Lesson Materials

- Two-color counters, 5 per student
- Letter Home for Chapter 8 (optional)

Have students discuss what they see in the picture on page 29. Ask them which items can be put into groups and how many there would be in each group altogether. Provide students up to 5 two-color counters to represent the sets they see on the page.

Students may see:

- There are 2 orange flowers and 3 blue flowers. There are 5 flowers in all.
- There is 1 big tree and 2 small trees. There are 3 trees altogether.
- Mei has 1 baseball and Sofia has 1 soccer ball. There are 2 balls.
- There are 3 gray birds and 1 red bird. There are 4 birds in all.

Have students act out additional number stories using items in the classroom. For example:

- There are 2 girls and 1 boy reading books. There are 3 students reading books in all.
- There are 4 students. 2 students are wearing red shirts and 2 students are wearing blue shirts.
- There are 5 students. 4 students have black shoes and 1 student has white shoes.

For each story, ask students questions about the different groups. For example:

- How many girls are reading ? How many boys are reading? How many students are reading in all?
- How many students are there in all? How many have blue shirts? How many have red shirts?

Textbook page 30 can be used as a continuation of this lesson, or as a second lesson as needed.

Chapter 8

Number Bonds

Look and talk.

29

29

Extend

★ **Number Story Pictures**

Materials: Number Cards (BLM) 1 to 10, stickers or Picture Cards (BLM)

Have students draw their own number story pictures similar to the **Chapter Opener**. Have them share their pictures and ask the other students to tell numbers stories based on the pictures.

Lesson 1 Putting Numbers Together — Part 1

Objective

- Count to find how many objects there are in all.

Lesson Materials

- Linking cubes, 5 each of 2 colors per student or pair of students

Explore

Provide each student or pair of students with 10 linking cubes, 5 each of 2 different colors. Using the **Chapter Opener** as a guideline, have students tell their own number stories based on objects that are in the classroom. Keep the whole or total items within 10.

As students tell stories, have them act out the stories with the 2 colors of linking cubes. Example:

- At the table, there are 4 student chairs and 1 teacher chair. There are 5 chairs in all.
- Students build a tower of 5 cubes with 4 of one color and 1 of another color.

Learn

Using the examples from **Explore** or the **Chapter Opener**, have students say how many of each item there are in all. Write their stories on the board using the terms "and" and "make." For example, "4 and 1 make 5," or, "2 and 2 make 4."

Small Group Activities

Textbook Page 30

▲ **Telling Stories**

Materials: 5 linking cubes in one color, 5 linking cubes in another color, Part-Whole Recording Worksheet (BLM), bags or baskets
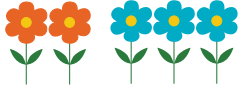
Place the cubes in a bag or basket. Partners take turns grabbing a handful of cubes and telling a story to their

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Lesson 1
Putting Numbers Together — Part 1   ①

How many in all?

| and | make 2 | 2 and | make 3 |
| and 3 make 4 | 2 and 3 make 5 |

Objective: Count to find how many objects there are altogether.

Exercise 1 • page 23

30   8-1 Putting Numbers Together — Part 1

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partner. For example, if 4 green and 2 yellow cubes are grabbed, the student may tell a story such as, "There are 4 green apples and 2 yellow apples in the basket. How many apples are there altogether?" Have each student complete a Part-Whole Recording Worksheet (BLM) with the numbers used in each story.

Exercise 1 • page 23

Whole Group Activity

▲ Show Me

Ask students to show you multiple ways to make a specific number on their fingers.

For example, ask students to show you 5. Most will likely show one hand with 5 fingers. Ask them to show 5 another way, and students may show 2 fingers on one hand and 3 on the other, or 4 fingers on one hand and 1 on the other.

Small Group Activities

Textbook Pages 31–32. Ask students, "How are the guitars the same? How are they different?" Ask students to tell numbers stories about each group of objects. Students may say, "1 brown guitar and 1 blue guitar makes 2 guitars altogether." Repeat for other objects on the page.

▲ Toss-Up

Materials: 5 two-color counters per pair of students

Pairs of students take turns tossing the specified number of two-color counters. Count how many of each color lands upright and say how many they make in all. For example, toss:
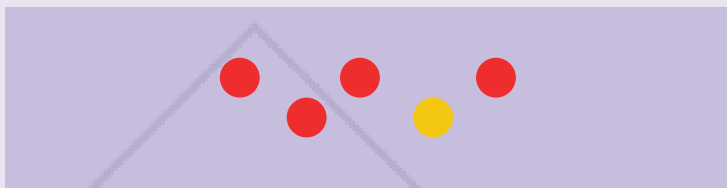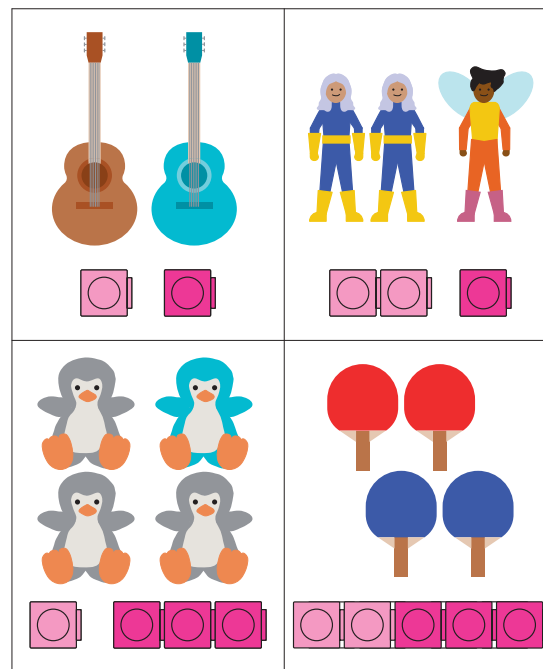
And say, "4 red counters and 1 yellow counter make 5 counters in all." Partners can check each other's counting. Students will discuss the game further in the next lesson.

Exercise 2 • page 25

Count and color the linking cubes, using a different color for each set.

32

Objective: Count sets and model sets to find how many altogether.

Exercise 2 • page 25

Extend

★ Under the Cup: Number Words

Materials: 5 counters and 1 cup per pair of students, Number Word Cards (BLM) 1 to 5

Students work in pairs. Player 1 hides some of the counters under the cup and leaves the rest to be seen. Player 2 counts the amount showing and finds the Number Word Card (BLM) for how many are under the cup. Players switch roles and play continues.

Lesson 3 Parts Making a Whole

Objective

- Understand that parts can be put together to make a whole.

Lesson Materials

- Two-color counters, 5 per pair of students
- Number Bond Recording Sheet (BLM)
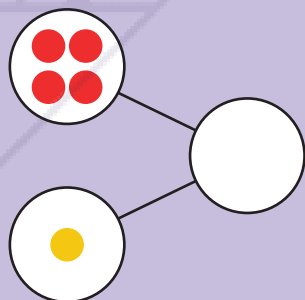- 3 large hula hoops
- Painter's tape

Complete the number bonds.
The first one is done for you.

Objective: Join two parts to make a whole.

8-3 Parts Making a Whole   33

Explore

Ask students about the combinations they remember from playing **Toss-Up** with 5 counters in the previous lesson. Tell students you are going to use a way of organizing the counters called a "number bond."

Using a large number bond made of hula hoops or painter's tape, invite groups of students to stand in the parts and then move to the whole. For example, you might invite 2 girls and 1 boy to stand in the parts. When they move to the whole, students will see that 2 and 1 makes 3. Repeat with other combinations of numbers up to 5.

Learn

Provide students with a Number Bond Recording Sheet (BLM). Have them play the **Toss-Up** game using the number bond template to organize their counters. For example: While playing the game, students should slide the two parts together into the "whole."

Encourage students to use the terms for "parts" and "whole:"

- Part of the counters are red and part of the counters are yellow. How many counters in all?
- 4 red counters and 1 yellow counter make 5 counters altogether.

After playing the game, ask students how they can write the parts in the corresponding number bond. Show some examples.
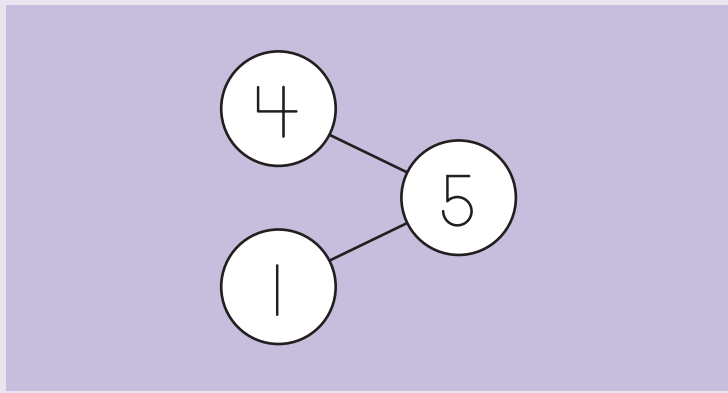
▲ Under the Cup

Materials: 8 counters, 1 cup, number bond bracelets (optional)

Play the game as described in Lesson 6, but for number bonds for 8.

▲ Toss-Up Stories

Materials: 8 two-color counters per pair of students

Play as directed in Lesson 2, using 8 two-color counters. After a throw, students write or illustrate a story to match their tosses.

▲ Number Bond Chains

Materials: Index cards, strips of paper in a variety of colors

Play as directed in the previous lesson, creating number bond chains for the number 8.

Complete the number bonds.

Objective: Find pairs of numbers that make 8.

54   8-9 Number Bonds for 8

Extend

★ What Comes in Groups of 8?

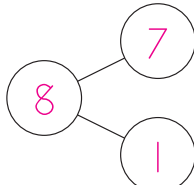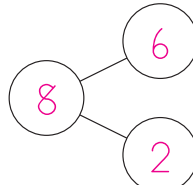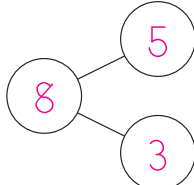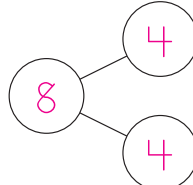**Materials:** Octopus Template with Bond (BLM), crayons or markers

Have students think of things that come in 8. Then have them draw the objects in two or more colors.
For example, there are eight legs on an octopus. Have them use Octopus Template with Bond (BLM) to color octopuses using two or more different colors for the legs. Have them do that as many ways as possible, filling in the number bond for each way shown.

Things that come in groups of 8:

- Legs on a spider or octopus
- Sides on a stop sign
- Notes in a musical scale
- Party hats in a package

▲ Total Up!

Materials: Dot Cards (BLM) 0 to 5, Ten-Frame Cards (BLM) 0 to 5, Number Cards (BLM) 0 to 5

Make a deck of cards comprised of 4 each of cards 0 to 5, using either Dot Cards (BLM), Ten-frame Cards (BLM), or Number Cards (BLM), and deal all the cards equally between 2 players.

Each player flips a card at the same time and adds the 2 cards together. The first player to say the total of the two numbers on the cards collects the cards. If a player loses all of his cards, the game is over.

Reshuffle the cards and play again.

To extend this activity, have students play in groups of 3, or combine and use cards from the three different sets.
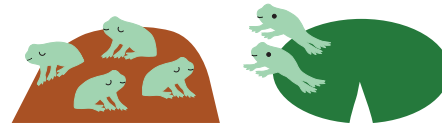
▲ Rock-Paper-Scissors-Math!

Similar to Rock-Paper-Scissors, students work in pairs and tap their fists on their hand while saying, "Rock-Paper-Scissors-Math!"

On "Math!" each student holds up 0 to 5 fingers on one hand. Students then add all the fingers together. Students can take turns saying the total. Alternatively, both students can find the total and the first player to say it out loud wins the round.

Exercise 4 • page 61

Extend

★ Roll and Add

Materials: 2 dice with sides 0, 1, 2, 3, 4, and 5

Students take turns rolling the dice. On each turn, students write an addition sentence using the numbers shown on each die as a part on a whiteboard. The partner checks the addition sentence and if it is correct, the player who rolled gets a point.
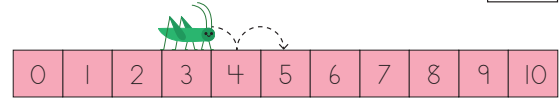

80

Complete the number sentences.

$$3 + 2 = 5$$

$$4 + 2 = 6$$

$$3 + 3 = 6$$

Objective: Put together to add.

Exercise 4 • page 61

80   9-4 Addition

Lesson 12 Practice

Objective

- Practice skills from the chapter.

Complete the number sentences.

$$3 + 2 = \boxed{5}$$

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$$5 + 2 = \boxed{7}$$

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$$6 + 2 = \boxed{8}$$

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
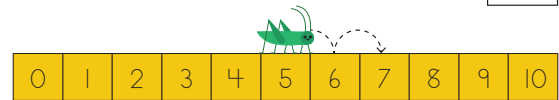
Objective: Practice.

95

Complete the number sentences.

$$4 + 1 = \boxed{5}$$

$$\boxed{5} = 2 + 3$$

$$5 + \boxed{0} = 5$$

Objective: Practice.

96

Objective

- Write subtraction sentences.

Lesson Materials

- Bear counters or other counters shaped like objects (bugs, dinosaurs, fruit, vehicles, etc.), 10 per pair of students
- Subtraction Sentences (BLM) in dry erase sleeves

Explore

Have students tell a subtraction story. Use counters to model the story, then write the subtraction sentence on the board. Have students say the subtraction sentence using the words "minus" and "equals."

Learn

Provide pairs of students with counters. Have one student tell a story with the counters, and move some of the counters away. The partner says the subtraction sentence for the story.

For example, Partner 1 might say, "There were 6 trains waiting at the station. 2 trains chugged away with passengers. How many trains are still waiting at the station?" Partner 2 counts the remaining trains and says, "6 minus 2 is 4. There are 4 trains still at the station."
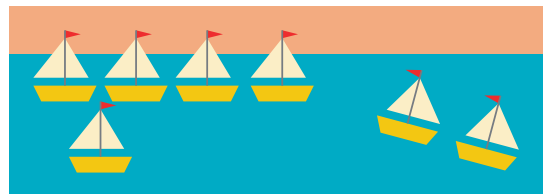
Pass out a Subtraction Sentence (BLM) and dry erase marker to each pair of students. Demonstrate a few of the stories with a number bond and counters. Have students write the numbers in the correct boxes to make subtraction sentences starting with the whole and subtracting one of the parts.
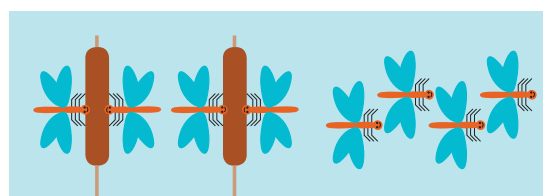

Lesson 3
Take Away to Subtract — Part 3   ③

Complete the number sentences.

$7 - 2 = 5$

$8 - 4 = 4$

Objective: Write subtraction sentences.

106   10-3 Take Away to Subtract — Part 3

Whole Group Activity

Chant "10 Fat Sausages," asking students how many sausages are in the pan after each verse.

Ten fat sausages, sizzling in a pan, one went pop and the other went bang (clap!)
Eight fat sausages, sizzling in a pan, one went pop and the other went bang!
Six fat sausages...
Four fat sausages...
Two fat Sausages..
No fat sausages sizzling in a pan

Repeat, writing the subtraction sentences on the board.

Lesson 4 Add to or Take Away

Objective

- Distinguish between addition and subtraction situations involving adding on or taking away.

Lesson Materials

- Counters

Explore

Tell students a number story where the initial quantity changes. Have them act out the story with counters.

- Alex has 1 book and Mei gives him 2 books. How many books does Alex have in all?
- Mei had 5 library books. She returned some of them to the library. She kept 2 books to read. How many books did Mei return to the library?

Learn

Have students share how they knew whether to add or subtract in the stories from **Explore**. Discuss that in these types of stories, something is changing: There were some books and my friend gave me more books. I had some books and I gave some away.

Have students write number bonds and number sentences on a whiteboard for the stories in **Explore**. Ensure that they are writing the correct signs for addition and subtraction.

Discuss additional problems with students. Guide students to think about the parts and wholes in these problems. If one part is going away, the whole is the initial quantity. Similarly, if a part is joining another part, the whole is the initial quantity and the amount that joined.
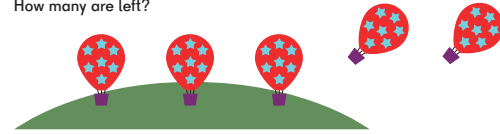
- I have 10 dogs. 3 leave. Some are still there. Is the whole the 10 dogs, the 3 that leave, or the dogs that are still there?
- I have 5 pens. Clara brings 3 more. What's the whole? Is it Clara's part of 3 pens, or my part 5 pens? Or something else?
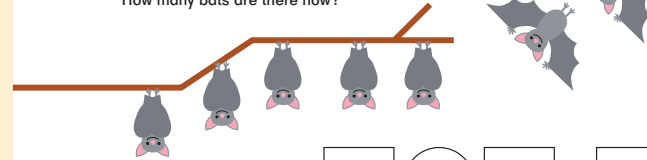
Complete the number sentences.

There are 5 hot air balloons.
2 hot air balloons are flying away.
How many are left?

$$5 - 2 = 3$$

There are 5 bats resting.
2 more bats are coming to join them.
How many bats are there now?

$$5 + 2 = 7$$

Objective: Know when to add and subtract in number stories.

11-4 Add to or Take Away   131

Whole Group Activity

▲ **Student Number Bonds**

Call a group of 8 students to the front of the class. Tell either an addition story with a sum of 8 or a subtraction story that starts with 8. Have students arrange themselves into either the two parts or the whole and one part of a number bond to match the story. Ask the remaining students to hold up fingers to show the missing part.

Objective

• Practice skills from the chapter.

Practice lessons are designed for further practice and assessment as needed.

Students can complete the textbook pages and workbook pages as practice and/or as assessment. Use activities and extensions from the chapter for additional review and practice.

Whole Group Activity

▲ Group Up

Call out a number. Students have 10 seconds to get themselves into groups of that size. It might be impossible for everyone to get in a group every time, but each new number gives everyone another chance.

To begin the activity, say, "Put yourselves into groups of 3." Once students get the idea, call out addition or subtraction problems such as, "Groups of 7 − 4."

Small Group Activity

▲ Domino Equations

Materials: Set of dominoes up to double fives, recording sheet

This activity works well with both partners and larger groups.

Players spread out a set of dominoes facedown, then select one domino each. Players write an equation for the numbers on the two halves of the domino to find the total. The player with the greatest total wins the dominoes.
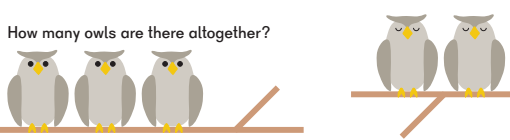
After five rounds, the player with the most dominoes wins the game.

To extend, have students draw two dominoes and add the total pips on each.

Lesson 6
Practice

P 6

134

Complete the number sentences.

How many owls are there altogether?

$$3 + 2 = 5$$

Add or subtract.
Complete the number sentences.

$$6 + 2 = 8 \qquad 7 + 3 = 10$$

$$8 - 6 = 2 \qquad 10 - 7 = 3$$

Objective: Practice.

134   11-6 Practice