Title: Pizza Party

Brief Overview:

In this unit students will collect, organize, interpret, and analyze data through the use of surveys, graphs, and glyphs. The various activities will be performance based and involve cooperative learning strategies. Students also will make connections to the real-world.

Links to Standards:

- **Mathematics as Problem Solving**
  Students will demonstrate their ability to solve problems in mathematics including problems with open-ended answers, problems which are solved in a cooperative atmosphere, and problems which are solved with the use of technology.

- **Mathematics as Communication**
  Students will demonstrate their ability to communicate mathematically. They will read, write, and discuss mathematics with language and the signs, symbols, and terms of the discipline.

- **Mathematics as Reasoning**
  Students will demonstrate their ability to reason mathematically. They will make conjectures, gather evidence, and build arguments.

- **Mathematical Connections**
  Students will demonstrate their ability to connect mathematics topics within the discipline and with other disciplines.

- **Estimation & Computation**
  Students will demonstrate their ability to apply estimation strategies in computation, with the use of technology, in measurement, and in problem solving. They will determine reasonableness of solutions.

- **Measurement**
  Students will demonstrate and apply concepts of measurement using non-standard and standard units and metric and customary units. They will estimate and verify measurements. they will apply measurement to interdisciplinary and real-world problem solving situations.

- **Statistics**
  Students will demonstrate their ability to collect, organize, and display data and will interpret information obtained from displays. They will write reports based on statistical information.

Grade/Level:

Grades 2-3

Duration/Length:

This unit takes approximately 5-7 days to complete (60 minute periods).

Prerequisite Knowledge:

Students should have working knowledge of the following:

- estimation skills
- tally charts
- pictographs
- bar graphs

Objectives:

Students will:

- apply estimation strategies.
- collect, classify, organize, and display data.
- construct, interpret, and analyze pictographs and bar graphs.
- communicate findings orally and in writing.
- construct, interpret, and describe information from a glyph.
- apply learning to real-life.
- apply computation strategies using a calculator.
- observe time and temperature.
- work in cooperative groups.

Materials/Resources/Printed Materials:

- Poem titled "A Pizza the Size of the Sun" from A Pizza the Size of the Sun by Jack Prelutsky
- Poster of the Food Pyramid
- Construction Paper
- Chart Paper
- Butcher Paper
- Markers
- Calculators
- Ingredients for Pizza
- Access to an oven
- Teacher Resources
- Student Resources

Development/Procedures:

Day 1:

- Teacher will review the five basic food groups using the food pyramid poster.
- Teacher will read the poem "A Pizza the Size of the Sun" by Jack Prelutsky.
- Class will brainstorm and web the different types of pizza topping (Student Resource 1).
- Students will work in cooperative groups classifying toppings into their correct food groups (Student Resource 2).

Day 2:

- Take a class survey of favorite pizza toppings (Student Resource 3).
- Students will tally classroom results.
- Students will design a rubric that could be used to score pictographs (Refer to Student Resource 4 for format).
- Teacher will model a pictograph of survey results. Students will construct individual pictographs using circle shaped construction paper to represent students (Teacher Resource 1).
- Students will write an entry in their math journal that summarizes the results of the classroom survey. Students must refer to data from the pictographs.

Day 3:

- Students will make predictions about the school's favorite pizza topping and explain why.
- Students will conduct a schoolwide survey of the school's favorite pizza topping (Student Resource 3). Students will work in pairs to conduct the survey.
- Teacher and class will use calculators to compute results of the survey.
- Teacher and class will organize the data from the survey to construct a bar graph representing schoolwide results. The bar graph will be constructed on large butcher paper and displayed in the hall.
- Students will compare the schoolwide results of the survey with the classroom results. Students will write about their comparisons in their math journals.

Day 4:

- Students will construct a pizza glyph (Student Resource 5).
- Teacher will display completed glyphs and students will answer questions referring to data (Student Resource 6).

Day 5:

- Teacher and class will follow sequential directions to make a pizza (Student Resource 7).
- Students will compute the amount of ingredients needed to double the recipe. (Student Resource 7).

Performance Assessment:

Students will refer to the school wide survey and write a persuasive letter to the principal persuading him or her to have a school wide pizza party. The students must include data from the bar graph representing school wide results (Student Resource 8). A scoring tool is provided (Teacher Resource 2).

Extension/Follow Up:

Students will:

- write poems expressing their feelings about pizza.
- complete research projects on the history of pizza.
- write letters to pizza restaurants such as Pizza Hut to find out what pizza customers request the most.
- research how many pizzas are eaten in this country per year.
- use a Venn diagram to compare and contrast characteristics of pizza served in restaurants and frozen pizza.

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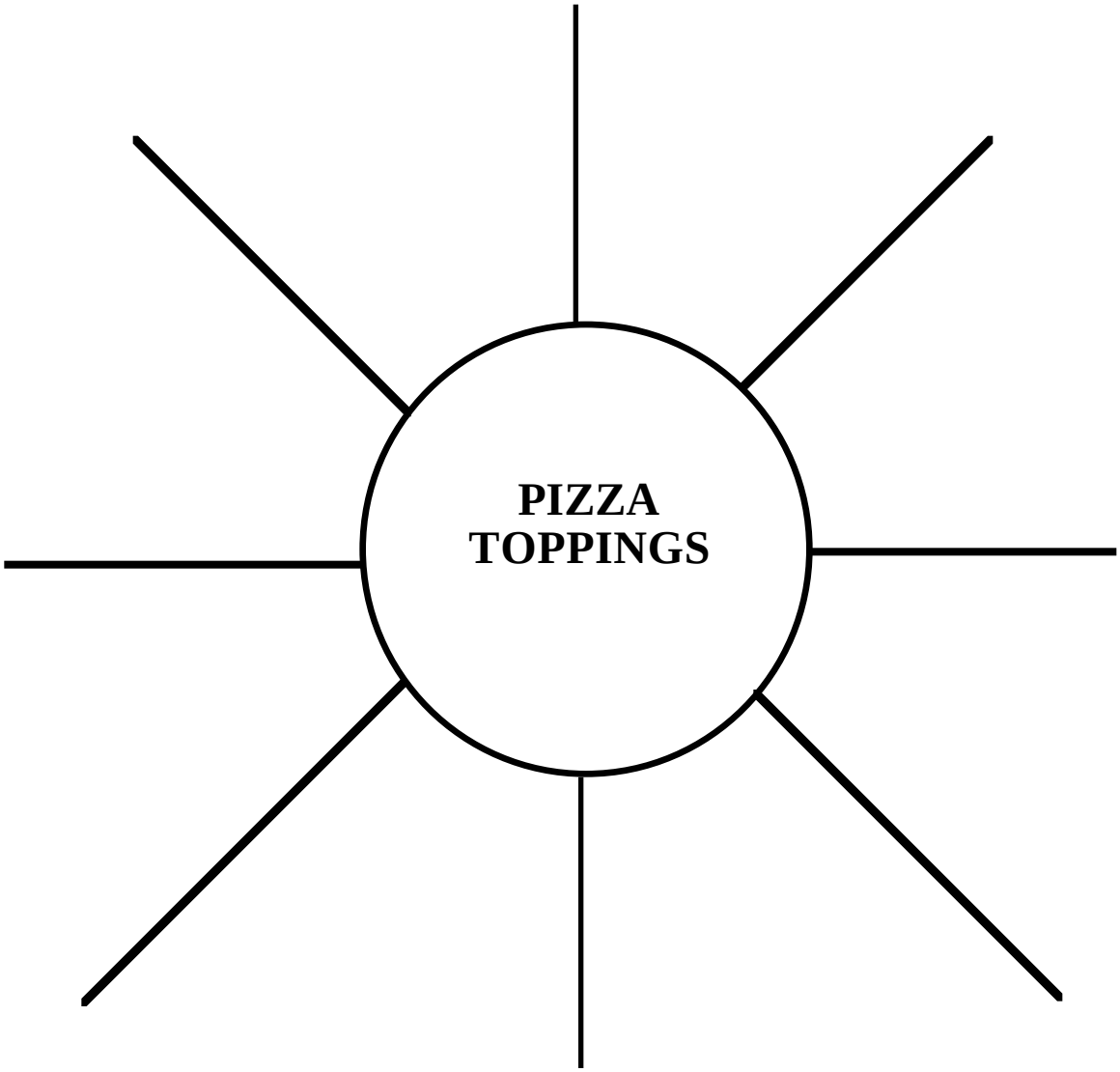

PIZZA
TOPPINGS

Classifying Pizza Toppings

Directions: Cut the pizza ingredients on the lines below. Classify and paste them with their correct food group. Can you think of other toppings? Add them in the blank spaces below.

Fruits/vegetable	Breads/cereal	Dairy	Meat/protein	Fats

pepperoni	cheese	green pepper	sausage	
mushroom	onion	ham	pizza sauce	
tortilla bread	pineapple	butter	tomatoes	

WHAT'S YOUR FAVORITE PIZZA TOPPING?

Directions: Students will use tally marks to record data in the chart below.

CHEESE	PEPPERONI	SAUSAGE	MUSHROOM	GREEN PEPPERS
totals				

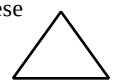
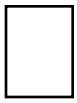
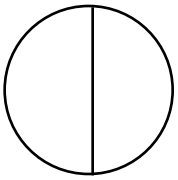
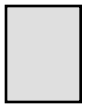
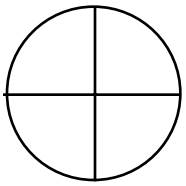
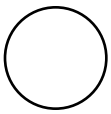
Rubric for Scoring Pictograph

Directions: Students will work cooperatively to design a scoring tool for pictographs. Students must remember the key elements of a graph.

3	
2	

PIZZA GLYPH

Glyph Key:

Shape of pizza Favorite place	Toppings Favorite type	Glass Favorite Drink	Amount of Slices Temperature
Little Ceaser's 	Cheese 	Water 	Hot pizza 
Pappa John's 	Pepperoni 	Juice 	
Dominoes	Sausage	Soda	
Pizza Hu 	Mushroom 	Milk 	Cold pizza 
			

Directions: Use data from the pizza glyphs to answer the questions below.

1. Where do most people in the class prefer to get their pizza?

2. Explain how you know this.

3. Which drink should not be served at a class pizza party? Explain why not.

4. Which students prefer cold pizza? How do you know this?

5. Write three sentences that best summarize information found on the students' pizza glyphs.

Pizza for Everyone!

Directions: Students will follow the directions in the recipe below to make th very own pizza. This recipe will serve six students.

2 cups pizza sauce
1 cup cheese
1 package of pepperoni
1 large tortilla

1. First, spread the pizza sauce onto the tortilla bread.
2. Next, sprinkle the cheese onto the pizza sauce.
3. Then, spread the pepperoni on top of the cheese.
4. Finally, the pizza has to be placed in the oven (your teacher will assist). The oven has to be set at 450 degrees and it will take 25 minutes for your pizza to cook.
5. Once the pizza is removed from the oven it must cool for 8 minutes and then eat up!

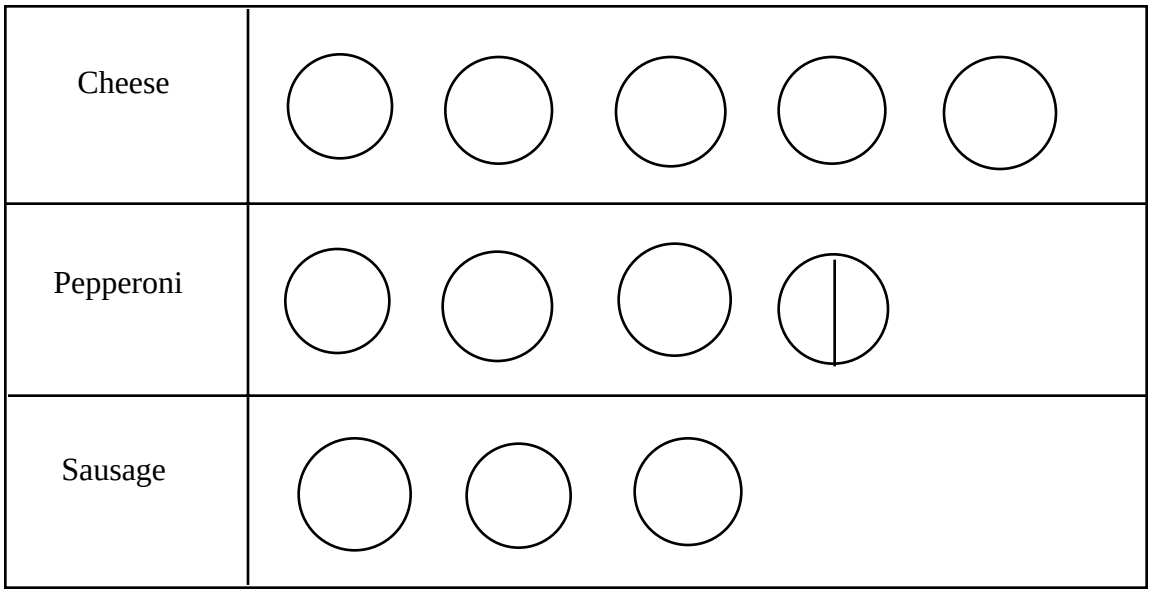
Suppose you were preparing pizza for twelve students using this recipe, how much of each ingredient would you need? Explain your answer.

PIZZA PARTY
WRITING PROMPT

Your class has taken a schoolwide survey of favorite pizza toppings. Write a letter to your principal persuading him or her to have a school wide pizza party. You have to persuade the principal to serve the toppings the school prefers. Think about the results of the schoolwide survey. Refer to the bar graph that summarizes thes results. You may begin writing your letter.

As you write your letter keep in mind the format, audience, topic, and purpose. Always remember to check your work for correct capitalization, punctuation, spelling, and language usage. Remember to make your letter persuasive.

Favorite Pizza Toppings Pictograph



KEY:

1 = 2 STUDENTS

Rubric for Writing Prompt

4-
- Has all parts of friendly letter.
- Writing is clear and well-organized.
- Addresses the audience
- Gives at least four supporting details to persuade audience.
- Includes strong supporting data from survey results.

3-
- Has some parts of friendly letter.
- Good organization.
- Addresses the audience.
- Gives at least three supporting details to persuade audience.
- Includes some supporting data from survey results.

2-
- Has two parts of a friendly letter.
- Is somewhat organized.
- Gives at least two supporting details to persuade audience.
- Includes no data from survey results.

1-
- Is not on topic.
- No organization.
- Does not address audience.

0-
- No response given.