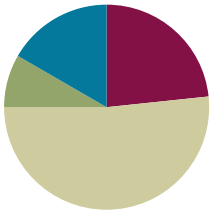
Lesson 17

Objective: Model subtraction of 8 from teen numbers.

Suggested Lesson Structure

Fluency Practice	(14 minutes)
Application Problem	(5 minutes)
Concept Development	(31 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Fluency Practice (14 minutes)

- Subtract 9 **1.OA.6** (4 minutes)
- Sprint: Subtract 9 **1.OA.6** (10 minutes)

Subtract 9 (4 minutes)

Materials: (T) Subtract 9 flash cards (Fluency Template)

Note: This fluency activity reviews the take from ten subtraction strategy when the subtrahend is 9.

Show a subtract 9 flash card (e.g., 12 – 9).

T: Say 12 the Say Ten way.
S: Ten 2.
T: 10 – 9 is…?
S: 1.
T: 1 + 2 is…? (Point to the 2.)
S: 3.
T: 12 – 9 is…?
S: 3.

Sprint: Subtract 9 (10 minutes)

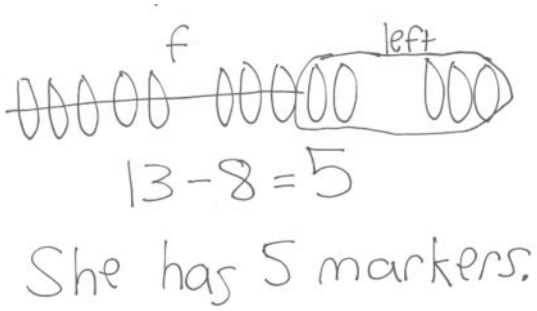
Materials: (S) Subtract 9 Sprint

Note: This Sprint reviews the take from ten subtraction strategy when the subtrahend is 9.

Application Problem (5 minutes)

Gisella had 13 markers in her bag. Eight markers fell out of the bag. How many markers does Gisella have now?

Note: While circulating, notice which students already recognize the application of the take from ten strategy, previously applied only to subtracting 9. Notice which students are crossing off one at a time instead of crossing off 8 quickly. Student strategy choices are discussed in the Student Debrief.



Concept Development (31 minutes)

Materials: (T) Linking cubes of different colors (S) Personal white board

Note: Using different color linking cubes helps students realize that not all objects need to be identical in a given set.

Have students sit in a semicircle in the meeting area with their personal white boards.

T: (Project and read aloud.) Ayan had 15 building blocks. He used 8 of them to make a car. How many blocks were left?

T: How would you solve this problem? Use your personal white board to show your work. (Circulate and observe student strategies as they solve.)

T: How did you solve?

S: I drew 15 squares. I crossed off 8, and I had 7 pieces left. → I counted on from 8 to 15. Eiiiight, 9, 10, 11, 12, 13, 14, 15. I have 7 fingers up, so 7 blocks. → I used the take from ten strategy. I saw that I can take apart 15 into 10 and 5. I took away 8 from 10 and did 2 + 5 = 7. Seven blocks.

T: No matter which strategies these students used, did they get the same answer?

S: Yes!

T: (Show a stick of 15 cubes, 10 in one color and 5 in another color.) Here is a stick of 15 linking cubes to show how many building blocks Ayan had in the beginning. To use the take from ten strategy, let's break this apart into…?

S: 10 and 5.

T: (Break off and separate into two sticks.) We need to take away…?

S: 8 pieces.

T: From 10 or 5?

S: 10.

T: (Take away 8 from 10.) 10 minus 8 is…?

S: 2.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

It is important to guide students to evaluate their thinking, as well as their partners', during the turn and talks. This provides students an opportunity to evaluate their process and analyze errors.

T: 2 and 5 make…?
S: 7.
T: Let's check by using our fingers. Show me 15 fingers. How many pretend fingers are up?
S: (Show 10 fingers.) 5.
T: Take away 8, all at once.
S: (Show 2 fingers.)
T: How many fingers are up?
S: 2.
T: How many pretend fingers are there?
S: 5.
T: How many fingers, including pretend fingers, are there altogether?
S: 7.
T: What addition sentence helped you solve 15 – 8?
S: 2 + 5 = 7.

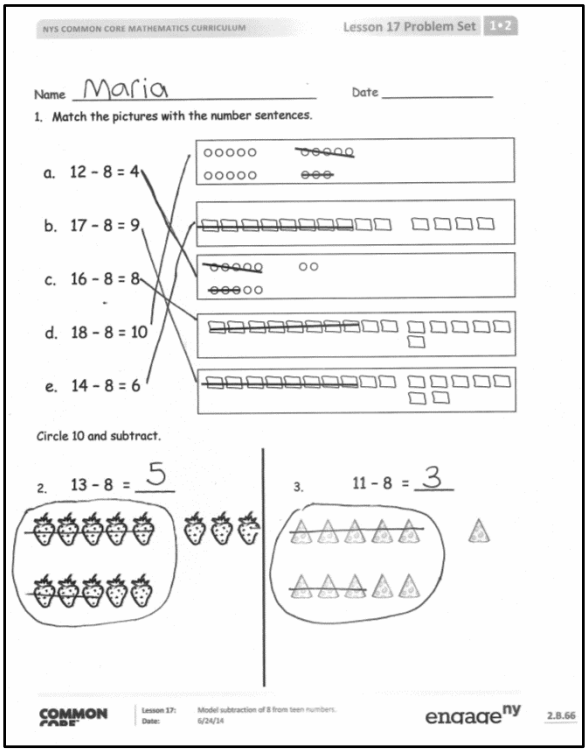
NOTES ON MULITPLE MEANS OF ACTION AND EXPRESSION:

Adapt what is expected of certain students depending on their level of understanding. Some students may be ready to move away from draw and circle 10 to just break apart the teen number with a number bond in their work.

Repeat the process following the suggested sequence: 11 – 8, 12 – 8, 14 – 8, 15 – 8, 17 – 8, 18 – 8 (take 8 from 8 rather than 10), and 19 – 8 (take 8 from 9). Linking cubes may be used to aid student understanding for the first few problems, but then move toward using fingers. At 18 – 8 and 19 – 8, reintroduce the linking cubes, as they provide a clearer visual representation for determining from where to quickly subtract 8. If time allows, have students work with a partner to practice subtracting 8 using the take from ten strategy with fingers and writing the addition sentence to help solve.

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 should solve these problems using the RDW approach used for Application Problems.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 17 Problem Set 1•2

Name Maria Date

1. Match the pictures with the number sentences.

a. 12 – 8 = 4
b. 17 – 8 = 9
c. 16 – 8 = 8
d. 18 – 8 = 10
e. 14 – 8 = 6

Circle 10 and subtract.

2. 13 – 8 = 5

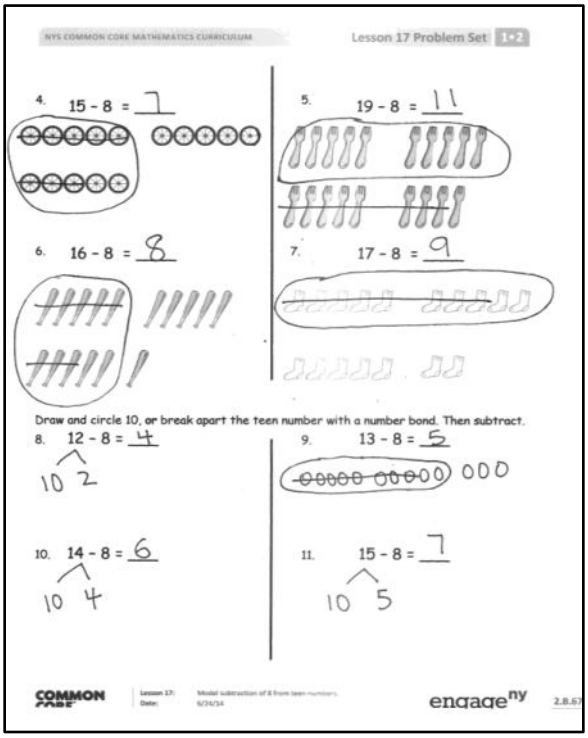
3. 11 – 8 = 3

Student Debrief (10 minutes)

Lesson Objective: Model subtraction of 8 from teen numbers.

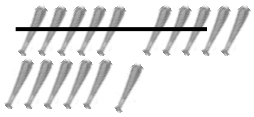
The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

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.



Any combination of the questions below may be used to lead the discussion.

- Look at Problem 5. Where did you take 8 from? Why is it wiser to take 8 from 9 than 10?
- Look at the way a student solved Problem 6. How is her solution similar to and different from yours?

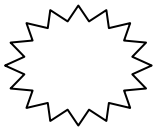


- How can knowing 15 – 9 = 6 help you solve 15 – 8? Explain your thinking.
  - When we take from ten to solve these two problems, what is different about how we get our solution? (In 15 – 9, we add 1 to 5. In 15 – 8, we add 2 to 5.)
  - How is 15 – 9 different from 15 – 8? How much less are we taking away? How would that change the answer? (We took away 1 less, so the answer will have 1 more.)
  - Following this pattern, how would you solve 15 – 7?
- Look at the Application Problem. How did you choose to solve it? Explain your thinking. How could the strategy discussed today be used to solve this problem?

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

A

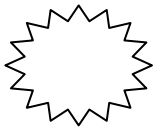
Number Correct: 

Name _____ Date _____

*Write the missing number. Pay attention to the addition or subtraction sign.

1.	10 - 9 = ☐		16.	10 - 9 = ☐	
2.	1 + 2 = ☐		17.	11 - 9 = ☐	
3.	10 - 9 = ☐		18.	12 - 9 = ☐	
4.	1 + 3 = ☐		19.	15 - 9 = ☐	
5.	10 - 9 = ☐		20.	14 - 9 = ☐	
6.	1 + 1 = ☐		21.	13 - 9 = ☐	
7.	10 - 9 = ☐		22.	17 - 9 = ☐	
8.	1 + 2 = ☐		23.	18 - 9 = ☐	
9.	12 - 9 = ☐		24.	9 + ☐= 13	
10.	10 - 9 = ☐		25.	9 + ☐= 14	
11.	1 + 3 = ☐		26.	9 + ☐= 16	
12.	13 - 9 = ☐		27.	9 + ☐= 15	
13.	10 - 9 = ☐		28.	9 + ☐= 17	
14.	1 + 5 = ☐		29.	9 + ☐= 18	
15.	15 - 9 = ☐		30.	9 + ☐= 19	

B

Number Correct: 

Name _____ Date _____

*Write the missing number. Pay attention to the addition or subtraction sign.

1.	10 - 9 = ☐		16.	10 - 9 = ☐	
2.	1 + 1 = ☐		17.	11 - 9 = ☐	
3.	10 - 9 = ☐		18.	13 - 9 = ☐	
4.	1 + 2 = ☐		19.	14 - 9 = ☐	
5.	10 - 9 = ☐		20.	13 - 9 = ☐	
6.	1 + 3 = ☐		21.	12 - 9 = ☐	
7.	10 - 9 = ☐		22.	15 - 9 = ☐	
8.	1 + 4 = ☐		23.	16 - 9 = ☐	
9.	14 - 9 = ☐		24.	9 + ☐= 12	
10.	10 - 9 = ☐		25.	9 + ☐= 13	
11.	1 + 3 = ☐		26.	9 + ☐= 15	
12.	13 - 9 = ☐		27.	9 + ☐= 14	
13.	10 - 9 = ☐		28.	9 + ☐= 15	
14.	1 + 2 = ☐		29.	9 + ☐= 17	
15.	12 - 9 = ☐		30.	9 + ☐= 16	

Name _____ Date _____

1. Match the pictures with the number sentences.

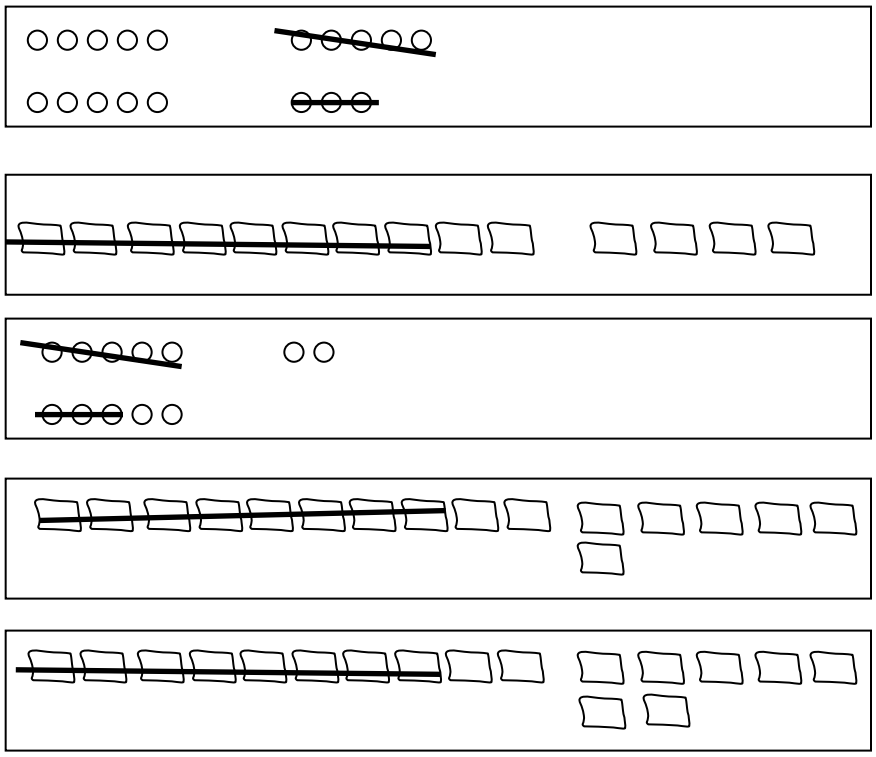
a. 12 – 8 = 4

b. 17 – 8 = 9

c. 16 – 8 = 8

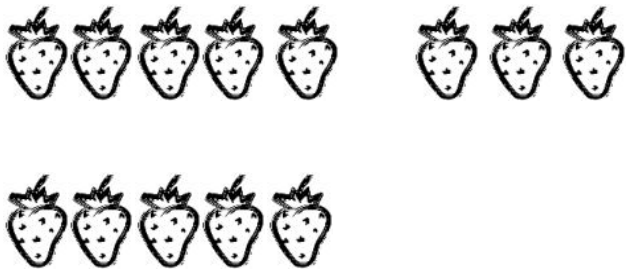
d. 18 – 8 = 10

e. 14 – 8 = 6



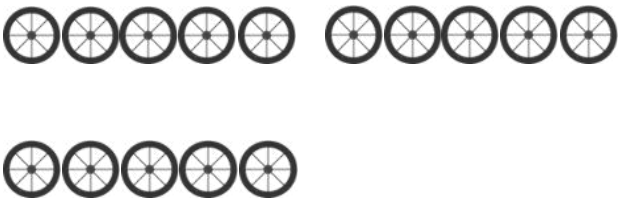
Circle 10 and subtract.

2. 13 – 8 = _____

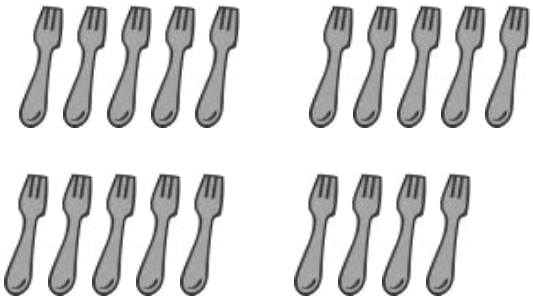


3. 11 – 8 = _____

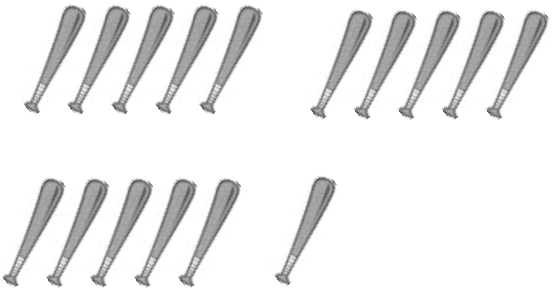
4. 15 – 8 = _____



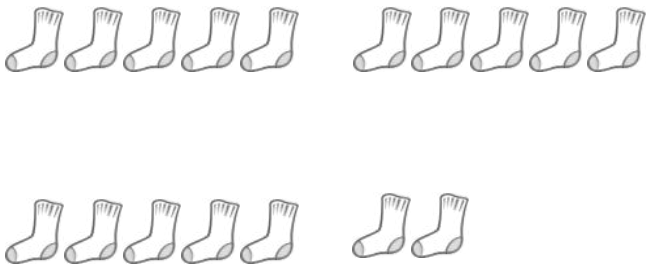
5. 19 – 8 = _____



6. 16 – 8 = _____



7. 17 – 8 = _____



Draw and circle 10, **or** break apart the teen number with a number bond. Then subtract.

8. 12 – 8 = ____

9. 13 – 8 = ____

10. 14 – 8 = ____

11. 15 – 8 = ____

Name _____ Date _____

1. Draw and circle 10. Then subtract.

a. 12 – 8 = _____	b. 14 – 8 = _____

2. Use a number bond to break apart the teen number. Then subtract.

15 – 8 = _____

Name _____ Date _____

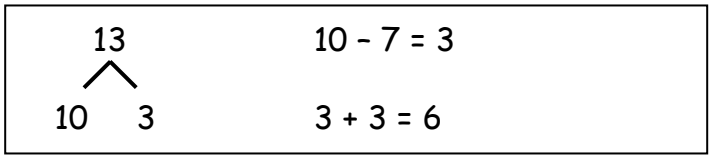
1. Match the number sentence to the picture or to the number bond.

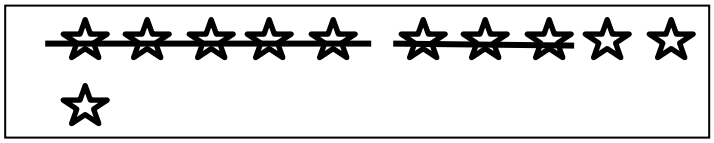
a. 13 – 7 = _____

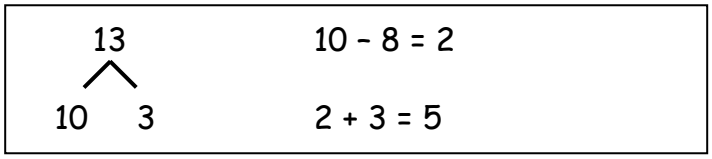
b. 16 – 8 = _____

c. 11 – 8 = _____

d. 13 – 8 = _____



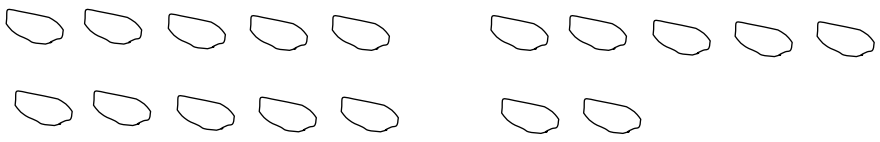




2. Show how you would solve 14 – 8, either with a number bond or a drawing.

Circle 10. Then subtract.

3. Milo has 17 rocks. He throws 8 of them into a pond. How many does he have left?



Milo has _____ rocks left.

Draw and circle 10. Then subtract.

4. Lucy has $12. She spends $8. How much money does she have now?

Lucy has $_____ now.

Draw and circle 10, or use a number bond to break apart the teen number and subtract.

5. Sean has 15 dinosaurs. He gives 8 to his sister. How many dinosaurs does he keep?

Sean keeps _____ dinosaurs.

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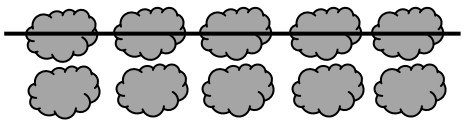
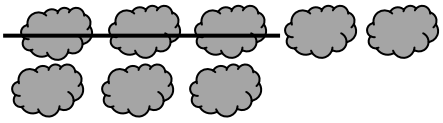
6. Use the picture to fill in the math story. Show a number sentence.





Olivia saw _____ clouds in the sky. _____ clouds went away. How many clouds are left?

Try it! Can you show how to solve this problem with a number bond?

10 - 9	11 - 9
12 - 9	13 - 9
14 - 9	15 - 9
16 - 9	17 - 9
18 - 9	19 - 9

subtract 9 flash cards