Student Guide

First Names (SG pp. 5–6)
Questions 1–14

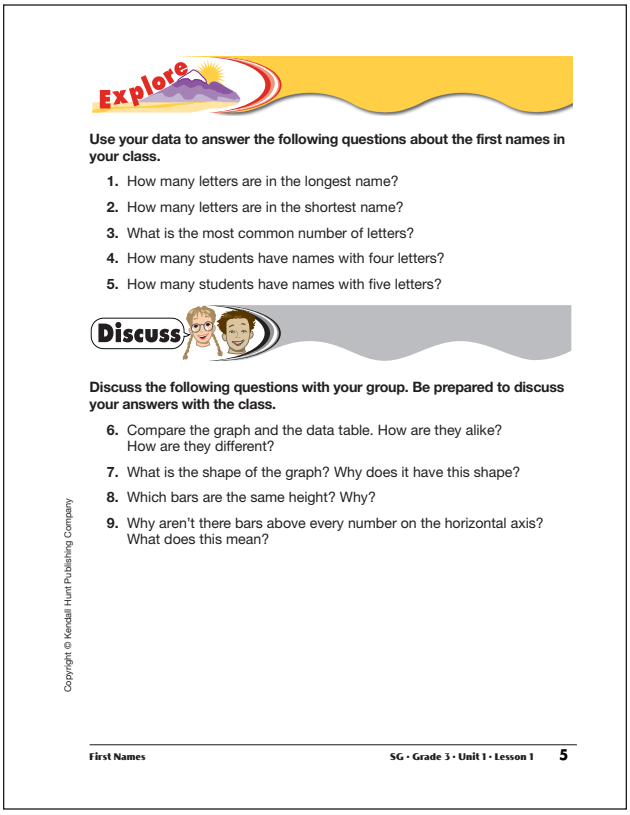
Answers will vary depending upon class data.

Answers below are based on the data table and graph in Figures 2 and 4.

1. 11 letters
2. 4 letters
3. 7 letters
4. 5 students
5. 7 students
6.* Comparisons will vary.

   Similarities: the variables in the table are used to label the axes on the graph; the data table and graph both display the same data.

   Differences: the shape of the data in the table is not as apparent as in the graph; the graph is more efficient (you have to count the self-adhesive notes in the table).
7.* Descriptions will vary. The graph looks like a roller coaster. Since the number of letters that are most common are six and seven, the middle of the graph is the highest. Since no one has a name with one or two letters, and since only one student has a really long name—with eleven letters—both ends of the graph have short bars or no bars at all.
8. The bars above the nine and the eleven are the same height because one student has a nine-letter name and one student has an eleven-letter name.
9. Some numbers on the horizontal axis do not have bars above them because zero students have that many letters in their names.
10. Answer should be based on class graph. Students could predict that the new student would be likely to have a name with five, six, or seven letters.
11–12. Elizabeth's thinking makes more sense. She is predicting that many of the other third graders have five, six, or seven letters in their names. Therefore, these new students would place their self-adhesive notes above the bars that already exist. The bars would grow taller.



Explore

Use your data to answer the following questions about the first names in your class.

1. How many letters are in the longest name?
2. How many letters are in the shortest name?
3. What is the most common number of letters?
4. How many students have names with four letters?
5. How many students have names with five letters?

Discuss

Discuss the following questions with your group. Be prepared to discuss your answers with the class.

6. Compare the graph and the data table. How are they alike? How are they different?
7. What is the shape of the graph? Why does it have this shape?
8. Which bars are the same height? Why?
9. Why aren't there bars above every number on the horizontal axis? What does this mean?

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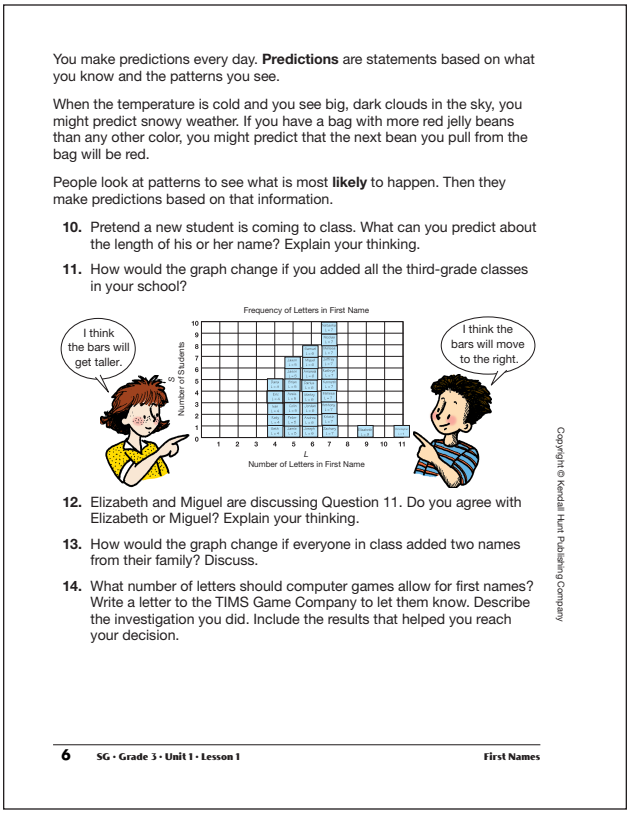

You make predictions every day. **Predictions** are statements based on what you know and the patterns you see.

When the temperature is cold and you see big, dark clouds in the sky, you might predict snowy weather. If you have a bag with more red jelly beans than any other color, you might predict that the next bean you pull from the bag will be red.

People look at patterns to see what is most **likely** to happen. Then they make predictions based on that information.

10. Pretend a new student is coming to class. What can you predict about the length of his or her name? Explain your thinking.
11. How would the graph change if you added all the third-grade classes in your school?

12. Elizabeth and Miguel are discussing Question 11. Do you agree with Elizabeth or Miguel? Explain your thinking.
13. How would the graph change if everyone in class added two names from their family? Discuss.
14. What number of letters should computer games allow for first names? Write a letter to the TIMS Game Company to let them know. Describe the investigation you did. Include the results that helped you reach your decision.

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***Answers and/or discussion are included in the lesson.**

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Student Guide

13. Even though family members may be older than the third graders, the lengths of their names are not necessarily longer. Many members would probably have five, six, or seven letters in their names. Their self-adhesive notes would make the bars grow taller.

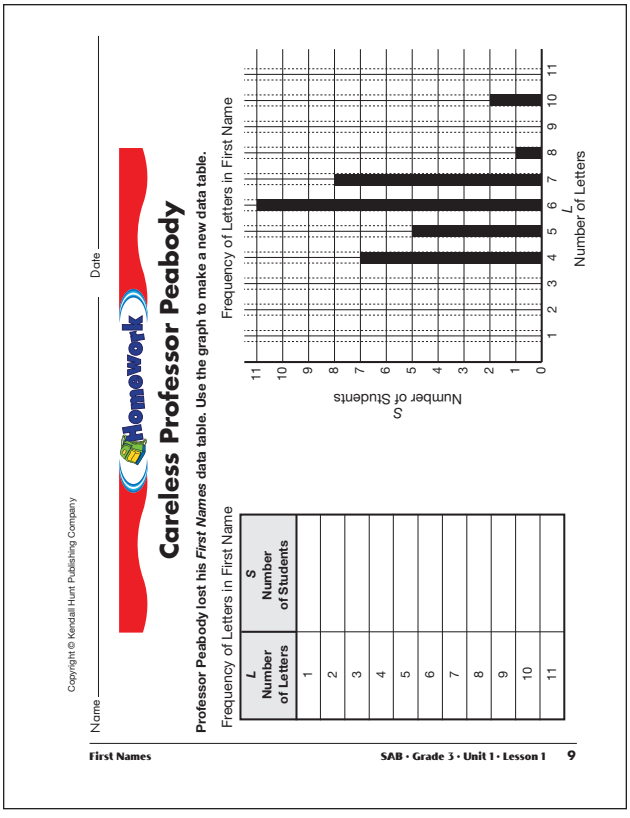
14. Answers will vary.
Possible responses can include: The computer game should allow 7 letters because most of the people in our class have 7 letters in their name. Or, The computer game should allow 6 letters because that would let more than half of the people in our class put in their whole name. Someone might suggest that the computer game should allow 11 letters so that everyone in the class could put in their whole name.

Student Activity Book

Answers for *Family Names Data Table* and *Family Names Graph* will vary depending on student data.

Careless Professor Peabody (SAB p. 9)

L Number of Letters	*S* Number of Students
1	0
2	0
3	0
4	7
5	5
6	11
7	8
8	1
9	0
10	2
11	0



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Teacher Guide

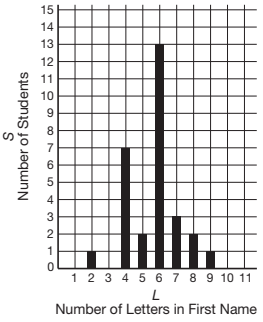
Lisa's Class Graph (TG pp. 1–2)
Questions 1–5

1. Possible response: The bar on the graph indicates there is only one student with a name that has two letters.
2. 7 students
3. 9 letters
4. 29 students. Possible response: Each bar shows the number of students who have that number of letters in their name. So, 13 students have 6 letters. So, I added,
   1 + 7 + 2 + 13 + 3 + 2 + 1 = 29 students.
5. Adding the name Susan would increase the bar for 5 letters to 3 students.

Name _____ Date _____

Lisa's Class Graph

Use the data in the table to answer the questions below.



1. Ed looked at Lisa's graph. He said, "I am the only one with two letters in my first name." Show or tell how Ed knows this from the graph.

2. How many students in Lisa's class have four letters in their first names?

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3. What is the number of letters in the longest first name?

4. How many students are in Lisa's class? Show or tell how you know.

5. Pretend a new student named Susan arrives. Use a crayon to add Susan's data to Lisa's graph above Question 1.

Lisa's Class Graph Feedback Box	Expectation	Check In	Comments
Read a bar graph to find information about a data set. [Q# 2, 3, and 4]	E3		
Make predictions and generalizations about a population from a sample using a graph. [Q# 1 and 5]	E4		

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