Name _____

Kindergarten SDAP 1.1	Grade 1 SDAP 1.2

Graphing in the Primary Grades

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Objective: Teachers are given multiple strategies for developing student understanding of data collection and

Pizza graph

Objectives: Students will be able to build a pizza using concrete materials and graph the toppings.

Materials: Construction paper cut out to look like toppings: crust, cheese, pepperonis, olives, bell peppers, onions, mushrooms, pineapple
Glue or paste
Scissors
Graph template
Toppings pictures
Crayons: Black, yellow, red, green, brown,

Fewer and more handout
Pizza boxes (optional)

Vocabulary: More than | Less than/Fewer | Compare | Bar Model
Numberline | Decomposition

Teacher Note:The main point of this lesson is to take a fun graphing lesson and integrate important mathematical concepts (algebraic thinking, conservation of number, and one-to-one-correspondence) into the activity.

This lesson may take more than one day depending on your allotted times for math and the skill level of your students with scissors and glue. The connections at the end of the lesson can be integrated into the lesson or taught as separate lessons on another day.

The first part of the lesson is very focused on providing direct instruction and modeling for kindergarten students at the beginning of the year.

Introduction: Read the pizza poem and discuss what kind of pizza students eat at home. Access prior knowledge and build background knowledge for the lesson. Students are at the rug during this part of the lesson.

(Go over classroom norms for using manipulatives.)

Model: Teacher will have premade circles of cheese and crust. Teacher models how to cut out the cheese and crust circles.

Student: Students cut out cheese and crust circles.

Model: Teacher models how to fold cheese into fourths in preparation of cutting the cheese.

Student: Students fold then cut the cheese.

Model: Teacher models how to glue cheese to crust.

Student: Students glue the cheese to the crust.

Model: Teacher models how to choose the toppings for her/his pizza and demonstrates how to assemble a pizza.

Student: Students choose their toppings and assemble their pizzas. Students Think Pair Share the similarities and differences of the pizzas. A gallery walk is another option to allow students to see their classmates' pizzas.

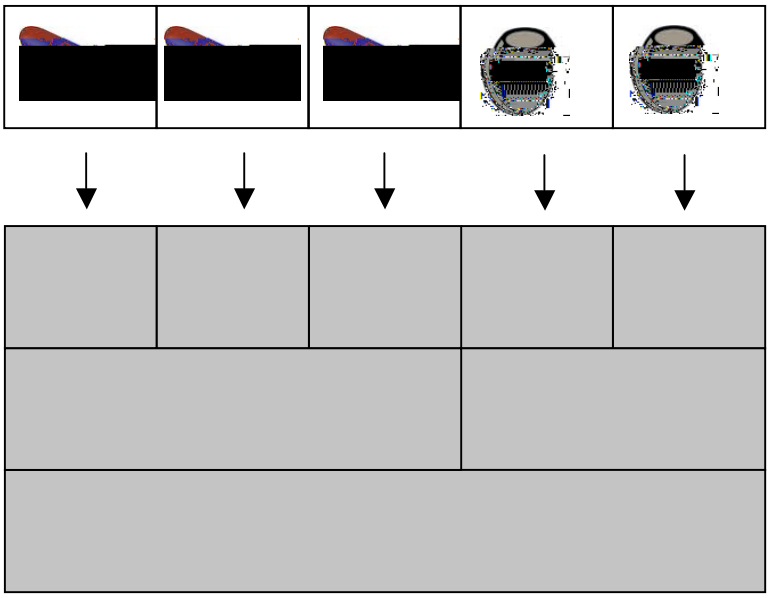
Model: Teacher demonstrates how to graph the pizza while students follow along one topping at a time. Example: "How many crusts do you use?" (Choral response: 1) "Let's cut out one little crust and glue it on our chart above the picture of the crust." Continue with all toppings.
Teacher models using pictures on the graph to create a pictograph.

Model: Teacher asks comparison questions. Teacher models how to use bar model to answer comparison questions.

Connections

Bar Models: Addition

Example 1: "How many pieces of pepperoni and olives are there together? There are three pieces of pepperoni and two pieces of olives."
Stick cutouts of pepperoni and olives on the board in a line.
Draw boxes around the pepperonis and olives.
Make a one-to-one correspondence between the topping pictures in a box and the boxes with the numbers in them.
Follow the diagram below.



Student: Students come up with addition questions of their own and solve them using bar models.

Bar Models: Subtraction (Comparison)

Example 2:

Model: Teacher models adding up toppings by making groups of 5s and then by making groups of 2s.

Connections:
1. The class adds up all the toppings used and groups them in either 10s, 5s, or 2s when counting.
2. Teacher bakes a pizza for the students and the class graphs the pizza toppings.
3. Students develop questions to ask each other based on the graph data.
4. *A* by Jack Prelutsky
5. The Little Red Hen Makes a Pizza- Philemon Sturges