

WAYS TO MAKE AND BREAK NUMBERS TO 10

Across-Grades Progression


Looking Back	Looking Here	Looking Ahead
<p>Grade K Chapter 3</p> <p>3A Numbers 6 to 10</p> <ul style="list-style-type: none"> Count, Show, and Write 6 Count, Show, and Write 7 Count, Show, and Write 8 Count, Show, and Write 9 Count and Show Numbers to 10 Count and Write Numbers to 10 <p>3B Order Numbers to 10</p> <ul style="list-style-type: none"> Count On to 10 Count Back from 10 	<p>Grade K Chapter 6</p> <p>6A Ways to Make and Break Numbers to 5</p> <ul style="list-style-type: none"> Ways to Make and Break 2 and 3 Ways to Make and Break 4 and 5 <p>6B Ways to Make and Break Numbers to 10</p> <ul style="list-style-type: none"> Ways to Make and Break 6 and 7 Ways to Make and Break 8 and 9 Ways to Make and Break 10 	<p>Grade K Chapter 7</p> <p>7D Take Apart Numbers to 20</p> <ul style="list-style-type: none"> Take Apart Numbers to 10

Chapter Overview

In Chapter 3, students learned to count, show, and write numbers to 10, providing them with experiences to represent numbers in a variety of configurations. With this knowledge, students will begin to see the smaller parts that make up numbers to 10, thus providing the foundation for the part-part-whole relationships that they will continue to explore in this chapter. Students' understanding will be extended and deepened by composing and decomposing numbers to 10. In addition, they will concretely and pictorially experience putting numbers together and taking them apart in real-world contexts.


Key Ideas

- Using concrete and pictorial representations, students will deepen their understanding that numbers are composed of smaller numbers.




6 is 3 and 3.


Recording Sheet




6 is ___ and ___



6 is ___ and ___

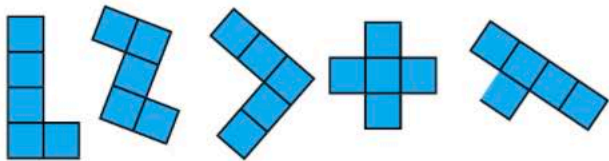


6 is ___ and ___

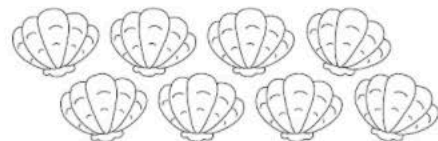


6 is ___ and ___

- Students will use multiple representations to put numbers together and break them apart, applying the part-part-whole language to describe this relationship.



- Students will connect these composing and decomposing experiences to abstract numerical representations.

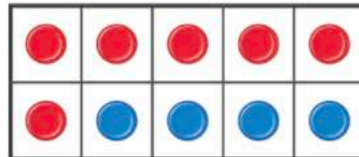


8 is _____ and _____.

Concrete-Pictorial-Abstract Progression

Concrete

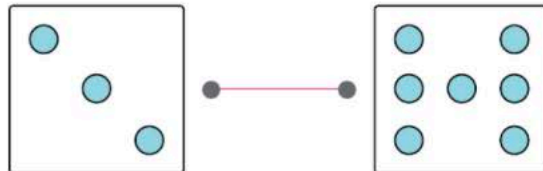
Throughout the chapter, students will have multiple experiences working with concrete materials such as connecting cubes, two-color counters, and tiles to compose and decompose numbers, thus identifying the parts of the whole.



Pictorial

The pictorial representations that students recognize and produce on their own will help them visualize these part-part-whole relationships and deepen their understanding.

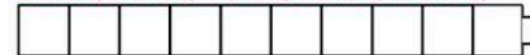
What two numbers make 10?



Abstract

Students connect their concrete and pictorial experiences of putting numbers together and breaking them apart to the abstract numerical representations.

Color **red** and **purple** to show two parts of 10.
Write the numbers. **Accept: 0 and 10; 1 and 9; 2 and 8; 3 and 7; 4 and 6; 5 and 5; 10 and 0;**



9 and 1; 8 and 2; 7 and 3; 6 and 4
10 is _____ and _____.

Chapter Progression

In **Section 6A**, students show the ways to make numbers to 5 by identifying the parts and the whole using manipulatives, pictures, and numbers. Students experience pictorial representations through recognition and production, before connecting them to abstract representations.



"1 and 3"



"2 and 2"



"3 and 1"




"4 and 0"



"0 and 4"



1. What two parts make 4?
Use **purple** and **green** to color .
Write the numbers.

purple

green



1 and 3 make 4.




Learn Together

1. Look at the picture.
Write the number.

5 and 1 make 6.



2. Draw  to make 6.
Write the numbers.

(a)



2 and 4 make 6.

(b)



3 and 3 make 6.

Name: _____ Date: _____

3. There are 7 eggs.



Draw  to show the parts.
Write the numbers.

Accept: 0 and 7; 1 and 6;
2 and 5; 3 and 4; 7 and 0;
6 and 1; 5 and 2; 4 and 3

(a)



7 is _____ and _____.

(b)



7 is _____ and _____.

Extension

Provide pairs of students with two sets of dot cards shuffled and placed face down in one pile. Invite students to take turns selecting a card. Have them place the card in a single row and search for any cards that can be combined to make 6 and 7. Encourage them to use the vocabulary words learned in the chapter to describe the parts and the whole amount they see.

Additional Support

Have students paste stickers on a large notecard with a line drawn down the middle to show the two parts to make 6 and 7.

Learn Together (pages 12 and 13)

- Group students in pairs or small groups to answer Questions 1 to 4. Before you explain the task, encourage students to discuss what they think they are being asked to do.
- **QUESTION 1** requires students to use the pictorial representation to find the whole given the two parts.
- **QUESTION 2** requires students to find one part given the whole and another part. They complete the picture by sketching the missing part to help them.
- **QUESTION 3** requires students to decompose the whole amount of 7 in two different ways and complete the sentence.

Lesson Debrief

- Conclude the lesson and facilitate students' reflection by asking students to answer the **Focus Question** and share their thinking.

? Focus Question

If you have 4 cubes, how many more do you need to show 6 cubes?

- Extend the discussion by posing the following question.
 - How do you figure out the parts that make 6/7? How can you check to make sure the whole amount is 6/7? How many ways can you break apart 6/7?

Promoting Growth

To encourage and support students to persevere in problem solving and maintain a learning mindset:

- Allow students time to reflect on what they have learned and ask questions about what they may be unsure of.
- Encourage students to share how they overcome a difficulty in the process of learning.
- Provide students with this oral/written reflection question: *What do you know for sure about the parts of 6/7? Students may list several combinations that make 6/7. They may also explain that when they count these parts, the total should make 6/7.*
- Display this lesson's **I CAN** statement(s) for students to reflect on their learning.

I can make and break apart 6 and 7.

Practice On Your Own (page 14)

If you would like the questions to be auto-graded, refer students to the online **Practice On Your Own** as a lesson check. If you want students to show their work, have them do so in the Student Book.

- QUESTION 1** assesses students' ability to use the pictorial representation to find the whole given the parts.
- QUESTION 2** assesses students' ability to find the whole and one part given the other part and pictorial guidance.

Practice On Your Own

- Look at the picture. Write the number.



3 and 3 make 6.

- Write the numbers.

(a)



4 and 3 make 7.

(b)



2 and 5 make 7.

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English Language Support

Provide students with a sheet of paper that is divided into halves. Label each half with the word "part." Guide students to gently drop 6 or 7 red counters onto the paper, with some counters dropping on either side of the paper. Encourage students to describe the whole amount and then the parts they see.

Best Practice

After students have completed the lesson, invite them to choose their favorite way to decompose 7. Encourage them to create a picture to match.

Refer to **Differentiated Instruction** on page 14A to provide students with additional support, on-level practice, or extension.

Days 7 - 8

6B Ways to Make and Break Numbers to 10 (2): Ways to Make and Break 8 and 9

Focus Question

What does it mean to break/take apart a number?

I CAN

- I can make and break apart 8 and 9.

Mathematical Practice(s)

- 4 Model
- 6 Use Math Language
- 7 Use Structure

Material(s)

- 20 pieces of 2" x 5" strips of paper per small group
- 2 bags of pattern blocks (two colors) per table
- 1 copy of Beach Towel Storyboard (TR52) for the teacher

WAYS TO MAKE AND BREAK 8 AND 9 (pages 15 to 20)



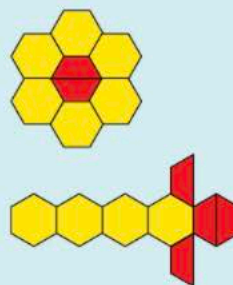
Lesson Opener

Task

- Invite students to work at their tables. Provide each table with two bags of pattern blocks in two colors and 20 pieces of 2" x 5" strips of paper.
- Today we are going to show the parts that make 8. What is the whole amount we are working with? 8**
- Gather a handful of pattern blocks and build an arrangement of 8 for the class to discuss.
- Using only 8 pattern blocks with one or two colors, create a design or an arrangement. Make sure the pattern blocks touch.**
- Provide students with time to make several arrangements at their table. They will represent the parts by position or color.
- Remind students to leave a gap between each arrangement. Encourage students to describe one of their arrangements.
- Sketch or display several of the arrangements that students describe, and record their responses throughout the **Task**.

As your classmates describe their arrangements, try to imagine what they might look like. What arrangement do you see that reminds you of something else? *I see a person.; Mine looks like a sun.; I see a tree.* How many pattern blocks were used to make your arrangement? **8** How can you describe it with numbers? *4 triangles and 4 squares make 8.* Now record a math sentence on your strip of paper and place it below your arrangement.

- Display the sentence frame: _____ and _____ make 8, guiding students as necessary.
- Repeat this discussion several times focusing on composing 8.
- Look at a different arrangement and let's think about how we can break 8 apart. Describe how the "8" is shown with two parts. The two colors help us see how 8 can be broken into two parts. How can you describe your arrangement with this math sentence: 8 is _____ and _____? Record this. Share your thinking with a classmate.**
- Observe student discussions.
- Provide time for students to build several new arrangements and continue this discussion focusing on decomposing 8.
- Encourage students to talk to a classmate about an arrangement and use the strip of paper to record a sentence describing it.
- Invite pairs to walk around the classroom to look at the different arrangements and the numbers used to describe them.
- What is the same about all of these arrangements? They all use 8 pattern blocks. They all show parts of 8. What are the ways that your classmates have shown the parts of 8? 5 and 3; 4 and 4; 6 and 2; 7 and 1; 8 and 0 Look at an arrangement to help you think about this.**



Best Practice

After the **Task**, invite students to turn their strips face down. Ask students to rotate to different tables, share how they see each arrangement using numbers, and then turn over the number strip to see if it matches their thinking.