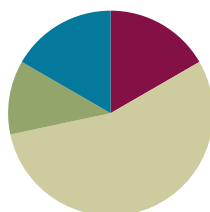


## Lesson 15

Objective: Model subtraction of 9 from teen numbers.

### Suggested Lesson Structure

■ Fluency Practice	(10 minutes)
■ Application Problem	(7 minutes)
■ Concept Development	(33 minutes)
■ Student Debrief	(10 minutes)
<b>Total Time</b>	<b>(60 minutes)</b>



### Fluency Practice (10 minutes)

- 5-Group Flash: 5 Less and 4 Less **1.OA.6** (2 minutes)
- Make It Equal: Subtraction Expressions **1.OA.6** (5 minutes)
- Partners to Ten **1.OA.6** (3 minutes)

### 5-Group Flash: 5 and 4 Less (2 minutes)

Materials: (T) 5-group row cards (from G1–M2–Lesson 12)

Note: This activity supports Grade 1’s core fluency standard of adding and subtracting within 10 and helps students to see the relationship with 5 less (easy, one 5-group less) to 4 less (take out the five except for 1). For struggling students, lead them to visualize 5 less by hiding a 5-group. Make the connection to seeing the number on their fingers and hiding one hand.

Flash a card for 2–3 seconds. Students say the number that is 5 less and then 4 less.

### Make It Equal: Subtraction Expressions (5 minutes)

Materials: (S) 5-group cards (from G1–M1–Lesson 5) and 1 “=” card, and 2 “–” cards per each set of partners

Note: This activity builds fluency with subtraction within 10 and promotes an understanding of equality.

Assign students partners of similar skill level. Students arrange 5-group cards from 0 to 10, including the extra 5, and place the “=” card between them. Write four numbers on the white board (e.g., 10, 9, 2, 1). Partners take the 5-group cards that match the numbers written to make two equivalent subtraction expressions (e.g.,  $10 - 9 = 2 - 1$ ). Students can be encouraged to make another sentence of equivalent expressions for the same set of cards as well.

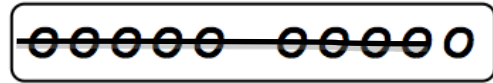
Suggested sequence: 10, 9, 2, 1    10, 3, 9, 2    10, 4, 5, 9    10, 8, 7, 9    10, 7, 9, 6    10, 8, 4, 2

**Partners to Ten (3 minutes)**

Materials: (S) Personal white boards with 5-group row insert

Note: This maintenance fluency with partners to ten facilitates the take from ten subtraction strategy.

Say a number between 0 and 10 (e.g., 9). Students cross off the number from the horizontal ten insert and write the corresponding subtraction sentence.



$$10 - 9 = 1$$

J	M
Julian	Mon
<del>oooo</del>	xxxxx
<del>oxxx</del>	
$10 - 9 = 1$	
$1 + 5 = 6$	
$15 - 9 = 6$	
Twinn has 6 markers left.	

**Application Problem (7 minutes)**

Julian has 7 markers. His mother gives him 8 more. He loses 9 markers. How many does he have left?

Note: In the Student Debrief, students can discuss their drawings and number sentences, and share various strategies, one of which may be decomposing 15 into 10 and 5, taking 9 from 10. Though it will be covered formally in a later lesson, teachers might also choose to encourage students to see that the expressions  $15 - 9$  and  $1 + 5$  are equivalent.

**Concept Development (33 minutes)**

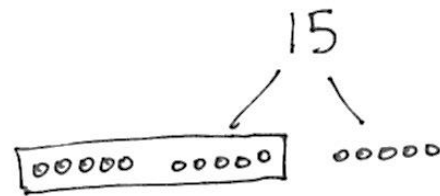
Materials: (S) Personal white boards

- T: (Project  $15 - 9 = \underline{\quad}$ .) With a partner, solve this on your number board. Use words or a drawing to show how you know.
- S: (Discuss and solve with partner as teacher circulates and notices the solution strategies students are using independently.)
- T: What is the unknown number in this number sentence?
- S: Six!
- T: How do you solve that?
- S: I started at 9 and counted on until I got to 15. That took 6 fingers.  $\rightarrow$  I took 9 away from 15 and had 6 left.  $\rightarrow$  I know 15 is made of 10 and 5, so I took 9 from 10 and then saw that I had 6 left.
- T: I noticed that many of you used drawings on your personal white boards. How can we draw 15 so that we can tell how many we have when we look quickly?
- S: Use 5-group pictures!

**NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:**

Some students may have trouble organizing their dots in a row with spaces in the correct places. Be sure to accommodate these students and set up a way for them to be successful with their drawings. We don't want them getting frustrated so that they are unable to focus on the math problem.

- T: Let's use 5-groups in one long row, like we did during fluency today. (Draw a 5-group row to show 15 on the board. Leave extra space between the first 10 circles and the last 5 circles.)
- T: Let's frame the 10 circles we have so we can see 10 and 5 more easily. (Draw a rectangle around the first 10 circles.)
- T: Now we can see 15 as 10 and 5. (Add the number 15 and the bond lines above as shown.)
- T: If we want to take 9 out of 15, how can this drawing help us find a quick and easy place to take the 9 from?
- S: The group of 10 inside the frame!
- T: Hmm, if I take 9 out of 10, how much would that leave me in the frame?
- S: Just one!
- T: How much do we have when we take 9 out of 15?
- S: Six! There is 1 left in the frame and 5 left on the other side, so that's 6.
- T: (Project  $14 - 9 = \underline{\quad}$ .) Let's all make 5-group drawings like that last one as we solve for the unknown number.



#### NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

For those students that can fluently solve math facts within 20, cultivate excitement by connecting on-level math to higher math, presenting numbers to 100. If they can solve  $15 - 9$  with ease present problems such as  $25 - 9$  or  $35 - 9$ .

Repeat the process above with the following sequence:  $16 - 9$ ;  $13 - 9$ ;  $17 - 9$ . Support students in drawing 5-group rows so that they can see the ten and the additional circles easily. Circulate and encourage students to share where they can find 9 quickly and easily.

Suggest students cover the 9 to help them move away from counting all and move towards visualizing and mental math.

After two problems, ask them to close their eyes and see if they can visualize or see in their mind's eye what is happening in the story when they subtract 9.

Have students draw the problem using 5-group drawings. Before they cross out the 9, ask them to visualize what the picture will look like once it is crossed out and determine how many will not be crossed out. Then have students cross out the 9 and see if their picture matches what they visualized.

### Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students solve these problems using the RDW approach used for Application Problems.

**Student Debrief (10 minutes)**

**Lesson Objective:** Model subtraction of 9 from teen numbers.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson. You may choose to use any combination of the questions below to lead the discussion.

- Look at your Problem Set. How did you find an easy way to take 9 out of the teen numbers?
- Look at Problems 6–8. What do you notice is similar about the pictures in these problems? What do you notice about the numbers in these problems? If this pattern continued, what problem would come next? How can the problems help us solve  $11 - 9$ ?
- Look at Problem 10. How are the two number sentences related? What was the same or different about your drawings?
- Look at your Application Problem. How does the problem connect to today’s lesson? How would you change or add to your work?

**Exit Ticket (3 minutes)**

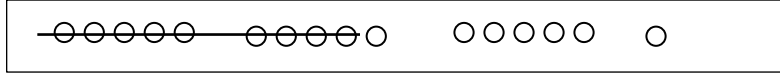
After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help you assess the students’ understanding of the concepts that were presented in the lesson today and plan more effectively for future lessons. You may read the questions aloud to the students.

Name \_\_\_\_\_

Date \_\_\_\_\_

1. Match the pictures with the number sentences.

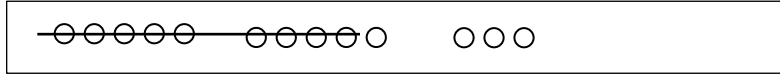
a.  $13 - 9 = 4$



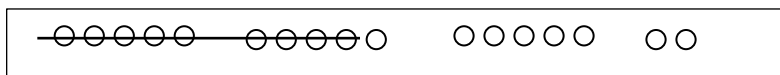
b.  $14 - 9 = 5$



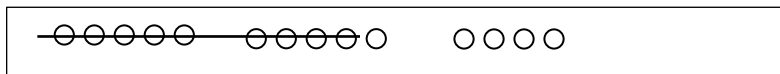
c.  $17 - 9 = 8$



d.  $18 - 9 = 9$



e.  $16 - 9 = 7$



Draw 5-group rows. Visualize and then cross out to solve. Complete the number sentences.

2.  $11 - 9 = \underline{\quad}$

3.  $13 - 9 = \underline{\quad}$

4.  $16 - 9 = \underline{\quad}$

5.  $17 - 9 = \underline{\quad}$

6.  $14 - 9 = \underline{\quad}$

7.  $13 - 9 = \underline{\quad}$

8.  $12 - 9 = \underline{\quad}$

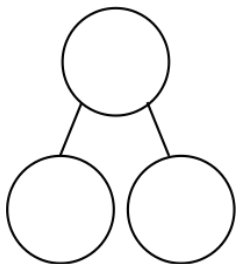
9.  $15 - 9 = \underline{\quad}$

10. Show making 10 and taking from 10 to complete the two number sentences.

(a)  $5 + 9 = \underline{\quad}$

(b)  $14 - 9 = \underline{\quad}$

11. Make a number bond for #10. Write two additional number sentences that use this number bond.



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Name \_\_\_\_\_

Date \_\_\_\_\_

Draw 5-group rows and cross out to solve. Complete the number sentences.

1.  $17 - 9 = \underline{\quad}$

2.  $19 - 9 = \underline{\quad}$

Name \_\_\_\_\_

Date \_\_\_\_\_

Write the number sentence for each 5-group row drawing.

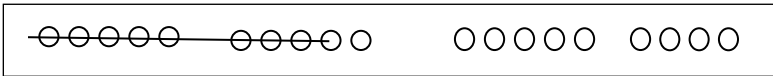
1.



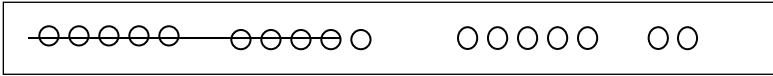
$$13 - 9 = 4$$



\_\_\_\_\_



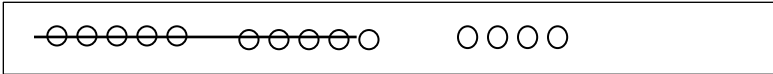
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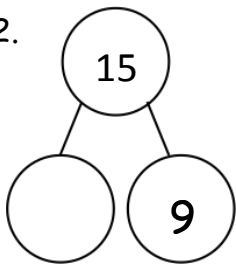
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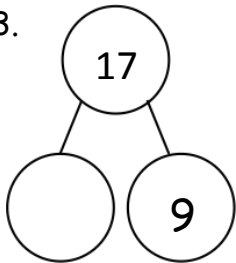
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Draw 5-groups to complete the number bond and write the 9- number sentence.

2.

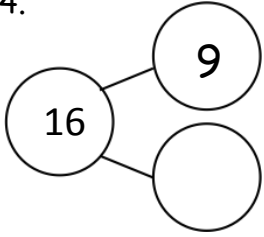


3.





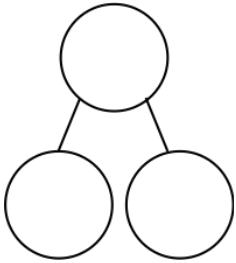
4.



Draw 5-groups to show making ten and taking from ten to solve the two number sentences. Make a number bond and write two additional number sentences that would have this number bond.

5.  $8 + 9 = \underline{\quad}$

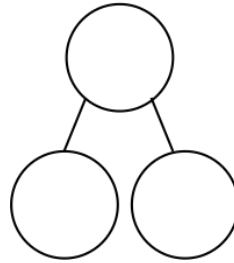
6.  $17 - 9 = \underline{\quad}$




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