

Investigating Data

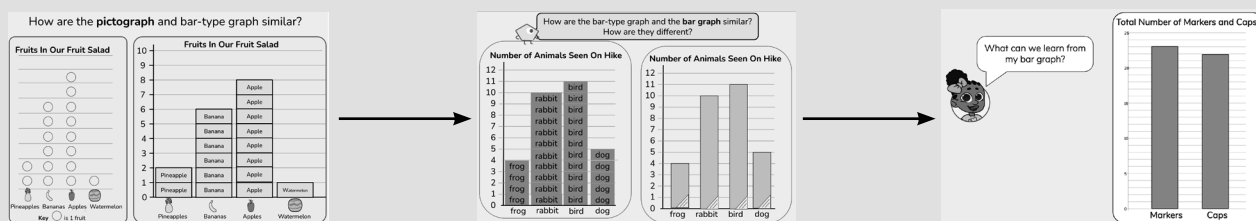
Family Guide | Grade 2 | Unit 7

Your student is exploring how to ask questions and use data to critically answer those questions, helping to make sense of the world.



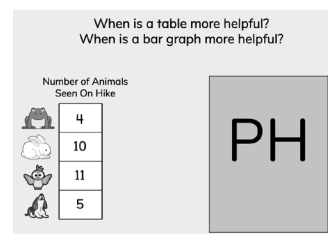
Key Math Ideas

Pictographs, bar-type graphs, bar graphs, and tables are data displays that help students compare and learn from data. In this unit students create and compare displays from given data and data that they collect during their own data investigations. They explore how graphs and tables help them understand the data and make decisions. Throughout the unit, students use addition and subtraction to analyze data and determine what category has more or fewer objects.



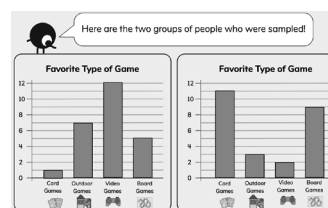
→ In the first half of the unit, your student will learn to

- create pictographs, bar-type graphs, bar graphs, and tables to represent data;
- use addition and subtraction strategies to analyze the data, such as determining how many more or fewer one category has than another;
- analyze different data displays and describe their advantages and disadvantages;
- describe that decisions are influenced by how data is organized and displayed.



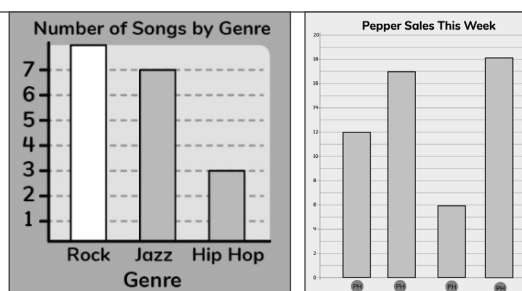
→ In the second half of the unit, your student will learn to

- identify, describe, and use the four steps of the Data Investigation Process (Ask a Question, Collect the Data, Display the Data, and Explain the Data) and use them to plan and conduct a data investigation;
- identify the difference between statistical questions (How tall are students in our class?) and non-statistical questions (How tall is the teacher in our class?);
- analyze data displayed in bar graphs and answer questions related to the data;
- make predictions about data and compare them to outcomes;
- describe how results for the same statistical question might change in different situations or with different groups of people.



Helpful Hint

Note how the graph to the right titled “Number of Songs by Genre” has each line labeled by ones, but the graph titled “Pepper Sales This Week” has lines for each number but not each line is labeled. Support students to read these graphs the same way by asking what numbers are between the labeled lines.



Tips for Supporting Your Student at Home

Questions to Ask Your Student



→ In the first half of the unit:

- What is the same about pictographs and bar graphs? What is different?
- What information do you know from your graph or table?
- How many more are there in one category than in another?
- How can bar graphs help us make decisions?

→ In the second half of the unit:

- What question do you want to ask? Can we collect data to answer it?
- How will you collect and record the data?
- How do you want to represent the data?
- What do you predict your data will tell you?
- How does the actual data compare to your prediction?

If...	Try...
your student has difficulty answering questions about how many more or how many fewer from data . . .	asking how much would be added or taken away from one category to make the same amount as another category.

Student Strengths Spotlight

I listen to other people's ideas and explain if I agree or disagree.

Your student will listen to classmates explain how they analyzed a set of data and they will explain why they agree or disagree.

I am careful about the words I use to explain thinking.

Your student will use precise language to explain what they learned from a data set and its graph.

Try This Together!

- **Conduct a Data Investigation.** Have your student follow the four steps to conduct their own data investigation:

- 1. Ask a Question**
- 2. Collect the Data**
- 3. Display the Data**
- 4. Explain the Data**

Have your student decide on a statistical question they would like to have answered to collect data such as, "What are my family members' favorite colors?" Support your student to collect the data and create a bar graph to represent it. Analyze the data with your student to figure out what the data helped them to learn. For example, ask, "Do more people have a favorite color of red or blue? How many more?"

- **Take a Nature Walk!** Before your walk, decide together on a question you want to answer, such as, "What is the most common type of tree in our neighborhood?" As you walk, use tally marks to collect the data for your question. When you get home, your student can make a bar graph to display the data. Provide them with a blank graph including labeled tick marks. Talk about what you notice and what you learned from the data and whether you can answer your question.
- **Data Scavenger Hunt.** Find data displays (pictographs, bar graphs, tables, etc) used in the real world outside of school. They may find them in books, magazines, or in the news. Ask your child to share what they learn from the information shown in the graph.