

## Opinion Graphs

**Companion Text:** If You See the Moon, by Zia Wells

**Subject Area & Grade Level:** Mathematics, 4<sup>th</sup> Grade

**Materials:** Graph paper, Scissors

### Objectives

After this lesson, students will be able to:

- Create a fair response scale to measure opinions
- Collect and organize data
- Draw conclusions by describing composite data

### Activity

Read the story once through without stopping. Then, tell students that they will be surveying each other about the story. They should think of a question about the story that cannot be answered with a simple yes or no, but requires degrees of gradation. For example, explain that students could ask, “How much would you be interested in going to the moon someday?” and the response categories could be “a lot,” “somewhat,” “a little bit,” and “not at all.” Ask students what would happen if the response categories were all positive or all negative? (You would not be able to accurately answer the question.) Point out that it is important for the categories to capture the full range of possible answers, and for the jumps from category to category to be comparable. For example, you would not want a set of response categories to be “Strongly Agree, Somewhat Agree, Disagree, Strongly Disagree” because the middle two categories are not comparable. You might also give students the tip that not including a middle category (i.e. “neutral”) will usually yield better data.

Have each student come up with a question and its complementary response categories, and turn them in. Then, create a single-sided master survey that includes all questions and response categories, copy it for all students, and have them complete it. Finally, cut up the surveys so that each student receives the complete set of responses to his or her question.

Pass out graph paper, and have each student organize his or her data into a graph with the response categories on the x-axis, and the number of respondents on the y-axis.

### Reflection

Students should present their graphs to the class, using comparative words to describe the data points, and drawing conclusions based on a summary of the data as a whole.

