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**Teacher's Guide to Using the**
*Chapter 4 Resource Masters* ................................... iv

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### Answers................................................................. A1–A28
The **Chapter 4 Resource Masters** includes the core materials needed for Chapter 4. These materials include worksheets, extensions, and assessment options. The answers for these pages appear at the back of this booklet.

All of the materials found in this booklet are included for viewing and printing on the *TeacherWorks Plus™* CD-ROM.

### Chapter Resources

**Graphic Organizer** (page 2) This master is a tool designed to assist students with comprehension of grade-level concepts. You can use this graphic organizer in coordination with the appropriate lesson. While the content and layout of these tools vary, their goal is to assist students by providing a visual representation from which they can learn new concepts.

**Student Glossary** (page 3) This master is a study tool that presents the key vocabulary terms from the chapter. You may suggest that students highlight or star the terms they do not understand. Give this list to students before beginning Lesson 4-1. Remind them to add these pages to their mathematics study notebooks.

**Anticipation Guide** (page 4) This is a survey designed for use before beginning the chapter. You can use this survey to highlight what students may or may not know about the concepts in the chapter. If feasible, interview students in small groups, asking them the questions in the guide. There is space for recording how well students answer the questions before they complete the chapter. You may find it helpful to interview students a second time, after completing the chapter, to determine their progress.

**Games** (page 5) A game is provided to reinforce chapter concepts and may be used at appropriate times throughout the chapter.

### Resources for Lessons

**Reteach** Each lesson has an associated Reteach worksheet. In general, the Reteach worksheet focuses on the same lesson content but uses a different approach, learning style, or modality than that used in the Student Edition. The Reteach worksheet closes with computational practice.

**Skills Practice** The Skills Practice worksheet for each lesson focuses on the computational aspect of the lesson. The Skills Practice worksheet may be helpful in providing additional practice of the skill taught in the lesson. It also contains word problems that cover the skill. Spaces for students’ answers are provided on the worksheet.

**Homework Practice** The Homework Practice worksheet provides an opportunity for additional computational practice. The Homework Practice worksheet includes word problems that address the skill taught in the lesson. Spaces for students’ answers are provided on the worksheet.

**Problem-Solving Practice** The Problem-Solving Practice worksheet presents additional reinforcement in solving word problems that applies both the concepts of the lesson and some review concepts.

**Enrich** The Enrich worksheet presents activities that extend the concepts of the lesson or offer a historical or multicultural look at the lesson’s concepts. Some enrichment materials are designed to widen students’ perspectives on the mathematics they are learning.

**Resources for Problem-Solving** In recognition of the importance of problem-solving strategies, worksheets for problem-solving lessons follow a slightly different format. For problem-solving lessons, a two-page Reteach worksheet offers a complete model for choosing a strategy. For each Problem-Solving Strategy lesson, Reteach and Skills Practice worksheets offer reinforcement of the strategy taught in the lesson. In contrast, the Problem-Solving Investigation worksheets include a model strategy on the Reteach worksheets and provide problems requiring several alternate strategies on the practice worksheets.
Assessment Options

The assessment masters in the Chapter 4 Resource Masters offer a wide variety of assessment tools for monitoring progress as well as final assessment.

**Individual Progress Checklist** This checklist explains the chapter's goals or objectives. Teachers can record whether a student's mastery of each objective is beginning (B), developing (D), or mastered (M). The checklist includes space to record notes to parents as well as other pertinent observations.

**Chapter Diagnostic Test** This one-page test assesses students' grasp of skills that are needed for success in the chapter.

**Chapter Pretest** This one-page quick check of the chapter's concepts is useful for determining pacing. Performance on the pretest can help you determine which concepts can be covered quickly and which specific concepts may need additional time.

**Mid-Chapter Test** This one-page chapter test provides an option to assess the first half of the chapter. It includes both multiple-choice and free-response questions.

**Vocabulary Test** This one-page test focuses on chapter vocabulary. It is suitable for all students. It includes a list of vocabulary words and questions to assess students' knowledge of the words.

**Oral Assessment** This two-page test consists of one page for teacher directions and questions and a second page for recording responses. Although this assessment is designed to be used with all students, the interview format focuses on assessing chapter content assimilated by ELL students. The variety of approaches includes solving problems using manipulatives as well as pencil and paper.

**Listening Assessment** This two-page assessment contains one page for teacher directions and one page for responses/recordings. This assessment, too, is suitable for all students but is designed primarily for use with students who may have difficulty reading test materials. The assessment directions progress in difficulty from simple at the beginning of the year to more extensive at the end of the year.

**Chapter Project Rubric** This one-page rubric is designed for use in assessing the chapter project. You may want to distribute copies of the rubric when you assign the project and use the rubric to record each student's chapter project score.

**Foldables Rubric** This one-page rubric is designed to assess the chapter Foldable. It is written to the students, telling them what you will be looking for as you evaluate their completed Foldable.

**Leveled Chapter Tests**

- **Form 1** assesses basic chapter concepts through multiple-choice questions and is designed for use with below-level students.
- **Form 2A** is designed for on-level students and is primarily for those who may have missed the Form 1 test. It may be used as a retest for students who received additional instruction following the Form 1 test.
- **Form 2B** is designed for students with a below-level command of the English language.
- **Form 2C** is a free-response test designed for on-level students.
- **Form 2D** is written for students with a below-level command of the English language.

**Cumulative Standardized Test Practice** This two-page test, aimed at on-level students, offers a page of multiple-choice questions and a page of free-response questions.

**Answers**

The answers for the Anticipation Guide and Lesson Resources are provided as reduced pages with answers appearing in black. Full size line-up answer keys are provided for the Assessment Masters.
A suggestion for how to complete this graphic organizer can be found in the answer pages at the back of this book.

Tell a friend what you learned.
# Vocabulary Builder

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Definition / Description / Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>bar graph</td>
<td>A graph that uses bars to show data. [Lesson 4.4]</td>
</tr>
<tr>
<td>data</td>
<td>Information collected from a survey or experiment. [Lesson 4.1]</td>
</tr>
<tr>
<td>key</td>
<td>Tells what or how many each symbol stands for. [Lesson 4.2]</td>
</tr>
<tr>
<td>mode</td>
<td>The number that occurs most often in a set of numbers. Example: 7, 4, 7, 10, 7, and 2. The <strong>mode</strong> is 7. [Lesson 4.6]</td>
</tr>
<tr>
<td>pictograph</td>
<td>A type of graph that uses the same pictures to show each of the data collected. [Lesson 4.2]</td>
</tr>
<tr>
<td>picture graph</td>
<td>A graph that has different pictures to show information collected. [Lesson 4.2]</td>
</tr>
<tr>
<td>range</td>
<td>The difference between the greatest and least number in a set of data. Example: 4, 7, 10, and 2. 10 is the greatest and 2 is the least. The <strong>range</strong> is 8. [Lesson 4.6]</td>
</tr>
<tr>
<td>survey</td>
<td>To collect data by asking people the same questions. Example: this survey shows favorite games. [Lesson 4.1]</td>
</tr>
<tr>
<td>symbol</td>
<td>Something that stands for something else. Example: the symbol for add is +. [Lesson 4.2]</td>
</tr>
<tr>
<td>tally marks</td>
<td>A mark used to record data collected in a survey. [Lesson 4.1]</td>
</tr>
</tbody>
</table>

---

### Favorite Flower

<table>
<thead>
<tr>
<th>Flower</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>tulip</td>
<td>🌸🌸🌸🌸🌸</td>
</tr>
<tr>
<td>daisy</td>
<td>🌸🌸</td>
</tr>
</tbody>
</table>

Each 🌸 stands for 2 votes

### How I Get to School

<table>
<thead>
<tr>
<th>Mode</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td>🚗🚗🚗🚗🚗</td>
</tr>
<tr>
<td>Bike</td>
<td>🚴имальymi</td>
</tr>
<tr>
<td>Walk</td>
<td>🥾🚶🚶🚶</td>
</tr>
</tbody>
</table>

### Favorite Games

<table>
<thead>
<tr>
<th>Game</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎮🎮🎮</td>
<td></td>
</tr>
</tbody>
</table>

---

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Before you begin Chapter 4, ask students the following questions. You may want to ask the same questions after students complete the chapter.

<table>
<thead>
<tr>
<th>Before Chapter</th>
<th>After Chapter</th>
</tr>
</thead>
</table>
| **1.**

**Favorite Comic Book**

<table>
<thead>
<tr>
<th>Comic Book</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super Egg</td>
<td>III</td>
</tr>
<tr>
<td>The Mystery</td>
<td>IIIII</td>
</tr>
</tbody>
</table>

How many people voted?

| **2.**

**Favorite Bears**

<table>
<thead>
<tr>
<th>Bear</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grizzly</td>
<td>🐻 🐻</td>
</tr>
<tr>
<td>Polar</td>
<td>🐻 🐻 🐻 🐻</td>
</tr>
</tbody>
</table>

KEY: Each 🐻 stands for 2 bears.

How many people voted for polar bears?

| **3.**

Una has 5 games. Matt has 2 games. Tommy has 4 games. Una and Tommy want to know how many do they have together. Write a number sentence to show the total number of games.

| **4.**

Jan wrote down how many hours a day she practiced her flute. Look at the data: 1, 1, 1, 1, 2, 2.

What is the mode?
Ready

You will need:

- Number cube
- 2 game pieces
- 3 crayons, each a different color

Set

Copy and enlarge game board.

Each player chooses a game piece and makes a fruit graph. Players predict which fruit they will land on most often.

GO!

1. Toss the number cube and move that many places, following the path of the arrows.

2. Each player colors the square on the graph that matches the square landed on. The first player to finish the game gets 3 points.

3. Correct predictions on the fruit graph receive 5 points. The player with the most points wins.
Use the survey to answer each question.

Look at your classmates. Make one tally mark to record what each classmate is wearing. Complete the chart.

<table>
<thead>
<tr>
<th>Clothes in the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeans</td>
</tr>
<tr>
<td>Sweaters</td>
</tr>
<tr>
<td>T-Shirts</td>
</tr>
<tr>
<td>Skirts</td>
</tr>
</tbody>
</table>

1. How many students are wearing sweaters?

2. How many students are wearing t-shirts?

3. Which got more tallies, jeans or skirts?

4. What item of clothing is worn the least?

5. What item of clothing is worn the most?
Use the survey to answer each question.

Ask classmates which hobby they like best. Use tally marks to record their answers. Complete the chart.

<table>
<thead>
<tr>
<th>Favorite Hobby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports</td>
</tr>
<tr>
<td>Building Models</td>
</tr>
<tr>
<td>Painting</td>
</tr>
<tr>
<td>Playing Music</td>
</tr>
</tbody>
</table>

1. How many tally marks did playing music get?

2. Which hobby has the most tally marks?

3. Wes is starting a Craft Club. He wants to invite the students who like building models or painting. Write a number sentence to show how many students Wes should invite.

\[ + = \]

4. Sue wants to add cooking to the chart. Three students decide to change their vote from playing music to cooking. How many tallies are left for playing music?
Ask ten people what breakfast foods they like best. Complete the chart. Use tally marks to show data.

<table>
<thead>
<tr>
<th>Favorite Breakfast Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereal</td>
</tr>
<tr>
<td>Eggs</td>
</tr>
<tr>
<td>Fruit</td>
</tr>
<tr>
<td>Toast</td>
</tr>
</tbody>
</table>

Use the survey to answer each question.

1. Which food did they like least?

2. Which got more votes, cereal or toast?

3. How many like eggs and fruit best? Write a number sentence to solve.

   _____ + _____ = _____

4. Tina wants to make breakfast for them. How many people will she need to make cereal for?
4-1

Problem-Solving Practice

Take a Survey

Solve.

1. Lin wants to take a survey about favorite games. Which question should she ask? Put a ✓ beside the answer.
   - Where do you like to play?
   - What is your favorite game?
   - Who are your friends?

2. Jim is taking a survey about favorite games. He asks 7 students. How many tally marks will his chart show?
   - _____ tally marks

<table>
<thead>
<tr>
<th>Favorite Amusement Ride</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roller Coaster</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Ferris Wheel</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Bumper Cars</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

3. Which ride got the most votes?
   - ________________

Which ride got the least votes?
   - ________________

4. How many more people voted for the Ferris wheel than the bumper cars?
   - _____ more people
Use the clues to finish the survey.

Pilar likes to collect pictures of her favorite animals. She wrote some clues about her collection. Use the clues to determine how many pictures are in her collection.

There are three times as many rabbits as there are cats.
There are two more frog pictures than dog pictures.
There are twice as many dog pictures as there are cat pictures.
There are four cat pictures.

Make tally marks to show the number of pictures of each animal.

<table>
<thead>
<tr>
<th>Animal</th>
<th>tally marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog</td>
<td></td>
</tr>
<tr>
<td>Cat</td>
<td></td>
</tr>
<tr>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td>Frog</td>
<td></td>
</tr>
</tbody>
</table>

How many animal pictures does Pilar have in all? _____
The picture graph shows the votes for favorite sport.

<table>
<thead>
<tr>
<th>Favorite Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
</tr>
<tr>
<td>Basketball</td>
</tr>
<tr>
<td>Soccer</td>
</tr>
</tbody>
</table>

Use the picture graph. Fill in the pictograph below.

**Key:** Each enedor stands for 2 votes.

1. How many more students voted for baseball than for basketball?
   ______ more students

2. Which sport is the favorite? _________

3. How many students voted in all? ______
Some students voted for their favorite book. Show their tally chart as a pictograph. Use the graph to answer each question.

<table>
<thead>
<tr>
<th>Favorite Book</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Raiders</td>
<td>HHH</td>
</tr>
<tr>
<td>Beneath the Sea</td>
<td>HHH</td>
</tr>
<tr>
<td>House in the Woods</td>
<td>HHH</td>
</tr>
<tr>
<td>Puppet Street</td>
<td>HHH</td>
</tr>
</tbody>
</table>

Key: Each 📚 stands for 2 votes.

1. How many children voted for House in the Woods? _____

2. How many more children voted for Puppet Street than voted for Beneath the Sea? _____

3. How many children in all voted for Space Raiders and Puppet Street? _____

4. Lila wants to read the book with the least votes. Which book should she read? __________________

5. Rick, Tom, and Cindy like Space Raiders the best. If their votes are added to the survey, will Space Raiders have the most votes? _____
4-2
Homework Practice

Picture Graphs

Preparation: Crayons are needed for this activity.

The students voted for their favorite color. Show the votes on the picture graph. Use the data. Draw one crayon for each vote. Use the graph to answer each question.

Data: Red Blue Green Purple

1. How many more students chose red than green? ______
2. How many students voted for either green or purple? ______
3. How many students voted in all? ______
4. If two more students vote for green, which color will now have the least votes? ______ Add their votes to the graph.
5. Now look at the graph. Color the rows that show the same number of votes. ________________
Use the graph to solve the problems.

<table>
<thead>
<tr>
<th>Favorite Flower</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tulip</td>
<td>🌸 🌸 🌸 🌸 🌸</td>
</tr>
<tr>
<td>daisy</td>
<td>🌸 🌸</td>
</tr>
<tr>
<td>rose</td>
<td>🌸 🌸 🌸</td>
</tr>
<tr>
<td>lily</td>
<td>🌸</td>
</tr>
</tbody>
</table>

Each 🌸 stands for 2 votes

1. Which flower got the most votes? _______

2. How many votes did the lily get? _______ votes

3. Which flower got 6 votes? _______

4. How many total votes did the daisy and the rose get? _______ votes

5. How many more votes did the tulip get than the daisy? Write a number sentence to find out. _________________
   The tulip got ______ more votes than the daisy.

6. Use the data from the pictograph above to make a picture graph.

<table>
<thead>
<tr>
<th>Favorite Flower</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tulip</td>
<td></td>
</tr>
<tr>
<td>daisy</td>
<td></td>
</tr>
<tr>
<td>rose</td>
<td></td>
</tr>
<tr>
<td>lily</td>
<td></td>
</tr>
</tbody>
</table>
Mr. Carter took a survey of his gym classes to find out their favorite games. These are the games that received the most votes.

Jingle Jump Rope 9
Total Tether Ball 11
Touchdown Tag 5
Double Disc Golf 8

Use this information to create a pictograph:

<table>
<thead>
<tr>
<th>Favorite Gym Games</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jingle Jump Rope</td>
</tr>
<tr>
<td>Total Tether Ball</td>
</tr>
<tr>
<td>Touchdown Tag</td>
</tr>
<tr>
<td>Double Disc Golf</td>
</tr>
</tbody>
</table>

Key: Each 🎉 stands for one vote.

Use the information from the pictograph to answer these questions.

1. What is the number of students who voted? _____

2. How many more students voted for Total Tether Ball than Touchdown Tag? __________

3. What if each 🎉 stands for two votes? How many happy faces would be drawn for Double Disc Golf? __________
How many stuffed animals does Ella have?

<table>
<thead>
<tr>
<th>Ella's Toy Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bears</td>
</tr>
<tr>
<td>Mice</td>
</tr>
<tr>
<td>Dolls</td>
</tr>
</tbody>
</table>

**Step 1**
What do I know?
Bears are stuffed.
Mice are stuffed.

**What do I need to find?**
How many bears and mice are there in all?

**Step 2**
What can I do?
I will **write a number** sentence to add the bears and mice.

**Step 3**
Write a number sentence.
_____ bears + _____ mice = _____ stuffed animals

**Step 4**
Are there 13 stuffed animals shown in the chart?
_____
Problem-Solving Strategy: Write a Number Sentence

Use the graphs to answer the questions. Write a number sentence to solve.

### Ms. Garcia’s Shopping List

<table>
<thead>
<tr>
<th>Item</th>
<th>Graph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomatoes</td>
<td>🍅 🍅 🍅</td>
</tr>
<tr>
<td>Potatoes</td>
<td>🍔 🍔 🍔</td>
</tr>
<tr>
<td>Chickens</td>
<td>🐔 🐔 🐔</td>
</tr>
</tbody>
</table>

1. How many vegetables will Ms. Garcia buy?
   
   _____ tomatoes  _____ potatoes = _____ vegetables

2. How many more of Nate’s stamps are from Japan than are from Mexico?
   
   _____ from Japan  _____ from Mexico
   
   _____  _____ = _____ more stamps

3. How many stamps are from either Italy or Mexico?
   
   _____ from Italy  _____ from Mexico
   
   _____  _____ = _____ stamps
Skills Practice

Problem-Solving Strategy: Write a Number Sentence

Name ____________________

Grade 2

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18

Chapter 4

2MR2.2, 2AF1.3

Use the graph. Write a number sentence to solve.

Number of Animals at Pablo’s Pets

<table>
<thead>
<tr>
<th>Animals</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parrots</td>
<td></td>
</tr>
<tr>
<td>Snakes</td>
<td></td>
</tr>
<tr>
<td>Lizards</td>
<td></td>
</tr>
</tbody>
</table>

1. How many more lizards than snakes?
   
   _____ − _____ = _____

2. Pablo takes a photo of each parrot and each snake. How many photos does Pablo take?
   
   _____ + _____ = _____ photos

Evans Family Recycling

<table>
<thead>
<tr>
<th>Items</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td></td>
</tr>
<tr>
<td>Plastic</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td></td>
</tr>
</tbody>
</table>

Key: Each symbol stands for 2 items.

3. How many more paper items than glass items?
   
   _____ − _____ = _____

4. The Evans family can put plastic and glass items in the same bin. How many items are in this bin?
   
   _____ + _____ = _____ items

5. Jim knows his family recycles twice as much paper as the Evans family does. How many paper items does Jim’s family recycle?
   
   _____ + _____ = _____ paper items
Homework Practice

Problem-Solving Strategy: Write a Number Sentence

Use the graph to answer the questions. Write a number sentence to solve.

<table>
<thead>
<tr>
<th>Mr. Bunn’s Class Lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peanut Butter &amp; Jelly Sandwich</td>
</tr>
<tr>
<td>Salad</td>
</tr>
<tr>
<td>Tuna Sandwich</td>
</tr>
</tbody>
</table>

1. How many more students ate peanut butter and jelly sandwiches than salads? _____ – _____ = _____

2. How many students ate either a salad or a tuna sandwich? _____ + _____ = _____

3. How many students ate a sandwich? _____ + _____ = _____

4. Drew wants to know how many more tuna sandwiches than salads. _____ – _____ = _____

5. Mr. Bunn wants to bring 6 extra salads for the next class lunch. How many salads then? _____ + _____ = _____
Use number sentences to finish the chart. Write the total number of votes for each team.

<table>
<thead>
<tr>
<th>Favorite Soccer Team</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver City Stars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brownville Beavers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winston Wildcats</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Cass, Polly, and Will each add a vote for the Brownville Beavers. Now the Brownville Beavers have

\[ 4 + \_\_\_ = \_\_\_ \text{ votes!} \]

2. Nick and Ben each add a vote for the Silver City Stars. Then, Luisa and Chen add their votes for the same team. Now the Silver City Stars have \[ 7 + \_\_\_ + \_\_\_ = \_\_\_ \text{ votes!} \]

3. Students are done voting! The total number of student votes is 29. How many votes are there for the Winston Wildcats?

\[ 29 - \_\_\_ - \_\_\_ = \_\_\_ \text{ votes} \]

4. Which team has the greatest number of votes?

________________________________________________________________________

________________________________________________________________________
Name ___________________________  

4-4  
Reteach  
2SDAP1.1, 2SDAP1.4  

Bar Graphs  

Preparation: Crayons are needed for this activity.  

Bar graphs use bars to show data. You can make a bar graph with data you read. Read the data to complete the bar graph.  

**Favorite Fruit**  

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td></td>
</tr>
<tr>
<td>Bananas</td>
<td></td>
</tr>
<tr>
<td>Oranges</td>
<td></td>
</tr>
<tr>
<td>Pears</td>
<td></td>
</tr>
</tbody>
</table>

Data:  
Four people voted for apples. Show this on the bar graph.  
Five people voted for oranges. Show this on the bar graph.  
Two people voted for pears. Show this on the bar graph.  
Three people voted for bananas. Show this on the bar graph.  

Answer each question.  

1. What is the title of this bar graph? _________________  
2. How many kinds of fruit are shown in the bar graph? _____  
3. How many votes did apples get? _____  
4. What is the favorite fruit? ________________
Skills Practice

Bar Graphs

Preparation: Crayons are needed for this activity.

Use data from the chart to make a bar graph. Color one space for each vote. Then answer each question.

<table>
<thead>
<tr>
<th>Favorite Bird</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robin</td>
<td>⬤️ ⬤️ ⬤️ ⬤️</td>
<td>⬤️ ⬤️ ⬤️</td>
</tr>
<tr>
<td>Blue Jay</td>
<td>⬤️ ⬤️</td>
<td></td>
</tr>
<tr>
<td>Swan</td>
<td>⬤️ ⬤️ ⬤️</td>
<td></td>
</tr>
</tbody>
</table>

1. Which bird got the most votes? __________

2. How many more students voted for the *robin* than the *swan*? ______

3. How many votes for blue jays does the graph show? ______

4. How many students voted in all? ______
1. How many students voted for jazz or country? Write a number sentence to solve. _____ + _____ = _____

2. How many more students voted for rock than country? Write a number sentence to solve. _____ – _____ = _____

3. How many students voted? _____

4. Trey, Chris, and Ruth voted. Trey’s favorite music got 4 votes. Chris’ favorite music did not get the most votes. What is Ruth’s favorite music? _______
Use the bar graph to solve each problem.

1. How many people visited the beach?
   _______ people

2. How many people visited the forest?
   _______ people

3. Which fruit or fruits got the most votes?
   __________________________

4. Which got the fewest votes?
   __________________________
   How many votes did this fruit get?
   _______ votes

5. How many more votes did oranges get than grapes?
   Write a number sentence to compare.
   __________________________
   _______ more votes

6. How many people voted for their favorite fruit in all?
   Write the number sentence to find out.
   __________________________
   _______ people voted in all.
Enrich

Favorite Flavor Bar Graph

**Preparation:** Crayons are needed for this activity.

Hannah is planning a party. She will serve frozen yogurt. She asks her friends to name their favorite yogurt flavor. This is the data that she collected:

- Cherry is the favorite of 3 friends.
- Vanilla is the favorite of 4 friends.
- Strawberry is the favorite of 5 friends.
- Chocolate is the favorite of 7 friends.

Use this information to make a bar graph.

<table>
<thead>
<tr>
<th>Title: Favorite Frozen Yogurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>chocolate cherry strawberry vanilla</td>
</tr>
</tbody>
</table>

If Hannah can only buy two flavors, which two flavors should she buy? ________________________________

Why?  ________________________________________________________________

____________________________
You can show the same data different ways. You can use the data on one graph to make more graphs. Count how many tallies to help.

<table>
<thead>
<tr>
<th>Favorite Meal</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>🍳</td>
<td>🍳 🍳</td>
<td>🍳 🍳</td>
</tr>
<tr>
<td>Lunch</td>
<td>🍳 🍳 🍳</td>
<td>🍳 🍳</td>
<td>🍳</td>
</tr>
<tr>
<td>Dinner</td>
<td>🍳 🍳 🍳</td>
<td>🍳</td>
<td>🍳</td>
</tr>
</tbody>
</table>

1. Use the data from the tally chart to make the pictograph.

<table>
<thead>
<tr>
<th>Favorite Meal</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: Each 😊 stands for 1 vote.

2. Use the data from the pictograph to color the bar graph.
**Skills Practice**

*Different Ways to Show Data*

**Preparation:** Crayons are needed for this activity.

Use the tally chart. Make a pictograph and a bar graph to show the data. Then answer the questions.

<table>
<thead>
<tr>
<th>Food</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spaghetti</td>
<td>HHH I</td>
<td>6</td>
</tr>
<tr>
<td>Soup</td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Taco</td>
<td>HHH III</td>
<td></td>
</tr>
</tbody>
</table>

**Key:** Each \( \star \) stands for 2 votes.

1. **Which dinner got the most votes?**

2. **Which dinner got the fewest votes?**

3. **How many votes did the Spaghetti receive?**

4. **Who chose the Taco over the Soup?**

5. **Which dinner did least people like?**

Grade 2  
27  
Chapter 4
Homework Practice

Different Ways to Show Data

Preparation: Crayons are needed for this activity.

Use the data. Make a tally chart, a pictograph, and a bar graph to show the data.

Our Favorite Instruments

<table>
<thead>
<tr>
<th>Piano</th>
<th>Guitar</th>
<th>Drums</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎵🎵🎵</td>
<td>🎸🎵🎵</td>
<td>🥁ималь</td>
</tr>
</tbody>
</table>

Key: Each 🎵 = 2 instruments.

Our Favorite Instruments

<table>
<thead>
<tr>
<th>Piano</th>
<th>Guitar</th>
<th>Drums</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎵🎵🎵</td>
<td>🎸🎵🎶</td>
<td>🥁ималь</td>
</tr>
</tbody>
</table>

Our Favorite Instruments

<table>
<thead>
<tr>
<th>Piano</th>
<th>Guitar</th>
<th>Drums</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎵🎵🎵</td>
<td>🎸🎵🎶</td>
<td>🥁ималь</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Complete the graphs. Use the graphs to solve.

1. How many children voted for popcorn?
   _____ children

2. How many votes did pretzels get?
   _____ votes

3. How many more children voted for pretzels than popcorn? Write a number sentence.
   _____ – _____ = _____ _____ children

4. Which snack got the greatest number of votes?
   ____________
Which graph did you use to answer? Explain.
   ____________
Enrich

Displaying Data in Different Ways

Look at the tally chart to compare the number of players that are on different kinds of sport teams. Record the number of players below the tally marks.

<table>
<thead>
<tr>
<th>Sport</th>
<th>Baseball</th>
<th>Basketball</th>
<th>Football</th>
<th>Soccer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tally</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Use the information from the tally table to make a pictograph and a bar graph.

Title

<table>
<thead>
<tr>
<th>Title</th>
<th>Baseball</th>
<th>Basketball</th>
<th>Football</th>
<th>Soccer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: Each X stands for 2 players

Number of Players

<table>
<thead>
<tr>
<th>Title</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
</table>
Range and mode are ways to talk about data. Data is information. Looking at data in a simple way can help you find the range and mode.

Mrs. Lee’s class did a survey about TVs in the home.

Use the graphs to find mode and range.

1. On both graphs, circle the number of TVs you see most often.
   This number is the mode. _____ is the mode.

2. Look at the graph. Write the greatest number of TVs a family has: _____.
   Write the least number of TVs a family has: _____
   The range is the difference between these numbers. Write a number sentence to find the range: _____ – _____ = _____
   The range is _____.
Range and Mode

Norah has recorded how many people can sit at each table in her cafe. The data shows how many of each table she has. Find the mode. Find the range.

<table>
<thead>
<tr>
<th>Norah’s Cafe Seating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Seats</td>
</tr>
<tr>
<td>Number of Tables</td>
</tr>
</tbody>
</table>

Use the graph to solve.

1. Put the data in order from least to greatest.

2. Circle the mode on the graph. Write the mode. ____

3. Find the range. Write a number sentence to solve.
   ____ – ____ = ____
Mrs. Sand’s class recorded how many trees they have in their yards at home. Find the mode. Find the range.

<table>
<thead>
<tr>
<th>Number of Trees</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Yards</td>
<td>III</td>
<td>HHHH</td>
<td>III</td>
<td></td>
</tr>
</tbody>
</table>

Use the graph to solve.

1. What is the greatest number of trees? _____
2. What is the least number of trees? _____
3. What is the range? _____
4. What is the mode? _____
5. Nick’s yard has 5 trees. His mom wants to plant 2 new trees. Would this change the mode? _____
6. Elena’s yard has 4 trees. Her father has to cut down 1 tree. What is the range now? _____
Problem-Solving Practice 2SDAP1.3, 2SDAP1.4
Range and Mode

Use the graph to solve.

Number of Seashells We Have

Number of Shells

1. Lee says that no one has more than 4 shells. Is she right? ______

2. Nick says that no one has less than 2 shells. Is he right? ______

3. Leo wants to keep his shells in a box. What is the greatest number of shells he would have to plan for? ______

4. Sara has 4 shells. Her mom did not have any shells. Sara gave 1 shell to her. Does this change the range? ______

5. Rhonda, Tom, Liz, and Miguel all have 4 shells. If they each find 1 more shell, does the mode change? ______
   If so, what is the new mode? ______

6. Would Rhonda, Tom, Liz, and Miguel’s new shells change the range? Write a number sentence to solve.
   ______ – ______ = ______
The class went to the zoo. They made a graph of their favorite animals.

<table>
<thead>
<tr>
<th>Favorite Zoo Animals</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Apes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snakes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tigers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zebras</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penguins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: each \(\square\) = 2 students

Write the number of votes each animal received.

<table>
<thead>
<tr>
<th>Great Apes</th>
<th>Snakes</th>
<th>Tigers</th>
<th>Zebras</th>
<th>Penguins</th>
</tr>
</thead>
</table>

1. What is the range of the data? _____ animals

2. What is the mode of the data? _____ animals

3. If you were planning a trip to the zoo, how could you use this information?
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
Aaron has 3 muffin pans. Each pan can hold 6 muffins. How many muffins can Aaron bake?

**What do I know?**
Aaron has 3 pans. Each pan holds 6 muffins.

**What do I need to find out?**
How many muffins can Aaron bake?

**Plan**
I can make a table. A table can show both drawings and numbers clearly.

**Solve**

<table>
<thead>
<tr>
<th>Number of Pans</th>
<th>Number of Muffins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>

Aaron can bake _____ muffins.

**Check**
Look back.
Did I use the table to find out how many? _____
Reteach (2) 2MR1.1, 2AF1.2

Problem-Solving Investigation: Choose a Strategy

Solve.

Problem-Solving Strategies
Draw a Picture
Find a Pattern
Make a Table

Show your work here.

1. Jake is making up a new dance. He hops, hops, turns, hops, hops, and turns. What do you think he will do next?
   ______

2. 3 turtles can fit in 1 tank. Jose has 3 tanks. How many turtles can he have?
   ______ turtles

3. Joy brings 7 treats for the class. Jessie brings 14 treats. How many more treats did Jessie bring than Joy?
   ______

4. Jin, Jack, and Julia want to feed the birds. They each bring 2 bags of seed. How many bags of seed are there in all?
   ______ bags of seed
Solve.

1. Shandra is giving a treat bag to each of her 3 friends. She puts 4 pear slices in each bag. How many pear slices are there in all?
   
   _____ pear slices

2. Liam is writing the number of eggs his hens have. One hen has 2 eggs. 2 hens have 4 eggs. 3 hens have 6 eggs. Liam guesses that 4 hens will have 8 eggs. Is this a good guess? _____

   How many snowmen can they make? _____

Problem-Solving Strategies
Draw a Picture
Find a Pattern
Make a Table

Show your work here.
Name ____________________

4-7

Homework Practice

Problem-Solving Investigation: Choose a Strategy

Solve.

1. Look at the table. Do you see a pattern? _____ If so, use the pattern to complete the table. How long does it take to get to Windy Hollow Station? ______

<table>
<thead>
<tr>
<th>Town</th>
<th>Travel Time from Mayfield Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenville Station</td>
<td>2 hours</td>
</tr>
<tr>
<td>Oaktown Station</td>
<td>4 hours</td>
</tr>
<tr>
<td>New Mountain Station</td>
<td>6 hours</td>
</tr>
<tr>
<td>Windy Hollow Station</td>
<td>hours</td>
</tr>
</tbody>
</table>

2. Olive, Sean, and Luis are saving soup labels. Olive has 10, Sean has 7, and Luis has 13. How many more soup labels does Luis have than Sean? _____

3. Mr. Bell wants his students to put on their gloves before going outside. There are 21 students in Mr. Bell’s class. Each student has 2 gloves. How many gloves do Mr. Bell’s students have in all? _____

4. Suzie, Simon, and Sen each had 4 bottles of sports drink during their softball game. How many bottles of sports drink did they have in all? _____
Bradley’s class took a survey to find out how the students got to school. Here are the results:

<table>
<thead>
<tr>
<th>How We Get to School</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td>12</td>
</tr>
<tr>
<td>Walk</td>
<td>8</td>
</tr>
<tr>
<td>Van</td>
<td>4</td>
</tr>
<tr>
<td>Car</td>
<td>2</td>
</tr>
</tbody>
</table>

They used the information to make a graph. Bradley started his graph, but he noticed that he had a problem and could not finish. What changes can Bradley make to complete the graph?

Title: How We Get to School

10
9
8
7
6
5
4
3
2
1

Bus  Walk  Van  Car

Explain how Bradley can fix his graph.

Draw the graph on the back of the page or another piece of paper.
## Individual Progress Checklist

<table>
<thead>
<tr>
<th>Mastery Level</th>
<th>Learning Goals</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>4-1</td>
<td>Use tally marks to record and compare data in surveys.</td>
<td></td>
</tr>
<tr>
<td>4-2</td>
<td>Make, read, and use data in picture graphs and pictographs.</td>
<td></td>
</tr>
<tr>
<td>4-3</td>
<td>Use a table or graph to solve problems.</td>
<td></td>
</tr>
<tr>
<td>4-4</td>
<td>Make, read, and use data in a bar graph.</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>Represent the same data in more than one way.</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>Identify the range and mode in a set of data.</td>
<td></td>
</tr>
<tr>
<td>4-7</td>
<td>Choose an appropriate strategy to solve problems.</td>
<td></td>
</tr>
</tbody>
</table>

**B** = Beginning; **D** = Developing; **M** = Mastered

**Note to Parents**

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________

____________________________________________________________________________________
Diagnostic Test
Are you ready for Chapter 4?

Circle the group that has more.

1. [Group A with five items] [Group B with six items]

2. [Group A with eight items] [Group B with seven items]

Look at the tally chart.

<table>
<thead>
<tr>
<th>Favorite Snack</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheese</td>
<td>H H H H H</td>
</tr>
<tr>
<td>Fruit</td>
<td>H H H</td>
</tr>
<tr>
<td>Crackers</td>
<td>H H H</td>
</tr>
</tbody>
</table>

3. How many students picked fruit? ______

4. [Diagram with five boxes, three shaded] How many boxes are shaded? ______

5. [Price tags: 5¢, 7¢, 1¢, 10¢] Ms. Kim’s class is running the school store. Help them put the tags in order from least to greatest.

       _______ _______ _______ _______
Chapter Pretest

Use the data to complete the tally chart. Make one tally mark for each dot. [Lesson 4.1]

1. Birch Willow Oak

   • • • • • •       • • • • •       • • •

<table>
<thead>
<tr>
<th>What is Your Favorite Tree?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birch</td>
</tr>
<tr>
<td>Willow</td>
</tr>
<tr>
<td>Oak</td>
</tr>
</tbody>
</table>

Use the graph to solve.

2. Which bird has the greatest number of votes? [Lesson 4.2]

   ________

Gina recorded how many hours a day she spent swimming at camp. She ordered her data from least to greatest:

1, 1, 1, 2, 2, 2, 2, 3. [Lesson 4.6]

3. What is the range of this data? Write a number sentence to solve. _____ – _____ = _____

4. What is the mode of this data? _____
Mid-Chapter Test

Write a number sentence to solve. Use the graph. [Lesson 4.2, 4.3]

<table>
<thead>
<tr>
<th>Animals in the Zoo</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td>🦧 👶 🦧 👶</td>
</tr>
<tr>
<td>Parrot</td>
<td>🐦 👶 🐦</td>
</tr>
<tr>
<td>Snake</td>
<td>🐍 🐍</td>
</tr>
<tr>
<td>Panther</td>
<td>🦁</td>
</tr>
</tbody>
</table>

1. How many more parrots than monkeys? 
   _____ – _____ = _____

2. If the zoo gets 2 new snakes, how many snakes and parrots will there be?  _____ +  _____ +  _____ =  _____

Use the bar graph to make a tally chart. [Lesson 4.1, 4.4]

<table>
<thead>
<tr>
<th>Animals in The Zoo</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td>🦧</td>
</tr>
<tr>
<td>Parrot</td>
<td>🐦</td>
</tr>
<tr>
<td>Snake</td>
<td>🐍</td>
</tr>
<tr>
<td>Panther</td>
<td>🦁</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animals in the Zoo</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td></td>
</tr>
<tr>
<td>Parrot</td>
<td></td>
</tr>
<tr>
<td>Snake</td>
<td></td>
</tr>
<tr>
<td>Panther</td>
<td></td>
</tr>
</tbody>
</table>
Vocabulary Test

Use the words in the word bank. Write the correct word in the blank.

<table>
<thead>
<tr>
<th>data</th>
<th>range</th>
</tr>
</thead>
<tbody>
<tr>
<td>key</td>
<td>survey</td>
</tr>
<tr>
<td>mode</td>
<td>symbol</td>
</tr>
</tbody>
</table>

1. Mrs. Bean asked every child in her class the same question. She recorded their answers. Her class took a _______.

2. Remember to add a _____ with your pictograph to show what the pictures stand for!

3. Sam took a survey and recorded his _______ in a bar graph.

4. 4, 4, 4, 4, 5, 6, 6, 7, 7, 7.
   For this data, 7 – 4 = 3 shows the ____________.

5. 2, 2, 3, 3, 3, 3, 5, 8, 8.
   For this data, the _______ is 3.

Match each word to the correct picture.

6. pictograph

7. bar graph

8. picture graph
Oral Assessment

Preparation: Unit cubes and board access is needed for this assessment. It is necessary to prepare the board by drawing a 3-row chart labeled “Favorite Pies.” The subheadings must be “peach,” “cherry,” and “apple”. A frequency chart labeled “County Fair Pie Sales” is also needed. It is necessary to draw 4 Xs above 1, 3 Xs above 2, and 2 Xs above 3.

Directions: This test targets those students who have developing verbal skills—both oral and written. Ask the questions below and have students record their answers, or record the answers they supply.

1. Draw 4 tally marks in the peach row. Draw 2 tally marks in the cherry row. Say, 8 people chose “apple” as their favorite pie. Show their choice with tally marks.

2. Clear the peach row. Leave the tally marks in the cherry row. Draw 4 peaches in the peach row and 8 apples in the apple row. Say, If I am making a picture graph, how many cherries should I draw?

3. Ask, How many more votes for apples than votes for peaches? Have children show the answer with unit cubes.

4. Point to the “County Fair Pie Sales” chart. Explain that this chart shows the number of pies bought by families visiting the fair. Ask, Which number do you see most often? Ask, What do we call this number?

5. Have students show the range in unit cubes.

Notes and comments

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Oral Assessment Response Sheet

1. 
2. 
3. 
4. 
5. 

Name ____________________________
Listening Assessment

**Preparation:** Base-ten blocks are needed for this assessment.

**Ask students to complete each of the following groups of tasks.**

1. Draw 4 tally marks in the juice row.
   Draw 7 tally marks in the milk row.
   Use ones cubes to show the number sentence that tells the difference.

2. Write three 5’s.
   Write two 6’s.
   Write five 7’s.
   Circle the mode.
   What is the range of this data?

3. Draw 8 squares in the car row.
   Draw 3 circles in the doll row.
   Draw 5 triangles in the ball row.
   Which toy is the favorite?
   How many votes for cars and balls?
   Circle the row you did not need to solve the problem.
# Listening Assessment Response Sheet

1. **Favorite Drink**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Juice</td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td></td>
</tr>
</tbody>
</table>

Show your model here.

2. __________

   __________

   __________

3. **Favorite Toys**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doll</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ball</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Chapter Project Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Student successfully created a survey, recorded the data, and displayed those results in a graph. Student analyzed the information and used a graph best suited for displaying the results. Student created a summary report of the survey, succinctly explaining the results, and included relevant details like the range and mode of their data.</td>
</tr>
<tr>
<td>2</td>
<td>Student successfully created a survey, recorded the data, and displayed those results in a graph. Student analyzed the information and used a graph best suited for displaying the results. Student summarized the information.</td>
</tr>
<tr>
<td>1</td>
<td>Student successfully created a survey, recorded the data, and displayed those results in a graph. The graph chosen was not best suited to their results, and the summary was incomplete or deficient.</td>
</tr>
<tr>
<td>0</td>
<td>Student did not successfully complete the task. The student’s graph was incomplete or incorrect, and the results were unclear.</td>
</tr>
</tbody>
</table>
# Chapter Foldables Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3</strong></td>
<td>Student successfully made, labeled, and used the Foldables to record information about data and graphs. Student defined and explained chapter vocabulary, including “survey,” “range,” and “mode.” Student was able to make, read, and use data in a bar graph and a picture graph, as well as display the same data in multiple ways.</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Student successfully made, labeled, and used the Foldables to record information about data and graphs. Student defined and explained some chapter vocabulary, including “survey.” Student was able to make, read, and use data in a bar graph and a picture graph.</td>
</tr>
<tr>
<td><strong>1</strong></td>
<td>Student successfully made, labeled, and used the Foldables to record information about data and graphs. Student defined and explained some chapter vocabulary, including “survey.”</td>
</tr>
<tr>
<td><strong>0</strong></td>
<td>Student did not correctly make or use the chapter Foldables. Student was unable to define chapter vocabulary, and was unable to create or read bar and picture graphs.</td>
</tr>
</tbody>
</table>
Chapter Test, Form 1

Read each question carefully. Fill in the circle for the correct answer.

1. Which is the favorite?
   [Lesson 4.2]
   ○ kickball
   ○ football
   ○ board games
   ○ video games

2. How many more children like kickball than football?
   [Lesson 4.2]
   ○ 1
   ○ 2
   ○ 3
   ○ 4

3. Which shows the correct tally marks for kickball?
   [Lesson 4.1]
   ○
   ○
   ○
   ○

4. What kind of graph is this?
   [Lesson 4.2]
   ○ a tally chart
   ○ a bar graph
   ○ a picture graph
   ○ a pictograph

Favorite Games

<table>
<thead>
<tr>
<th>Game</th>
<th>Tally Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kickball</td>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Football</td>
<td>☐ ☐</td>
</tr>
<tr>
<td>Board Games</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Video Games</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

GO ON
Name ________________________________

Chapter Test, Form I (continued)

5. How many voted?
   [Lesson 4.2]
   ○ 14
   ○ 16
   ○ 28
   ○ 32

6. How many students like body surfing or boating the best?
   [Lesson 4.2]
   ○ 2
   ○ 4
   ○ 8
   ○ 16

Use the following numbers for 7 and 8.
3, 3, 3, 5, 7, 8, 8

7. What is the range of the data? [Lesson 4.6]
   ○ 3
   ○ 4
   ○ 5
   ○ 6

8. What is the mode of the data? [Lesson 4.6]
   ○ 3
   ○ 5
   ○ 7
   ○ 8
Read each question carefully.
Fill in the circle for the correct answer.

1. Which holiday is the least favorite? [Lesson 4.2]
   ○ Thanksgiving Day
   ○ Valentine's Day
   ○ Independence Day
   ○ New Year's Day

2. How many more people like Thanksgiving Day than Valentine’s Day? [Lesson 4.2]
   ○ 13
   ○ 9
   ○ 7
   ○ 8

3. Which tally chart shows the data in the picture graph? [Lesson 4.1, 4.5]
   - Favorite Holiday
     Thanksgiving
     Valentine's Day
     Independence Day
     New Year's Day
Which is your Favorite Farm Baby?

<table>
<thead>
<tr>
<th>Lambs (baby sheep)</th>
<th>Colts (baby horses)</th>
<th>Chicks (baby chickens)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. How many more people voted for chicks than colts? [Lesson 4.4]
   - 13
   - 4
   - 5
   - 6

5. Ben is taking the data from the bar graph and making a pictograph. If he wants 1 ☐ to stand for 2 colts, how many ☐ should he draw? [Lessons 4.2, 4.5]
   - 4
   - 3
   - 2
   - 1

6. What is the **mode** of the data? [Lesson 4.6]
   - 3
   - 2
   - 5
   - 4

7. What is the **range** of the data? [Lesson 4.6]
   - 6
   - 5
   - 4
   - 3
Chapter Test, Form 2B

Read each question. Fill in the circle for your answer.

### What is Your Favorite Holiday?

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Tally Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thanksgiving</td>
<td>✏️</td>
</tr>
<tr>
<td>Valentine’s Day</td>
<td>🖤🖤🖤</td>
</tr>
<tr>
<td>July 4th</td>
<td>🖤🖤🖤</td>
</tr>
</tbody>
</table>

1. Which holiday is liked least? [Lesson 4.2]
   - ✏️ Thanksgiving
   - 🖤 Valentine’s Day
   - 🖤 July 4th

2. How many more people like Thanksgiving than Valentine’s Day? [Lesson 4.2]
   - ✏️ 13
   - 🖤 9
   - 🖤 7

3. Which shows correct tally marks for July 4th? [Lesson 4.1]
   - ✏️ ✏️ ✏️
   - ✏️ ✏️ ✏️ ✏️
   - ✏️ ✏️ ✏️ ✏️ ✏️

4. Which tally chart shows the data above? [Lesson 4.1, 4.5]

   - What is Your Favorite Holiday?
     - Thanksgiving: ✏️ ✏️ ✏️
     - Valentine’s Day: ✏️
     - July 4th: ✏️ ✏️ ✏️ ✏️
Use the bar graph for 5 and 6.

Which is your Favorite Farm Baby?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>baby sheep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>baby horses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>baby chickens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. How many more people voted for baby chickens than baby horses? [Lesson 4.4]
   - 13
   - 4
   - 5

6. What number sentence shows problem 5? [Lesson 4.3]
   - 9 - 4 = 5
   - 9 - 4 = 6
   - 9 + 4 = 13

Use the data for 7 and 8.

1, 2, 2, 3, 5, 5, 5

7. What is the mode? [Lesson 4.6]
   - 3
   - 2
   - 5

8. What is the range? [Lesson 4.6]
   - 4
   - 5
   - 6
Chapter Test, Form 2C

Read each question carefully. Write your answer.

Use the data for 1–4.

Favorite Games

<table>
<thead>
<tr>
<th>Game</th>
<th>Tally Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soccer</td>
<td>☺☻☻☻☻</td>
</tr>
<tr>
<td>T-Ball</td>
<td>☻☻</td>
</tr>
<tr>
<td>Board Games</td>
<td>☼☼☼☼☼☼☼☼☼</td>
</tr>
<tr>
<td>Card Games</td>
<td>☟☟☟☟☟</td>
</tr>
</tbody>
</table>

1. Which is the favorite?  
[Lesson 4.1]

2. How many more students like card games than T-ball?  
[Lesson 4.2]

3. Write the correct tally marks for soccer.  
[Lesson 4.1]

4. Fill in the bar graph for the data in the picture graph.  
[Lesson 4.4]
Use the pictograph for 5–7.

**Favorite Outdoor Activities**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach</td>
<td>⛱️ ⛱️ ⛱️</td>
</tr>
<tr>
<td>Riding Bikes</td>
<td>⛵️ ⛵️</td>
</tr>
<tr>
<td>Fishing</td>
<td>⚔️ ⚔️</td>
</tr>
</tbody>
</table>

**Key:** Each ⛱️ = 2 votes

5. How many like to ride bikes and go fishing? Write a number sentence to solve. [Lesson 4.3]

6. How many voted? [Lesson 4.2]

7. How many more students like to go to the beach than go fishing? [Lesson 4.2]

8. The outdoor club has 3 bikes. Each bike has 2 wheels. How many wheels in the club? Complete the chart to solve. [Lesson 4.7]

<table>
<thead>
<tr>
<th>School Outdoor Club</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bikes</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Use the following sequence of numbers for 9 and 10.

9, 9, 10, 12, 13, 14, 15

9. What is the range of the data? [Lesson 4.6]

10. What is the mode of the data? [Lesson 4.6]
Chapter Test, Form 2D

Read each question. Write your answer in the space. Use the data for items 1–4.

<table>
<thead>
<tr>
<th>Favorite Games</th>
<th>□□□□</th>
<th>○○</th>
<th>□□□□□□□□</th>
<th>□□□</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soccer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T-Ball</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Checkers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Which is the favorite?  
   [Lesson 4.2]  
   _____________________

2. How many more like cards than T-ball?  [Lesson 4.2]  
   ________ more

3. Write tally marks for soccer.  
   [Lesson 4.1]  
   _____________________

4. Use the picture graph to make a bar graph.  [Lesson 4.4]

   GO ON
Use the pictograph to answer the questions.

Favorite Outdoor Activities

- **Beach**
- **Riding Bikes**
- **Fishing**

**Key:** Each 🌞 = 2 votes

1. **5. How many voted?** [Lesson 4.2]  

2. **6. How many more voted for the beach than fishing?**

3. **7. Write a number sentence to show how many votes for fishing and bike riding.**

4. 

Read each question. Use the following data.

5, 8, 8, 11, 14, 14, 14

5. **8. What is the range?** [Lesson 4.6]  

6. **9. What is the mode?** [Lesson 4.6]
Read each question carefully. Fill in the circle for the correct answer. Use the graph to solve.

### 1. How many more people voted for peanut butter than tuna salad? [Lesson 4.2]
- 4
- 8
- 9
- 2

### 2. What is the range of the data? [Lesson 4.6]
- ☐ 6
- ☐ 8
- ☐ 12
- ☐ 16

### 3. Which number sentence shows the sum of all the votes? [Lesson 2.7]
- ☐ 6 + 2 + 8 = 16
- ☐ 6 + 2 + 8 = 20
- ☐ 12 + 4 + 16 = 32
- ☐ 12 + 4 + 16 = 30

### 4. Which group shows the sandwiches in order from least to most favorite? [Lesson 1.6]
- ☐ peanut butter, tuna salad, ham and cheese
- ☐ ham and cheese, peanut butter, tuna salad
- ☐ tuna salad, ham and cheese, peanut butter
- ☐ tuna salad, peanut butter, ham and cheese
Cumulative Standardized Test Practice
(continued)

Use the data to make a graph. Use the graph to answer the questions.

Sander’s Farm Livestock

<table>
<thead>
<tr>
<th>Goats</th>
<th>Sheep</th>
<th>Cows</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Tally Mark]</td>
<td>![Tally Mark]</td>
<td>![Tally Mark]</td>
</tr>
</tbody>
</table>

5. Use the data to make a tally chart. [Lesson 4.1]

6. Use <, >, or = to complete the sentence. [Lesson 1.7]
   
   6 goats 10 sheep

7. The Sander’s children all like different animals. The farm has the most of Joe’s favorite animal. Millie’s favorite is the cow. Which animal is Kyle’s favorite? [Lesson 1.3] _______

8. Which of the animals at Sander’s Farm can you make 10 with? [Lesson 2.6]
   
   _______ and _______

9. Write two number sentences to show how many goats and sheep the farm has. [Lesson 2.1]
   
   _______ + _______ = _______
   
   _______ + _______ = _______
### Anticipation Guide

Before you begin Chapter 4, ask students the following questions. You may want to ask the same questions after students complete the chapter.

<table>
<thead>
<tr>
<th>Before Chapter</th>
<th>After Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> <strong>Favorite Comic Book</strong></td>
<td></td>
</tr>
<tr>
<td>Super Egg</td>
<td>4</td>
</tr>
<tr>
<td>The Mystery</td>
<td>3</td>
</tr>
<tr>
<td>How many people voted?</td>
<td>12</td>
</tr>
<tr>
<td><strong>2.</strong> <strong>Favorite Bears</strong></td>
<td></td>
</tr>
<tr>
<td>Grizzly</td>
<td>5</td>
</tr>
<tr>
<td>Polar</td>
<td>3</td>
</tr>
<tr>
<td>KEY: Each ••• stands for 2 bears. How many people voted for polar bears?</td>
<td>8</td>
</tr>
<tr>
<td><strong>3.</strong> Una has 5 games. Matt has 2 games. Tommy has 4 games. Una and Tommy want to know how many do they have together. Write a number sentence to show the total number of games.</td>
<td></td>
</tr>
<tr>
<td>5 + 4 = 9</td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong> Jan wrote down how many hours a day she practiced her flute. Look at the data: 1, 1, 1, 2. What is the mode?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Note to Teacher

This organizer can be used to help students find range and mode. Count from the greatest number to the least number. This is the range. The number with the most Xs is the mode.

Mr. Lamb asked his students how many books they each read in one week. Use a frequency chart to record their answers.

**Mr. Lamb's Class Book Count**

<table>
<thead>
<tr>
<th>1 Book</th>
<th>2 Books</th>
<th>3 Books</th>
<th>4 Books</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For every tally mark, put an X over the right number.

Tell a friend what you learned.
Use the survey to answer each question.

Take a Survey

Use your classmates to answer each question. Use tally marks to record your answers. Complete the chart.

Sports
Building Models
Painting
Playing Music

1. How many tally marks did playing music get?

2. Which hobby has the most tally marks?

3. Wes is starting a Craft Club. He wants to invite the students who like building models or painting. Write a number sentence to show how many students Wes should invite.

4. Sue wants to add cooking to the chart. Three students decide to change their vote from playing music to cooking. How many tallies are left for playing music?

Use your classmates to answer each question. Use one tally mark to record what each classmate is wearing. Complete the chart.

Jeans
Sweaters
T-Shirts
Skirts

1. How many students are wearing sweaters?

2. How many students are wearing t-shirts?

3. Which got the most tallies, jeans or skirts?

4. What item of clothing is worn the least?

5. What item of clothing is worn the most?
**Problem-Solving Practice**  
**Lesson 4-1**  
**2SDAP1.1, 2SDAP1.4**  
**Name**

**Take a Survey**

1. **Solve.**
   - Lin wants to take a survey about favorite games. Which question should she ask? Put a ✓ beside the answer.
   - Where do you like to play? ✓
   - What is your favorite game? ✓
   - Who are your friends?

2. Jim is taking a survey about favorite games. He asks 7 students. How many tally marks will his chart show?
   - 7 tally marks

3. Which ride got the most votes?
   - **Ferris Wheel**

4. How many more people voted for the Ferris wheel than the bumper cars?
   - 6 more people

---

**Homework Practice**

**Lesson 4-1**

**Take a Survey**

Name ____________________________

Ask ten people what breakfast foods they like best. Complete the chart. Use tally marks to show data.

<table>
<thead>
<tr>
<th>Favorite Breakfast Foods</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toast</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Use the survey to answer each question.**

1. Which food did they like least? **Answers will vary.**
2. Which got more votes, cereal or toast? **Answers will vary.**
3. How many like eggs and fruit best? Write a number sentence to solve. **Answers will vary.**
   - _____ + _____ = _____
4. Tina wants to make breakfast for them. How many people will she need to make cereal for? **Answers will vary.**
Use the clues to finish the survey.

Pilar likes to collect pictures of her favorite animals. She wrote some clues about her collection. Use the clues to determine how many pictures are in her collection.

There are three times as many rabbits as there are cats.
There are two more frog pictures than dog pictures.
There are twice as many dog pictures as there are cat pictures.
There are four cat pictures.

Make tally marks to show the number of pictures of each animal.

<table>
<thead>
<tr>
<th>Animal</th>
<th>tally marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog</td>
<td></td>
</tr>
<tr>
<td>Cat</td>
<td></td>
</tr>
<tr>
<td>Rabbit</td>
<td></td>
</tr>
<tr>
<td>Frog</td>
<td></td>
</tr>
</tbody>
</table>

How many animal pictures does Pilar have in all? **34**

The picture graph shows the votes for favorite sport.

<table>
<thead>
<tr>
<th>Favorite Sport</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>🏀🏀🏀🏀🏀🏀</td>
</tr>
<tr>
<td>Basketball</td>
<td>🏀🏀</td>
</tr>
<tr>
<td>Soccer</td>
<td>🏒🏀🏀🏀🏀🏀🏀🏀</td>
</tr>
</tbody>
</table>

Use the picture graph. Fill in the pictograph below.

<table>
<thead>
<tr>
<th>Favorite Sport</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>😄😄😄</td>
</tr>
<tr>
<td>Basketball</td>
<td>😄😄</td>
</tr>
<tr>
<td>Soccer</td>
<td>😄😄😄😄</td>
</tr>
</tbody>
</table>

Key: Each 😄 stands for 2 votes.

1. How many more students voted for baseball than for basketball? **2** more students
2. Which sport is the favorite? **soccer**
3. How many students voted in all? **18**
Skills Practice
Picture Graphs

Some students voted for their favorite book. Show their tally chart as a pictograph. Use the graph to answer each question.

Favorite Book
<table>
<thead>
<tr>
<th>Book</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Space Raiders</td>
<td>⬡⬜⬜⬜</td>
</tr>
<tr>
<td>Beneath the Sea</td>
<td>⬡⬜⬜⬜</td>
</tr>
<tr>
<td>House in the Woods</td>
<td>⬡⬜⬜⬜</td>
</tr>
<tr>
<td>Puppet Street</td>
<td>⬡⬜⬜⬜</td>
</tr>
</tbody>
</table>

1. How many children voted for House in the Woods? **12**
2. How many more children voted for Puppet Street than voted for Beneath the Sea? **2**
3. How many children in all voted for Space Raiders and Puppet Street? **20**
4. Lila wants to read the book with the least votes. Which book should she read? **Beneath the Sea**
5. Rick, Tom, and Cindy like Space Raiders the best. If their votes are added to the survey, will Space Raiders have the most votes? **yes**

Homework Practice
Picture Graphs

Preparation: Crayons are needed for this activity.

The students voted for their favorite color. Show the votes on the picture graph. Use the data. Draw one crayon for each vote. Use the graph to answer each question.

Data:
- Red
- Blue
- Green
- Purple

1. How many more students chose red than green? **3**
2. How many students voted for either green or purple? **7**
3. How many students voted in all? **18**
4. If two more students vote for green, which color will now have the least votes? **purple** Add their votes to the graph.
5. Now look at the graph. Color the rows that show the same number of votes. **blue and green**
Mr. Carter took a survey of his gym classes to find out their favorite games. These are the games that received the most votes.

<table>
<thead>
<tr>
<th>Game</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jingle Jump Rope</td>
<td>9</td>
</tr>
<tr>
<td>Total Tether Ball</td>
<td>11</td>
</tr>
<tr>
<td>Touchdown Tag</td>
<td>5</td>
</tr>
<tr>
<td>Double Disc Golf</td>
<td>8</td>
</tr>
</tbody>
</table>

Use this information to create a pictograph:

Favorite Gym Games

1. Which flower got the most votes? **tulip**
2. How many votes did the lily get? **2** votes
3. Which flower got 6 votes? **rose**
4. How many total votes did the daisy and the rose get? **10** votes
5. How many more votes did the tulip get than the daisy? Write a number sentence to find out. **10 – 4 = 6**
The tulip got **6** more votes than the daisy.
6. Use the data from the pictograph above to make a picture graph.

Favorite Flower

<table>
<thead>
<tr>
<th>Flower</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>tulip</td>
<td>🌸🌸🌸🌸🌸🌸</td>
</tr>
<tr>
<td>daisy</td>
<td>🌸🌸🌸</td>
</tr>
<tr>
<td>rose</td>
<td>🌸🌸🌸</td>
</tr>
<tr>
<td>lily</td>
<td>🌸🌸</td>
</tr>
</tbody>
</table>

Use the information from the pictograph to answer these questions.

1. What is the number of students who voted? **33**
2. How many more students voted for Total Tether Ball than Touchdown Tag? **6 more**
3. What if each 😊 stands for two votes? How many happy faces would be drawn for Double Disc Golf? **4**
Use the graphs to answer the questions. Write a number sentence to solve.

1. How many vegetables will Ms. Garcia buy?
   - Tomatoes: 8
   - Potatoes: 6
   - Chickens: 4
   - Equation: \(8 \text{ tomatoes} + 6 \text{ potatoes} = 14 \text{ vegetables}\)

2. How many more of Nate's stamps are from Japan than from Mexico?
   - Japan: 20 stamps
   - Mexico: 16 stamps
   - Equation: \(20 - 16 = 4 \text{ more stamps}\)

3. How many stamps are from either Italy or Mexico?
   - Italy: 10 stamps
   - Mexico: 16 stamps
   - Equation: \(10 + 16 = 26 \text{ stamps}\)

4-3

Problem-Solving Strategy: Write a Number Sentence

How many stuffed animals does Ella have?

- Bears: 5
- Mice: 8
- Dolls: 3
- Equation: \(5 \text{ bears} + 8 \text{ mice} = 13 \text{ stuffed animals}\)

Step 1
Understand

What do I know?
- Bears are stuffed.
- Mice are stuffed.

What do I need to find?
- How many bears and mice are there in all?

Step 2
Plan

What can I do?
- I will write a number sentence to add the bears and mice.

Step 3
Solve

Write a number sentence.
- \(5 \text{ bears} + 8 \text{ mice} = 13 \text{ stuffed animals}\)

Step 4
Check

Are there 13 stuffed animals shown in the chart?
- Yes
Name ____________________________ 

Skills Practice 2MR2.2, 2AF1.3

Problem-Solving Strategy: Write a Number Sentence

Use the graph. Write a number sentence to solve.

### Number of Animals at Pablo’s Pets

<table>
<thead>
<tr>
<th>Animals</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parrots</td>
<td>8</td>
</tr>
<tr>
<td>Snakes</td>
<td>5</td>
</tr>
<tr>
<td>Lizards</td>
<td>4</td>
</tr>
</tbody>
</table>

1. How many more lizards than snakes?

\[ 10 - 5 = 5 \]

2. Pablo takes a photo of each parrot and each snake. How many photos does Pablo take?

\[ 8 + 5 = 13 \] photos

### Evans Family Recycling

- **Paper**
- **Plastic**
- **Glass**

1. How many more paper items than glass items?

\[ 8 - 6 = 2 \]

2. The Evans family can put plastic and glass items in the same bin. How many items are in this bin?

\[ 12 + 6 = 18 \] items

3. Jim knows his family recycles twice as much paper as the Evans family does. How many paper items does Jim’s family recycle?

\[ 8 + 8 = 16 \] paper items

### Mr. Bunn’s Class Lunch

- **Peanut Butter & Jelly Sandwich**
- **Salad**
- **Tuna Sandwich**

1. How many more students ate peanut butter and jelly sandwiches than salads?

\[ 12 - 4 = 8 \]

2. How many students ate either a salad or a tuna sandwich?

\[ 4 + 6 = 10 \]

3. How many students ate a sandwich?

\[ 12 + 6 = 18 \]

4. Drew wants to know how many more tuna sandwiches than salads.

\[ 6 - 4 = 2 \]

5. Mr. Bunn wants to bring 6 extra salads for the next class lunch.

How many salads then?

\[ 6 + 4 = 10 \]
Use number sentences to finish the chart. Write the total number of votes for each team.

<table>
<thead>
<tr>
<th>Favorite Soccer Team</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver City Stars</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Brownville Beavers</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Winston Wildcats</td>
<td></td>
<td>11</td>
</tr>
</tbody>
</table>

1. Cass, Polly, and Will each add a vote for the Brownville Beavers. Now the Brownville Beavers have
   \[ 4 + 3 = 7 \text{ votes!} \]

2. Nick and Ben each add a vote for the Silver City Stars. Then, Luisa and Chen add their votes for the same team. Now the Silver City Stars have
   \[ 7 + 2 + 2 = 11 \text{ votes!} \]

3. Students are done voting! The total number of student votes is 29. How many votes are there for the Winston Wildcats?
   \[ 29 - 11 - 7 = 11 \text{ votes} \]

4. Which team has the greatest number of votes?
   **The Silver City Stars and Winston Wildcats both have the greatest number of votes.**
Preparation: Crayons are needed for this activity.

Use data from the chart to make a bar graph. Color one space for each vote. Then answer each question.

<table>
<thead>
<tr>
<th>Favorite Bird</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robin</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Blue Jay</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Swan</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

1. Which bird got the most votes? __robin__
2. How many more students voted for the robin than the swan? __7__
3. How many votes for blue jays does the graph show? __5__
4. How many students voted in all? __20__

1. How many students voted for jazz or country? Write a number sentence to solve. __4 + 7 = 11__
2. How many more students voted for rock than country? Write a number sentence to solve. __9 - 7 = 2__
3. How many students voted? __20__
4. Trey, Chris, and Ruth voted. Trey’s favorite music got 4 votes. Chris’ favorite music did not get the most votes. What is Ruth’s favorite music? __rock__
Answers (Lesson 4-4)

Title: Favorite Frozen Yogurt

<table>
<thead>
<tr>
<th>Flavor</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherry</td>
<td>3</td>
</tr>
<tr>
<td>Vanilla</td>
<td>4</td>
</tr>
<tr>
<td>Strawberry</td>
<td>5</td>
</tr>
<tr>
<td>Chocolate</td>
<td>7</td>
</tr>
</tbody>
</table>

If Hannah can only buy two flavors, which two flavors should she buy?

**strawberry and chocolate**

Why?

Strawberry and chocolate received the most votes.

Problem-Solving Practice (2SDAP1.1, 2SDAP1.4)

1. How many people visited the beach?
   - 4 people

2. How many people visited the forest?
   - 3 people

3. Which fruit or fruits got the most votes?
   - cherries and melons

4. Which fruit got the fewest votes?
   - grapes

5. How many more votes did oranges get than grapes?
   - 2

6. How many people voted for their favorite fruit in all?
   - 16 people voted in all.

Bar Graphs

<table>
<thead>
<tr>
<th>Places</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach</td>
<td>4</td>
</tr>
<tr>
<td>Mountain</td>
<td>5</td>
</tr>
<tr>
<td>Forest</td>
<td>3</td>
</tr>
</tbody>
</table>

Use the bar graph to solve each problem.

1. How many people visited the beach?
   - 4 people

2. How many people visited the forest?
   - 3 people

3. Which fruit or fruits got the most votes?
   - cherries and melons

4. Which fruit got the fewest votes?
   - grapes

5. How many more votes did oranges get than grapes?
   - 2

6. How many people voted for their favorite fruit in all?
   - 16 people voted in all.
Reteach
Different Ways to Show Data

You can show the same data different ways. You can use the data on one graph to make more graphs. Count how many tallies to help.

<table>
<thead>
<tr>
<th>Favorite Meal</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>⌂ ⌂ ⌂</td>
<td>5</td>
</tr>
<tr>
<td>Lunch</td>
<td>⌂ ⌂ ⌂ ⌂</td>
<td>8</td>
</tr>
<tr>
<td>Dinner</td>
<td>⌂ ⌂</td>
<td>3</td>
</tr>
</tbody>
</table>

1. Use the data from the tally chart to make the pictograph.

Key: Each ❤️ stands for 1 vote.

2. Use the data from the pictograph to color the bar graph.

---

Skills Practice
Different Ways to Show Data

Preparation: Crayons are needed for this activity.

Use the tally chart. Make a pictograph and a bar graph to show the data. Then answer the questions.

<table>
<thead>
<tr>
<th>Our Favorite Dinner</th>
<th>Food</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spaghetti</td>
<td>⌂ ⌂</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Soup</td>
<td>⌂ ⌂ ⌂</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Taco</td>
<td>⌂ ⌂ ⌂ ⌂</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 4 5 6 7 8</td>
</tr>
</tbody>
</table>

1. Which dinner got the most votes? taco
2. Which dinner got the least votes? soup
3. A boy voted 18 times.
4. A boy voted for taco and soup 4 times.
5. I like the dinner that got the most votes. I voted for spaghetti.
Answers (Lesson 4-5)

Complete the graphs. Use the graphs to solve.

1. How many children voted for popcorn?
   - 2 children

2. How many votes did pretzels get?
   - 6 votes

3. How many more children voted for pretzels than popcorn? Write a number sentence.
   - \( 6 - 2 = 4 \) children

4. Which snack got the greatest number of votes? Which graph did you use to answer? Explain.
   - Pretzels

**Different Ways to Show Data**

Use the data. Make a tally chart, a pictograph, and a bar graph to show the data.

<table>
<thead>
<tr>
<th>Snacks</th>
<th>Tally</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretzels</td>
<td>HHHH</td>
<td>6</td>
</tr>
<tr>
<td>Popcorn</td>
<td>H</td>
<td>2</td>
</tr>
<tr>
<td>Fruit</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Our Favorite Instruments**

- Piano
- Guitar
- Drums

**Chart:**

<table>
<thead>
<tr>
<th>Instruments</th>
<th>Piano</th>
<th>Guitar</th>
<th>Drums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piano</td>
<td>HHHH</td>
<td>HHHH</td>
<td>H</td>
</tr>
<tr>
<td>Guitar</td>
<td>HHHH</td>
<td>HHHH</td>
<td>H</td>
</tr>
<tr>
<td>Drums</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
</tbody>
</table>
Name ____________________________

4-5 Enrich
Displaying Data in Different Ways

Look at the tally chart to compare the number of players that are on different kinds of sport teams. Record the number of players below the tally marks.

<table>
<thead>
<tr>
<th>Sport</th>
<th>Baseball</th>
<th>Basketball</th>
<th>Football</th>
<th>Soccer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tally</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>5</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>

Use the information from the tally table to make a pictograph and a bar graph.

### Title: Number of Players

<table>
<thead>
<tr>
<th>Sport</th>
<th>Tally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>♦♦♦♦♦</td>
</tr>
<tr>
<td>Basketball</td>
<td>♦♦</td>
</tr>
<tr>
<td>Football</td>
<td>♦♦♦♦♦♦</td>
</tr>
<tr>
<td>Soccer</td>
<td>♦♦♦♦♦♦</td>
</tr>
</tbody>
</table>

Key: Each X stands for 2 players

Use the graphs to find mode and range.

1. On both graphs, circle the number of TVs you see most often.
   This number is the mode. __1__ is the mode.

2. Look at the graph. Write the greatest number of TVs a family has: __3__.
   Write the least number of TVs a family has: __1__
   The range is the difference between these numbers. Write a number sentence to find the range: __3__ – __1__ = __2__
   The range is __2__.

Mrs. Lee’s class did a survey about TVs in the home.

<table>
<thead>
<tr>
<th>Number of TVs</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

Remember: mode = most.
Mrs. Sand's class recorded how many trees they have in their yards at home. Find the mode. Find the range.

<table>
<thead>
<tr>
<th>Trees</th>
<th>Number of Yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>III</td>
</tr>
<tr>
<td>5</td>
<td>HHT</td>
</tr>
<tr>
<td>6</td>
<td>III</td>
</tr>
<tr>
<td>7</td>
<td>I</td>
</tr>
</tbody>
</table>

Use the graph to solve.

1. What is the greatest number of trees? 7
2. What is the least number of trees? 4
3. What is the range? 3
4. What is the mode? 5
5. Nick’s yard has 5 trees. His mom wants to plant 2 new trees. Would this change the mode? no
6. Elena’s yard has 4 trees. Her father has to cut down 1 tree. What is the range now? 4
Use the graph to solve.

Number of Seashells We Have

1. Lee says that no one has more than 4 shells. Is she right? **yes**
2. Nick says that no one has less than 2 shells. Is he right? **no**
3. Leo wants to keep his shells in a box. What is the greatest number of shells he would have to plan for? **4**
4. Sara has 4 shells. Her mom did not have any shells. Sara gave 1 shell to her. Does this change the range? **no**
5. Rhonda, Tom, Liz, and Miguel all have 4 shells. If they each find 1 more shell, does the mode change? **yes**
   If so, what is the new mode? **5**
6. Would Rhonda, Tom, Liz, and Miguel's new shells change the range? Write a number sentence to solve.
   \[5 - 1 = 4\]
   Yes, the range would change.

Write the number of votes each animal received.

<table>
<thead>
<tr>
<th>Favorite Zoo Animals</th>
<th>Great Apes</th>
<th>Snakes</th>
<th>Tigers</th>
<th>Zebras</th>
<th>Penguins</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key: each □ = 2 students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. What is the range of the data? **6** animals
2. What is the mode of the data? **4** animals
3. If you were planning a trip to the zoo, how could you use this information?
   **Possible answers: choose the animals to see first, animals you could skip if time is an issue**
4-7

Reteach (1)

Problem-Solving Investigation: Choose a Strategy

Aaron has 3 muffin pans. Each pan can hold 6 muffins. How many muffins can Aaron bake?

What do I know?

Aaron has 3 pans. Each pan holds 6 muffins.

What do I need to find out?

How many muffins can Aaron bake?

Plan

How will I find how many?

I can make a table. A table can show both drawings and numbers clearly.

Solve

<table>
<thead>
<tr>
<th>Number of Pans</th>
<th>Number of Muffins</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>

Aaron can bake **18** muffins.

Check

Look back.

Did I use the table to find out how many? **Yes**

Reteach (2)

Problem-Solving Investigation: Choose a Strategy

Solve.

1. Jake is making up a new dance. He hops, hops, turns, hops, hops, and turns. What do you think he will do next? **Hop**

2. 3 turtles can fit in 1 tank. Jose has 3 tanks. How many turtles can he have? **9** turtles


4. Jin, Jack, and Julia want to feed the birds. They each bring 2 bags of seed. How many bags of seed are there in all? **6** bags of seed
1. Shandra is giving a treat bag to each of her 3 friends. She puts 4 pear slices in each bag. How many pear slices are there in all? **12** pear slices

2. Liam is writing the number of eggs his hens have. One hen has 2 eggs. 2 hens have 4 eggs. 3 hens have 6 eggs. Liam guesses that 4 hens will have 8 eggs. Is this a good guess? **yes**


   How many snowmen can they make? **11**

1. Look at the table. Do you see a pattern? **yes** If so, use the pattern to complete the table. How long does it take to get to Windy Hollow Station? **8 hours**

<table>
<thead>
<tr>
<th>Town</th>
<th>Travel Time From Mayfield Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenville Station</td>
<td>2 hours</td>
</tr>
<tr>
<td>Oaktown Station</td>
<td>4 hours</td>
</tr>
<tr>
<td>New Mountain Station</td>
<td>6 hours</td>
</tr>
<tr>
<td>Windy Hollow Station</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

2. Olive, Sean, and Luis are saving soup labels. Olive has 10, Sean has 7, and Luis has 13. How many more soup labels does Luis have than Sean? **6**

3. Mr. Bell wants his students to put on their gloves before going outside. There are 21 students in Mr. Bell's class. Each student has 2 gloves. How many gloves do Mr. Bell's students have in all? **42**

4. Suzie, Simon, and Sen each had 4 bottles of sports drink during their softball game. How many bottles of sports drink did they have in all? **12**
Fix the Graph

Bradley's class took a survey to find out how the students got to school. Here are the results:

<table>
<thead>
<tr>
<th>How We Get to School</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td>12</td>
</tr>
<tr>
<td>Walk</td>
<td>8</td>
</tr>
<tr>
<td>Van</td>
<td>4</td>
</tr>
<tr>
<td>Car</td>
<td>2</td>
</tr>
</tbody>
</table>

They used the information to make a graph. Bradley started his graph, but he noticed that he had a problem and could not finish. What changes can Bradley make to complete the graph?

Title: How We Get to School

10
9
8
7
6
5
4
3
2
1

Bus  Walk  Van  Car

Explain how Bradley can fix his graph.

**He can increase total amount to 12 or make a pictograph using one picture to represent two students.**

Draw the graph on the back of the page or another piece of paper.
Diagnostic Test

Are you ready for Chapter 4?

Circle the group that has more.
1. [Image]
2. [Image]

Look at the tally chart.

<table>
<thead>
<tr>
<th>Favorite Snack</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheese</td>
<td></td>
</tr>
<tr>
<td>Fruit</td>
<td></td>
</tr>
<tr>
<td>Crackers</td>
<td></td>
</tr>
</tbody>
</table>

3. How many students picked fruit? __6_

4. [Image] How many boxes are shaded? __3_

5. [Image] Ms. Kim’s class is running the school store. Help them put the tags in order from least to greatest.

| 1¢ | 5¢ | 7¢ | 10¢ |

Use the graph to solve.

<table>
<thead>
<tr>
<th>Favorite Bird</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mockingbird</td>
<td></td>
</tr>
<tr>
<td>Wren</td>
<td></td>
</tr>
<tr>
<td>Bluebird</td>
<td></td>
</tr>
</tbody>
</table>

2. Which bird has the greatest number of votes? [Lesson 4.2] bluebird

Gina recorded how many hours a day she spent swimming at camp. She ordered her data from least to greatest: 1, 1, 1, 2, 2, 2, 2, 3. [Lesson 4.6]

3. What is the range of this data? Write a number sentence to solve. __3 - 1 = 2_

4. What is the mode of this data? __2_
Mid-Chapter Test

Write a number sentence to solve. Use the graph. [Lesson 4.2, 4.3]

Animals in the Zoo

<table>
<thead>
<tr>
<th>Animal</th>
<th>Parrot</th>
<th>Snake</th>
<th>Panther</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>🐦</td>
<td>🐍</td>
<td>🐆</td>
</tr>
</tbody>
</table>

1. How many more parrots than monkeys?
   \[5 - 3 = 2\]

2. If the zoo gets 2 new snakes, how many snakes and parrots will there be?
   \[2 + 2 + 5 = 9\]

Use the bar graph to make a tally chart. [Lesson 4.1, 4.4]

<table>
<thead>
<tr>
<th>Animal</th>
<th>Tally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monkey</td>
<td>🦖</td>
</tr>
<tr>
<td>Parrot</td>
<td>🦅</td>
</tr>
<tr>
<td>Snake</td>
<td>🐍</td>
</tr>
<tr>
<td>Panther</td>
<td>🐆</td>
</tr>
</tbody>
</table>

Vocabulary Test

Use the words in the word bank. Write the correct word in the blank.

- data
- range
- key
- survey
- mode
- symbol

1. Mrs. Bean asked every child in her class the same question. She recorded their answers. Her class took a **survey**.

2. Remember to add a **key** with your pictograph to show what the pictures stand for!

3. Sam took a survey and recorded his **data** in a bar graph.

4. 4, 4, 4, 4, 4, 5, 6, 6, 7, 7, 7.

   For this data, \(7 - 4 = 3\) shows the **range**.

5. 2, 2, 3, 3, 3, 5, 8, 8

   For this data, the **mode** is 3.

Match each word to the correct picture.

6. pictograph
7. bar graph
8. picture graph
Name ________________________________

Oral Assessment Response Sheet

1. 
2. 2 Cherries
3. 4 unit cubes are shown.
4. 1; the mode
5. 2 unit cubes are shown.

Name ________________________________

Listening Assessment Response Sheet

1. Favorite Drink
   | Juice | Milk |
   | ![Image] | ![Image] |

2. The following unit cubes are shown:
   ![Image] 6 6
   ![Image] 7 7 7 7 7
   The range is 2

3. Favorite Toys
   | Car | Doll | Ball |
   | ![Image] | ![Image] | ![Image] |

   car
   13 votes
Name ______________________

Chapter Test, Form 1

Favorite Games

<table>
<thead>
<tr>
<th>Game</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kickball</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Football</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Board Games</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>Video Games</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

1. Which is the favorite?
   - kickball [guess]
   - football [guess]
   - board games [guess]
   - video games [correct]

2. How many more children like kickball than football?
   - 1 procedural error
   - 2 correct
   - 3 procedural error
   - 4 procedural error

3. Which shows the correct tally marks for kickball?
   - 4 procedural error
   - 5 procedural error
   - 6 correct
   - 7 procedural error

4. What kind of graph is this?
   - a tally chart [guess]
   - a bar graph [guess]
   - a picture graph [correct]
   - a pictograph [conceptual error]

5. How many voted?
   - 14 conceptual error
   - 16 guess
   - 28 correct
   - 32 procedural error

6. How many students like body surfing or boating the best?
   - 2 guess
   - 4 conceptual error
   - 8 procedural error
   - 16 correct

Use the following numbers for 7 and 8.

3, 3, 5, 7, 8, 8

7. What is the range of the data?
   - 3 conceptual error
   - 4 guess
   - 5 correct
   - 6 procedural error

8. What is the mode of the data?
   - 3 correct
   - 5 conceptual error
   - 7 guess
   - 8 procedural error
Chapter Test, Form 2A

Read each question carefully. Fill in the circle for the correct answer.

1. Which holiday is the least favorite? [Lesson 4.2]
   - Thanksgiving Day  guess
   - Valentine’s Day  guess
   - Independence Day  guess
   - New Year’s Day  correct

2. How many more people like Thanksgiving Day than Valentine’s Day? [Lesson 4.2]
   - 13  conceptual error
   - 9  guess
   - 7  correct
   - 8  procedural error

3. Which tally chart shows the data in the picture graph? [Lesson 4.1, 4.5]
   - Valentine’s Day  incorrect
   - Independence Day  incorrect
   - New Year’s Day  correct
   - Thanksgiving Day  incorrect

4. Which is your Favorite Farm Baby? [Lesson 4.6]
   - Chicks (baby chickens)  correct
   - Lambs (baby sheep)  incorrect
   - Colts (baby horses)  incorrect
   - Cows (baby cows)  incorrect

5. Ben is taking the data from the bar graph and making a pictograph. If he wants 1 to stand for 2 colts, how many should he draw? [Lessons 4.2, 4.5]
   - 3  conceptual error
   - 4  procedural error
   - 5  correct
   - 6  guess

6. What is the mode of the data? [Lesson 4.6]
   - 3  conceptual error
   - 2  procedural error
   - 5  correct
   - 4  conceptual error

7. What is the range of the data? [Lesson 4.6]
   - 6  procedural error
   - 5  conceptual error
   - 4  correct
   - 3  guess
Chapter Test, Form 2B (continued)

Use the bar graph for 5 and 6.

5. How many more people voted for baby chickens than baby horses?

   - 9 – 4 = 5
   - 9 – 4 = 6
   - 9 + 4 = 13

Use the data for 7 and 8.

7. What is the mode? [Lesson 4.6]
   - 1, 2, 3, 5
   - 5

8. What is the range? [Lesson 4.4]
   - 5
   - 6

Read each question. Fill in the circle for your answer.

1. Which holiday is liked least? [Lesson 4.2]
   - Thanksgiving
   - Valentine's Day
   - July 4th

2. How many more people like Thanksgiving than Valentine’s Day? [Lesson 4.2]
   - 13
   - 9
   - 7

3. Which tally chart shows the data above? [Lesson 4.1, 4.5]
   - Thanksgiving
   - Valentine's Day
   - July 4th

4. Which tally chart shows the data above? [Lesson 4.1]
   - Thanksgiving
   - Valentine's Day
   - July 4th

5. What is your Favorite Farm Baby?

6. What is the range?
Chapter Test, Form 2C

Read each question carefully. Write your answer.
Use the data for 1–4.

Favorite Games

Soccer ❌❌❌❌
T-Ball ❌❌
Board Games ❌❌❌❌❌❌❌
Card Games ❌❌❌ ❌

1. Which is the favorite? [Lesson 4.1]

board games

2. How many more students like card games than T-ball? [Lesson 4.2]

3 students

3. Write the correct tally marks for soccer. [Lesson 4.1]

4. Fill in the bar graph for the data in the picture graph. [Lesson 4.4]

Use the pictograph for 5–7.

Favorite Outdoor Activities

Beach
Riding Bikes
Fishing

Key: Each ⬜️ = 2 votes

5. How many voted? [Lesson 4.2]

6. How many voted? [Lesson 4.2]

7. How many more students like to go to the beach than go fishing? [Lesson 4.2]

4

8. The outdoor club has 3 bikes. Each bike has 2 wheels. How many wheels in the club? Complete the chart to solve. [Lesson 4.7]

<table>
<thead>
<tr>
<th>Bikes</th>
<th>Wheels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

Use the following sequence of numbers for 9 and 10.

9, 9, 10, 12, 13, 14, 15

9. What is the range of the data? [Lesson 4.6]

10. What is the mode of the data? [Lesson 4.6]

6

9
Use the pictograph to answer the questions.

**Favorite Outdoor Activities**

- Beach: 3 votes
- Riding Bikes: 2 votes
- Fishing: 4 votes

**Key:** Each ☀ = 2 votes


6. How many more voted for the beach than fishing? 4

7. Write a number sentence to show how many votes for fishing and bike riding. 6 + 4 = 10

8. What is the range? [Lesson 4.6] 9

9. What is the mode? [Lesson 4.6] 14

Read each question. Use the following data.

5, 8, 8, 11, 14, 14, 14

9. What is the mode? [Lesson 4.6] 14

8. What is the range? [Lesson 4.6] 9

Read each question. Write your answer in the space.

Use the data for items 1–4.

1. Which is the favorite? [Lesson 4.2] Checkers

2. How many more like cards than T-ball? [Lesson 4.2] 2

3. Write tally marks for soccer. [Lesson 4.1] |||||

4. Use the picture graph to make a bar graph. [Lesson 4.4]
Cumulative Standardized Test Practice (continued)

1. How many more people voted for peanut butter than tuna salad? [Lesson 1.4]

2. What is the range of the data? [Lesson 1.2]

3. Which number sentence shows the sum of all the votes? [Lesson 2.2]

4. Which group shows the sandwiches in order from least to most favorite? [Lesson 1.5]

5. Use the data to make a graph. [Lesson 4.1]

6. Use <, >, or = to complete the sentence. [Lesson 1.1]

7. Which of the animals at Sander's Farm can you make 10 with? [Lesson 2.2]

8. The Sander's children all like different animals. The farm has the most of Joe's favorite animal. Millie's favorite is the cow. Which animal is Kyle's favorite? [Lesson 2.2]

9. Write two number sentences to show how many goats and sheep the farm has. [Lesson 4.2]

10. Use the data to make a tally chart. [Lesson 1.1]