Let's take a survey! Ask the students to interview their family members and friends as to what their favorite pizza toppings and or pizza restaurants are and graph the results. Here are some sample questions, and sample graph ideas for your students to use to record and report their data.

1. How many times per month do you eat pizza?
2. What is your favorite pizza restaurant?
3. What is your favorite pizza topping?
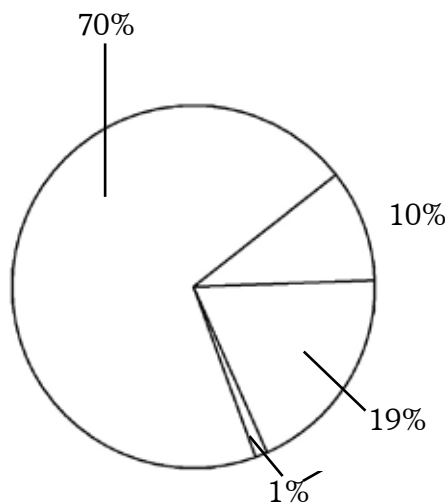
Example: Favorite Pizza Restaurant Pie Chart

Time: 30–90 minutes (depends on activity)

Grade Level: 3–6

Grade 3 Math
Standard 1 – Students will understand the base-ten numeration system, place value concepts, simple fractions and perform operations with whole numbers
Objective 2 – Use fractions to communicate and compare parts of the whole.
Indicator b – Define regions and sets of objects as a whole and divide the whole into equal parts using a variety of objects, models and illustrations.
Indicator c – Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, sixths and eighths.
Standard 5 – Students will collect and organize data to make predictions and identify basic concepts of probability.
Objective 1 – Collect, organize, and display data to make predictions.
Indicator a – Collect, read, represent, and interpret data using tables, graphs, and charts, including keys (e.g. pictographs, bar graphs, frequency tables, line plots)

Grade 4 Math
Standard 1 – Students will acquire number sense and perform operations with whole numbers, simple fractions, and decimals.
Objective 2 – Analyze relationships among whole numbers, commonly used fractions, and decimals to hundredths.
Indicator e – Generate equivalent fractions and simplify fractions using models, pictures and symbols.

Grade 5 Math
Standard 5 – Students will construct, analyze and construct reasonable conclusions from data and apply basic concepts of probability.

*More standards can be found on the next page.*

Graph your results!

This is an opportunity to introduce or review with your students how to read and create different types of graphs for different kinds of data.

Want to go a step further?

Ask the class to expand the population to another city, ask another class in a different town, or a class in another state to conduct the same survey and compare the results.

Another option would be to survey local pizza restaurants and compare their responses to question number three.

Key (students may color):
Black = olives, Yellow = cheese,
Green = green peppers, Red = pepperoni
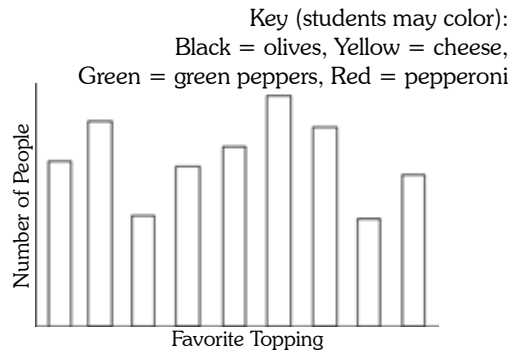
Example: Favorite Pizza Topping Bar Chart

Objective 1 – Formulate and answer questions using statistical methods to compare data, and propose and justify inferences based on data.
Indicator a – Construct, analyze, and display data using an appropriate format (e.g. line plots, bar graphs, line graphs).

Grade 6 Math

Standard 1 - Students will expand number sense to include operations with rational numbers.
Objective 2 – Explain relationships and equivalencies among rational numbers.
Indicator d – Find equivalent forms for common fractions, decimals, percents, and ratios, including repeating or terminating decimals.

Pizza Starts on the Farm

Pizza crust is made from wheat. Farmers plant tiny wheat kernels in the ground using a drill. Wheat looks like fresh new grass when it comes out of the soil. It grows to about 24 inches high. The farmer harvests the wheat and hauls it in trucks or wagons to the country grain elevator. From there it is sold to food companies. There are a lot of steps to make wheat into flour for pizza dough. After the wheat is shipped to a mill, it is cleaned to remove weeds, stems, and other plant material. Then rollers press the kernels to break them into pieces. Finally, the small wheat pieces are shaken onto screens to sift out the bran and germ not used in wheat flour.
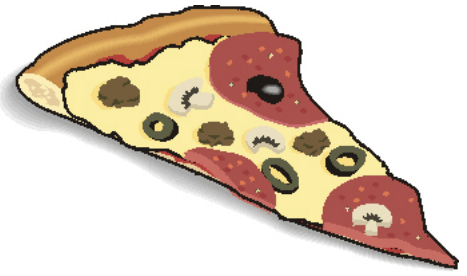
Fabulous Fractions

1. Using the round pizza below and a ruler, divide the pizza into two halves.
2. Next, divide the pizza into four fourths.
3. Finally, divide the pizza into eight eighths so each slice is one-eighth of the whole pizza.
4. How many pizzas would you need to give to everyone in your class one slice of pizza?
5. How many pizzas would you need to give everyone in your class two slices of pizza?
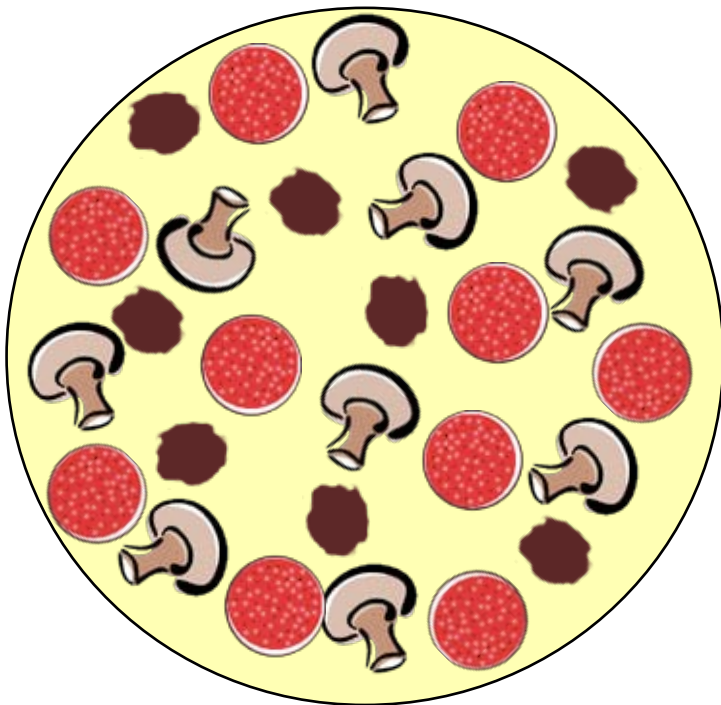
Pizza Probability

Pretend you are making pizzas and you have pepperoni, sausage, and mushrooms for toppings. How many different pizzas can you make with these toppings? (None of the pizzas can have the same toppings as any of the others.) Fill in the circles below until you run out of pizza topping combinations. The first one is done for you.
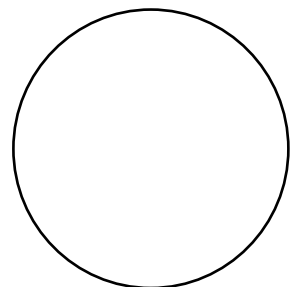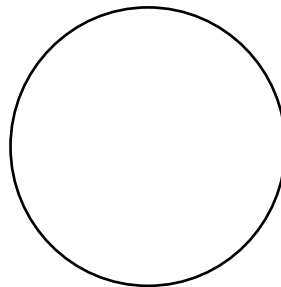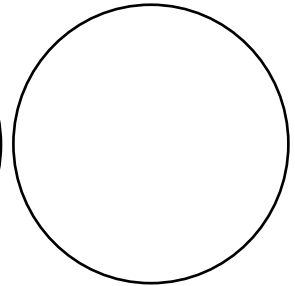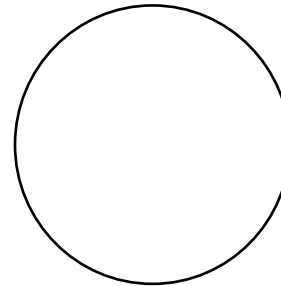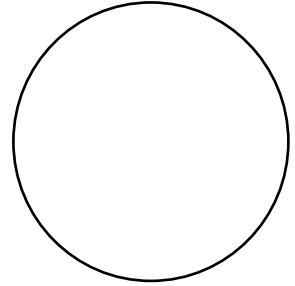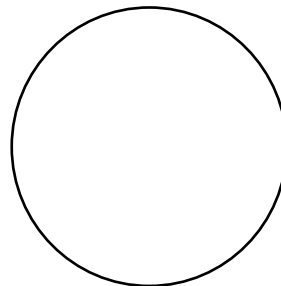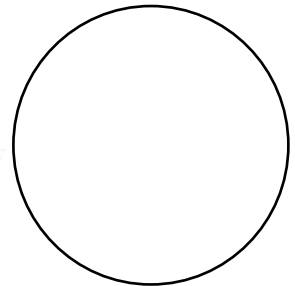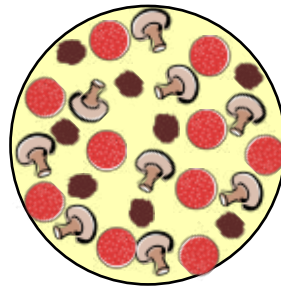
In Real Time

How long does it take to get a pizza or pick up a combo meal? Three minutes, thirty minutes? How long does it really take? Build your favorite pizza and/or combo meal using the ingredients on this page. Calculate in months or years how long it really takes to make a pizza and a burger and fries.
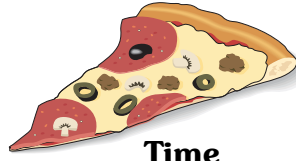
Pizza in Real Time

Ingredients   **Time**
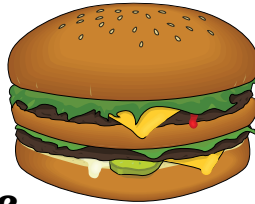
Crust _____ _____

Sauce _____ _____

Cheese _____ _____

_____ _____

_____ _____

_____ _____

Burger and Fry in Real Time

Ingredients   **Time**

Buns _____ _____

Burger _____ _____

Fries _____ _____

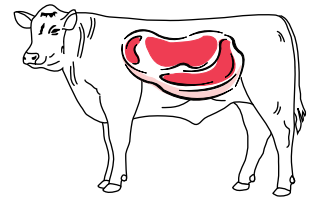_____ _____

_____ _____

_____ _____

Tomatoes
7 months from seed
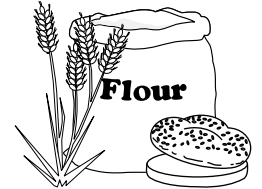to sauce/ketchup

Beef
18 months from
birth to market

Mushrooms
3 months from
spore to harvest

Wheat
6 months from
seed to harvest

Olives
5 years for a tree to
produce fruit (olives)
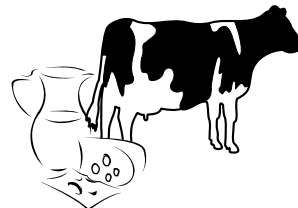
Garlic
5 years from
planting to harvest

Onion
5 months from
seed to harvest

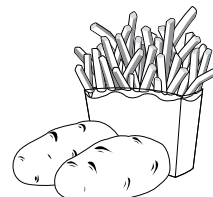**Cucumber**
6 months from seed
to cucumber pickle

Cheese
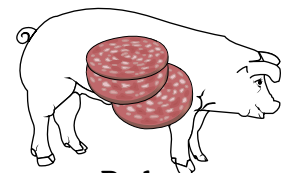3 years from
birth to cheese

Peppers
7 months from
seed to harvest

Potato
5 months from
seed to fries

Pork
5 months from
birth to market