

### Focus Skill: Data Plotting and Analysis



#### Common Core Standard(s):

CCSS.MATH.CONTENT.1.MD.C.4

Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

CCSS.MATH.CONTENT.2.MD.D.10

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<sup>1</sup> using information presented in a bar graph.

#### Learning Target:

I can gain information through a survey.

I can plot information on a graph.

I can use addition and subtraction to answer questions about a graph.

#### Materials:

- Chart paper
- Pencils
- Crayons
- Rulers
- Clipboards (optional)

#### Introduction:

Today we're going to work with graphs. Graphs are used to show a bunch of information in one place. One way to get this information is by taking a survey. When you take a survey, you ask one or more questions to other people. You can then put these answers onto your graph.

You'll have two tasks today: 1) To gain information through a survey, and 2) to put this information onto a graph.

First, let's take a quick survey and make our own graph on the board. When you perform a survey, you ask a question and make a tally mark for each person's answer.

Our question is...Which kind of lemonade is your favorite: Pink lemonade, Yellow lemonade, or some other kind of lemonade?

(Tally up your data and make the graph on the board or on chart paper. Point out terms like axis, title, and category. Make either a horizontal or vertical bar graph for this sort of survey.)



**Introduction (continued):**

Now it's your turn to make a graph! Let's start by gathering our information through a survey. The survey question for this one is: If you had to choose, which of these animals is your favorite?

(Choose 2-3 for grade one and 3-4 for grade two. Students will help tally and set up the graph this time. They will then plot the data on a graph at their seats.)

**Activity:**

For the next graph, you will be working in groups. Your group can make up or choose your own survey question. It has to be a question with two different answer choices (or three or four, depending on your students' skill levels).

**Examples:**

Which is your favorite fruit?

Which is your favorite season?

If we had a fundraiser, should it be a stand, selling items, or a movie night (or other option based on what your class would like)?

Optional group roles: Surveyor, graph set-up, data plotter, time keeper, etc.

(Have groups present their information at the end of the activity before handing out the exit ticket. If time does not allow for this, the exit ticket can be a future "Do Now" activity.)

**Progress Monitor:**

- Anecdotal evidence of students during the assigned task
- Exit Ticket:** Water Ice Flavors Graphing Sheet
- Follow-up Activity:** Count the number of cups of lemonade (or other items) sold during each hour at your event so you can plot them later on.

**Accommodations/Modifications:**

- Have students choose between your examples of survey questions instead of creating one.
- Have students work independently or in partners rather than working in a group.

**Thank you again for your interest in Alex's Lemonade Stand Foundation!**

We hope you will consider supporting ALSF with the help of your class, club, school, district, or community group.

Please contact our office by phone at 866.333.1213  
or by e-mail at [Takeastand@alexlemonade.org](mailto:Takeastand@alexlemonade.org)  
if you have any questions or need help getting started.



Name \_\_\_\_\_

Date \_\_\_\_\_

## Plotting Data on a Graph

We surveyed 10 students and asked, "Which is your favorite flavor of water ice?"

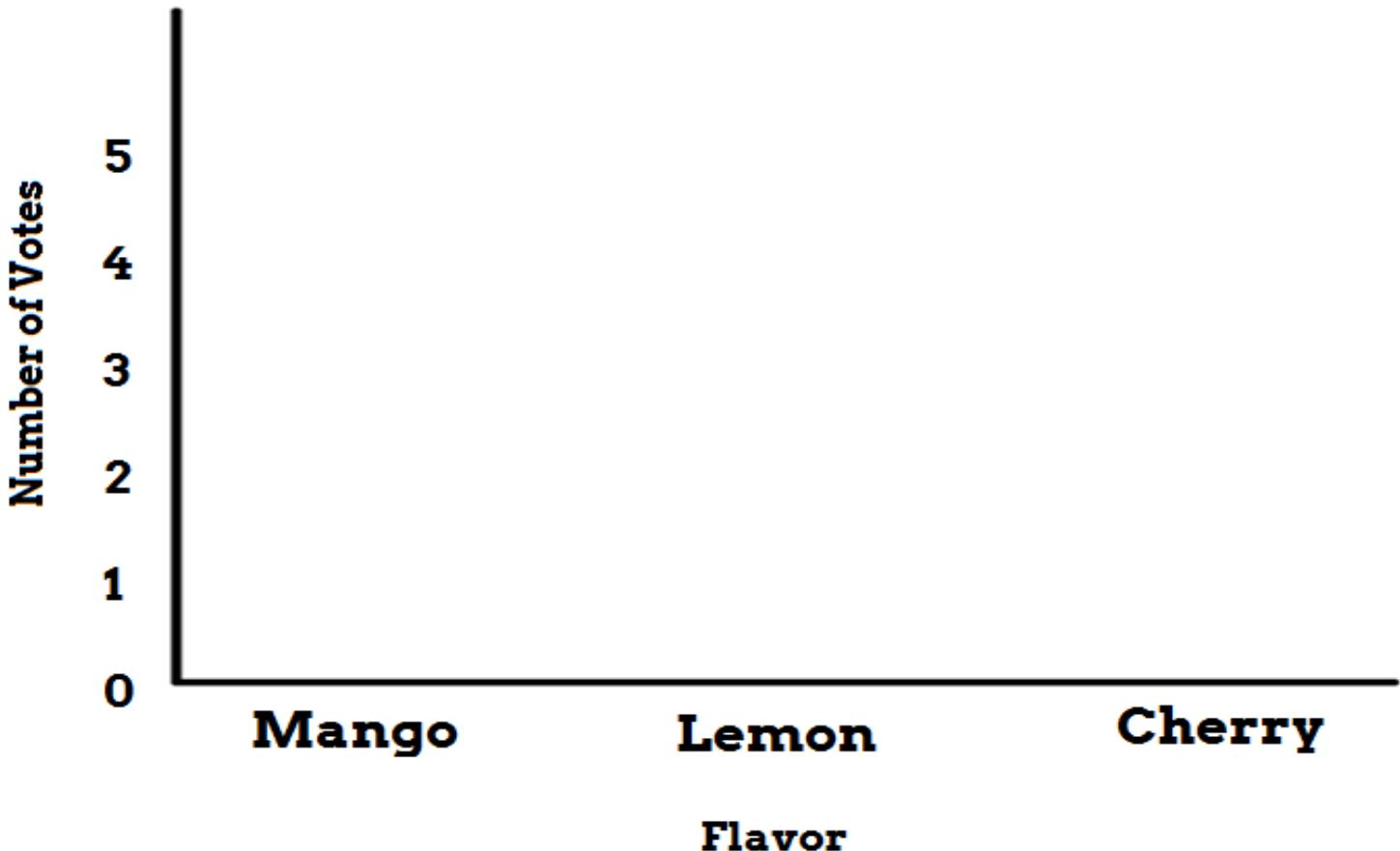
3 students answered "Mango".

5 students answered "Lemon".

2 students answered "Cherry".

Fill in the bar graph with this information.

**Favorite Water Ice Flavors**



**BONUS:** Which flavor received the most votes? \_\_\_\_\_

