

Survey Says! Statistics and Graphing for 2nd Grade

Math Learning Goals:

- Practice collecting data.
- Draw a picture graph and a bar graph to represent a data set.
- Compare and discuss different ways to represent data.

Materials Needed:

- Tape for the floor
- Worksheets with labeled axis for picture graph and bar graphs
- Crayons or colored pencils

The Activity:

Students will conduct a survey on something relevant to the class and use the data to create bar and picture graphs. You will be posing a question to the students in which they need to have an opinion that has three (or more) categories for answers. For example:

- What game should we play at recess? Kickball, basketball, or dodgeball?
- What book should we read during story time? Give 3 book options.
- What is your favorite school lunch? Pizza, chicken nuggets, or breakfast?
- What is the best type of pet? Cat, dog, or goldfish?

Ask the students to think about their choice, and then have them stand up and come to the front of the room. Help students assemble into three groups based on their preference. Once they are in their separate groups, put a piece of tape down for each group and ask the students to make three lines along their group's piece of tape. After the students have lined up correctly, have them look around and ask what they notice. Does one group have more people than the others? Is there a noticeable difference in the length of the lines? As a class, count the number of students in each line and record the data on the board.

After the students sit down again, pass out the blank pictograph worksheet that has the three category preference choices in the left column and the number of people in the right column. Tell the students they are going to make a graph of how they just lined up. Explain that with a picture graph, there needs to be a picture that represents each student, such as a stick-figure person, a guitar, or a pizza. After the students have worked for a few minutes, select some students to show their pictures and have their peers make sure their data is correct.

After presentation and discussion, the students will take their data from the pictograph and make it into a bar graph. Have the students make some observations about the biggest/largest bar and how it relates to when the students were lined up. Then have the students compare the pictograph and the bar graph. After comparing the two graphs, talk to the students about how you showed data in three different ways; how data can be shown in many ways; and how there are benefits to each method. Ask questions that require one to reference the graphs, such as (modify for your survey):



- If we had to split the class into three equal groups for recess activities, how many people would have to play a game that wasn't their favorite?
- If we decided to read this book and that book, how many people would be happy? How many would be unhappy?
- If we no longer served pizza or chicken nuggets at school and served a couple of new items, how many people would have to pick a different favorite school lunch?

TN Math Standards 2nd Grade:

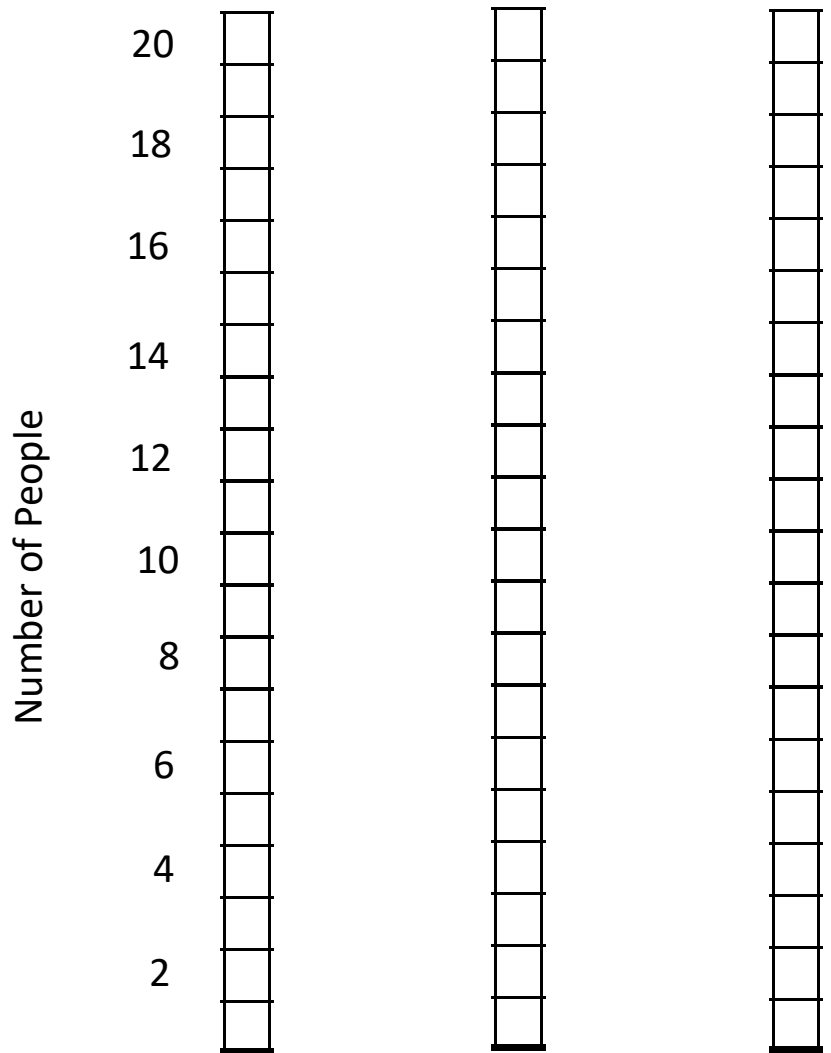
Measurement and Data: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.

Adapted by Kelly Sturner, Virginia Parkman, and Suzanne Lenhart

Bar Graph

Name _____

Graph Title: _____



Choice 1:

Choice 2:

Choice 3:

Pictograph!

Name: _____

Graph Title: _____

Choices	Number of People

Each Picture Represents ___ Person/People