

Representing and Describing Data

Math Focus Points

- ◆ Making sense of and comparing what different representations communicate about a set of data
- ◆ Describing and comparing the number of pieces of data in each category and interpreting what the data tell you about the group

Today's Plan		Materials
<p>1 ACTIVITY</p> <p>Quick Survey: Child or Grown-up?</p>	 	<ul style="list-style-type: none"> • Chart paper Prepare a vertical 2-column table titled "Would you rather be a child or a grown-up?" Label the bottom of the columns "Child" and "Grown-up," and number the rows from 1 to 15 or 20 starting at the bottom.
<p>2 ACTIVITY</p> <p>Quick Survey: What Color Are Your Shoes?</p>	 	
<p>3 ACTIVITY</p> <p>Quick Survey: About Your Class</p>	 	<ul style="list-style-type: none"> • Chart paper Prepare a vertical 2-column table titled with a question about making a decision in your classroom or school. Label one column with one response and the second column with the other response.
<p>4 SESSION FOLLOW-UP</p> <p>Daily Practice</p>		<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 23A or C13, More True or False? Make copies. (as needed) • <i>Student Math Handbook</i>, pp. 65–68

Classroom Routines

Quick Images: Coins Using the set of overhead coins, display 3 nickels and 2 quarters. Follow the basic *Quick Images* activity. Discuss the quantity and type of coins with the class. Ask questions that focus on identifying each coin and the total number of coins (e.g., What is the name of this coin? How are these coins similar? How are they different? How many [nickels] did you see? How do you know?). If time permits, repeat using 1 penny and 4 dimes.

Teaching Notes

- 1 **Quick Survey** Read the *Quick Survey* activity in Session 1.1 (Unit 4, page 23) for information on how to structure the surveys, the purpose of these surveys, and suggestions for choosing survey questions.
- 2 **How Many Fewer?** As students analyze data, they often naturally compare the number in different categories to figure out which has more and how many more. In this *Quick Survey* discussion, and in the ones that follow, vary the ways you ask this kind of question so that sometimes students are figuring out which category has fewer and how many fewer.



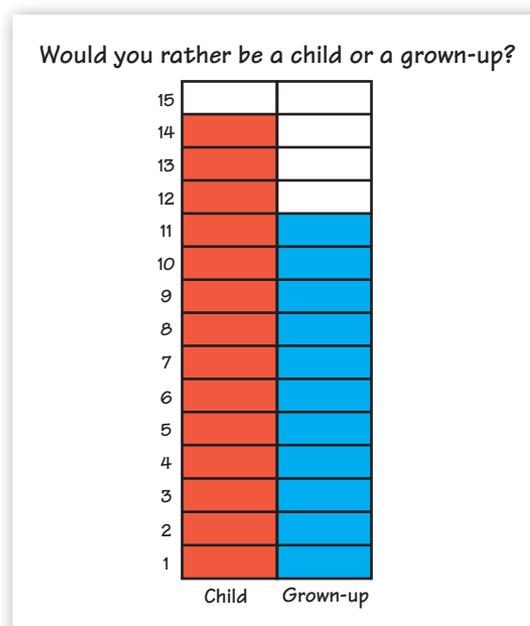
ACTIVITY

Quick Survey: Child or Grown-up?



Post the “Child or Grown-up?” *Quick Survey* chart that you have prepared. 1

Would you rather be a child or a grown-up?



Record students’ responses and then have a short discussion about the representation and results of the survey. Use questions such as the following to guide the discussion:

- I used a bar graph to represent this data. What can you easily tell from looking at this representation? What is hard to tell from looking at this representation?
- What does this survey tell us about our class?
- How many people would rather be a child? How many people would rather be a grown-up? Would more people rather be a child or a grown-up? Would many more people rather be [a child] or just a few? How many more? 2
- How many people answered this survey? What is an equation that can show results of this survey?
- Why do you think more people would rather be a [child]?
- Do you think we’d get similar data if we asked adults the same question?

ONGOING ASSESSMENT: Observing Students at Work

Students respond to a survey question and then describe and discuss the data which is represented in a bar graph.

- **Are students able to describe and compare the data in different ways?**
- **Are students able to identify the number of people who answered the survey?** Can they give an equation that describes the data?

2

ACTIVITY

Quick Survey: What Color Are Your Shoes?



Make a physical graph with the students' shoes or have students stand in groups according to their shoe color. You will have to decide together what to do with shoes that are the same color.

After organizing students or their shoes into groups, have a short discussion about the results of the survey. Use questions such as the following to guide the discussion:

- **What does this survey tell us about our class?**
- **How many people's shoes are each color?** [Record the number of each color.]
- **How many people answered the survey?**
- **What is an equation that can show these data?**
- **What color shoes do many people have?**
- **What color shoes do not many people have?**

ONGOING ASSESSMENT: Observing Students at Work

Students respond to a survey question and then describe and discuss the data.

- **What type of observations and comments do students make about the data?**
- **Are they able to count the number of responses in each category and find the total number of responses?**

Teaching Note

3 Quick Survey Relevant to Your Class

Choose a question that relates to your classroom or school, preferably one that will help you or someone else make a decision. Some suggestions are:

- Which book would you prefer to read today:
_____ or _____?
- Have you brought in your permission slips?
- Will you get a school lunch today?
- At recess do you usually play [on the jungle gym] or [on the blacktop]?
- Do you think the school should paint the hallway red or blue?

3

ACTIVITY

Quick Survey: About Your Class



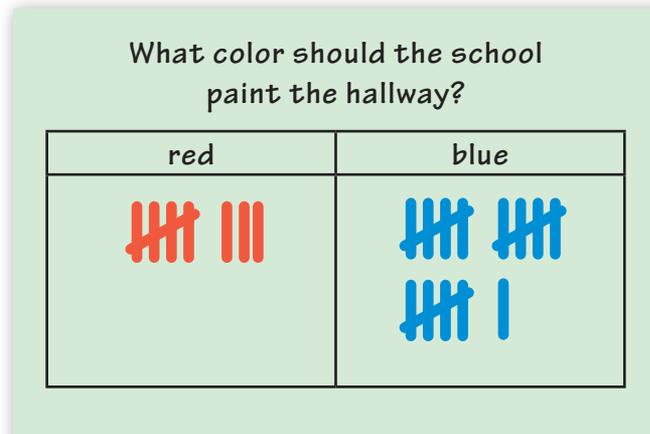
20 MIN



CLASS

Pose the question that you have chosen and presented on the chart. 3

Record students' responses using tally marks.



After recording students' responses, have a short discussion about the representation and the results of the survey. Use questions such as the following to guide the discussion:

- What does this survey tell us about our class?
- I used tally marks to represent these data. What is easy to tell from this representation? What is hard to tell?
- How many people [chose red]? How many people [chose blue]? How many fewer people [chose red] than [chose blue]?
- How many people answered this survey? What is an equation that can show the results of this survey?
- How could collecting these data help [the school]?
- How might the data be different if we asked another class the same question?

ONGOING ASSESSMENT: Observing Students at Work



Students respond to a survey question, and then describe and discuss the data, which are represented with tallies.

- Are students able to use tallies to determine the number of responses in each category and the total number of responses?
- Can students represent the data with an equation?
- Can they identify how the data might be useful?

SESSION FOLLOW-UP

4

Daily Practice



Daily Practice: For ongoing review, have students complete *Student Activity Book* page 23A or C13.



Student Math Handbook: Students and families may use *Student Math Handbook* pages 65–68 for reference and review. See pages 145–152 in the back of Unit 4.

Name _____ Date _____

What Would You Rather Be? Daily Practice

More True or False?

Circle the word to show whether the equation is true or false.

NOTE: Students determine whether equations are true or false.

1. $10 + 2 = 12$	True	False
2. $7 + 7 = 10 + 4$	True	False
3. $14 = 7 - 7$	True	False
4. $5 + 5 + 2 = 6 + 6$	True	False
5. $8 - 4 = 4 + 0$	True	False
6. $8 - 4 = 4 + 4$	True	False

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Session 3.4A Unit 4 23A

▲ **Student Activity Book, Unit 4, p. 23A; Resource Masters, C13**



More True or False?

Circle the word to show whether the equation is true or false.

NOTE Students determine whether equations are true or false.

SMH 44

1. $10 + 2 = 12$

True

False

2. $7 + 7 = 10 + 4$

True

False

3. $14 = 7 - 7$

True

False

4. $5 + 5 + 2 = 6 + 6$

True

False

5. $8 - 4 = 4 + 0$

True

False

6. $8 - 4 = 4 + 4$

True

False



Más ¿verdadero o falso?

Encierra la palabra en un círculo para indicar si la ecuación es verdadera o falsa.

NOTA Los niños determinan si las ecuaciones son verdaderas o falsas.

MME 44

1. $10 + 2 = 12$

Verdadera

Falsa

2. $7 + 7 = 10 + 4$

Verdadera

Falsa

3. $14 = 7 - 7$

Verdadera

Falsa

4. $5 + 5 + 2 = 6 + 6$

Verdadera

Falsa

5. $8 - 4 = 4 + 0$

Verdadera

Falsa

6. $8 - 4 = 4 + 4$

Verdadera

Falsa