

Activity 3

Pizza
Extravaganza

Concepts/Skills

- ◆ Surveys
- ◆ Fractions
- ◆ Computation
- ◆ Problem solving

Materials

- ◆ TI-15
- ◆ Student Activity pages (pp. 20 - 23)
- ◆ Chart paper
- ◆ Markers
- ◆ Using the TI-15 (p. 24)

Overview

Students will conduct a survey of the class to determine favorite pizza toppings. They will use the information to predict the favorite pizza toppings for the school and plan a school-wide pizza party.

Focus

- ◆ Ask students to list 3 or 4 favorite flavors of ice cream. Using those flavors, ask students to show by raising hands which flavor they like best. Record their answers.
- ◆ Give the students this scenario: You are in charge of ordering ice cream for the school field day or picnic. Using the information from the class survey, of which flavor should you order the most? The least? Explain your reasoning.

First Things First

For students who are not ready for the open-ended problem, start with the *First Things First* activity page.

Presenting the Problem

Discuss with students the problem on the *Pizza Extravaganza* activity page. Make sure they understand the final product they are to produce.

Survey the class concerning favorite pizza toppings. Using 5 or 6 different toppings will provide ample information. Survey the students with a simple show of hands or a duplicated survey. The survey results will be used by each group to complete the activity.

Evaluating the Results

Have the groups hang their posters. Allow each of the groups time to view the other posters.

Have each group explain their results. Discuss with students the similarities and differences between the different solutions.

Have students discuss how the TI-15 helped them with their solutions.



Name _____

Date _____

Activity 3

Pizza Extravaganza: First Things First

The Problem

In Mr. Akbar's class, 12 students chose chocolate as their favorite ice cream flavor. There are 27 students in Mr. Akbar's class. What percentage of the students in Mr. Akbar's class prefers chocolate ice cream?

Working the Problem

1. A percentage is one way of looking at a fraction. It is the same as a fraction with 100 as the denominator.

Enter $12 \div 27$. Record your result.

The answer is a decimal fraction. To turn this into a percent, multiply by 100. Percents are decimal fractions shown as whole numbers. The percent is the same as the numerator of a fraction with 100 as the denominator.

Enter $\times 100$. Record your result.

Sometimes looking at the number as a whole number is easier.

Enter . Record the result.

2. Calculating percentages is easier to do with whole numbers than with fractions. For example, you are in charge of getting ice cream for your grade level. You know that 44% of Mr. Akbar's class prefer chocolate ice cream, 27% prefer vanilla and 29% prefer strawberry. There are 89 students in your grade level. How many servings of chocolate ice cream should you buy?

Enter 89×44 . What answer did you get?

Does it seem reasonable? How do you know?

How many servings of vanilla should you buy?

How many servings of strawberry should you buy?

Do you have enough servings for everyone? How do you know?

If you do not have enough servings, what should you do?

If you have too many servings, what should you do?



Name _____

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Activity 3

Pizza Extravaganza

The Problem: How much of each kind of pizza should your class order for the all-school pizza party?

Your team is in charge of ordering pizza for the all-school pizza party. Since people like different kinds of pizza, use the class survey to help figure out which toppings to order. Your team will use the information to predict the kinds of pizza everyone in the school likes and to decide how much of each kind of pizza to buy.

The Facts

- ◆ Surveys are conducted to find out people's preferences. A sample of people is often used. The results of the survey are generalized to the population. The people in your classroom will be the sample. All of the people in your school will be the population.
- ◆ Plan to order each pizza with only one topping.
- ◆ Plan on each student eating three pieces of pizza. Each pizza will be cut into eight pieces.
- ◆ There are _____ students in our school.

The Task

1. Your class will complete a survey of favorite pizza toppings. After the class has been surveyed, your team will:
 - Calculate the percentage of your class that prefers each type of topping.
 - Calculate the number of people in your school who will likely prefer each type of topping.
 - Calculate the number of pizzas of each type needed.
2. Your team will create a chart or poster showing the following:
 - The survey question.
 - The results of the survey.
 - The number of people in your school that will probably like each pizza topping.

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- How many of each type of pizza needs to be ordered for the party.
3. Each person will write an explanation of the team's solution to answer these questions:
- How did your team calculate the percentages for each topping type?
 - How did your team calculate the number of students in the school who would likely prefer each type of pizza? What other ways could you calculate the answers?
 - How might the results of this task change if a different class was surveyed?
 - How did your team use the TI-15 in this task?
4. Your team will present your chart to the class.



Using the TI-15

Activity 3

Pizza Extravaganza

12 \div 27 Enter

12 \div 27=
0.4444444444

\times 100 Enter

44.44444444

Fix I.

Fix
0.4444444444
4444 \times 100=44

Fix .

44.44444444

89 \times 44 $\%$
 Enter

89 \times 44%=39.16