Lesson 20
Objective: Subtract 7, 8, and 9 from teen numbers.

Suggested Lesson Structure
- Fluency Practice (18 minutes)
- Application Problems (5 minutes)
- Concept Development (27 minutes)
- Student Debrief (10 minutes)

Total Time (60 minutes)

Fluency Practice (18 minutes)
- Number Path: Get to 10 1.OA.6 (8 minutes)
- Sprint: Subtract 8 1.OA.6 (10 minutes)

Number Path: Get to 10 (8 minutes)

Materials: (T) Subtract 9 flashcards (from G1–M2–Lesson 17) and Subtract 8 Flashcards (S) Personal white boards with number path insert (from G1–M2–Lesson 18)

Note: Using a number path to get to and from 10 reviews yesterday’s lesson, where students were encouraged to relate taking from ten to counting on.

T: (Show the flashcard 15 – 8.)
T: Write 15 – 8 as an addition sentence. Use a box for the number we don’t know.
S: (Write 8 + □ = 15.)
T: How many spaces will you need to move to land on 10?
S: 2.
T: Hop from 8 to 10. Use your finger if you need help. Were you right?
S: Yes!
T: Now, hop to 15. How many spaces will you move?
S: 5.
T: 2 + 5 = ?
S: 7.
T: So what is the missing number in your addition sentence?
S: 7.
T: Say the subtraction sentence.

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S: \[ 15 - 8 = 7. \]
Repeat sequence with other flash cards.

**Sprint: Subtract 8 (10 minutes)**

Materials: (S) Subtract 8 Sprint

Note: This Sprint reviews the take from ten subtraction strategy when the subtrahend is 8.

**Application Problem (5 minutes)**

Imran has 8 crayons in his pencil box and 7 crayons in his desk. How many crayons does Imran have in total?

Note: Because students have been focusing on subtraction, some students may try to subtract 7 from 8 to solve. Look for such misunderstandings that can be addressed through discussion during the Student Debrief or individual support.

**Concept Development (27 minutes)**

Materials: (S) Personal white boards with the number path insert, numeral cards 7–9, subtraction sign card

Have students come to the meeting area and sit in a semi-circle with their personal white boards.

T: (Write \[ 13 - 9 = \_\_\_\_\_]\) Solve and share with your partner what you did to get your answer.

S: (Discuss solution and strategies.)

T: Explain what you did to get your answer.

S: We made a 5-group drawing. \rightarrow We used the take from ten strategy using fingers. \rightarrow We made a picture in our minds. We just took away 9 from 10 and did \[ 1 + 3. \] That’s 4.

T: Everyone, use the number path to show how you can count on to make ten first. Don’t forget to use two arrows to show your thinking.

S: (Solve by starting from 9. Arrows land on 10 and 13.)

T: What addition number sentence helped you to solve \[ 13 - 9? \]

S: \[ 1 + 3 = 4. \]

T: How is counting on the number path similar to using our real and imaginary fingers?
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S: After we drop 9 fingers, we have 1 more finger left from 10 fingers. We then add 1 to 3 imaginary fingers. This is just like hopping 1 square to get to 10 and 3 more to get to 13. We had to add 1 and 3 both times.

Continue by following the suggested sequence: 13 – 7, 13 – 8, 15 – 9, and 15 – 7. Have Partner A and Partner B alternate between using the number path and their fingers to show their work.

T: (Write 12 – 7 = ___.) Let’s use a number bond to solve 12 – 7. Visualize 5-group rows showing 12. What two parts do you see? (Encourage partners to show their work to each other and check it.)

S: 10 and 2.

T: (Make a number bond for 12. Point to – 7.) Where would you take 7 away from?

S: Take 7 away from 10.

T: (Point to 10, then 7 on the board.) Take 7 away in your mind. What is 10 – 7?

S: 3.

T: How many circles are there altogether? What two parts can you picture?

S: There are 5 circles. Two and 3 make 5.

Continue the process and invite students to solve using a number bond by following the suggested sequence: 11 – 7, 11 – 8, 13 – 9, 12 – 8, 17 – 8, 16 – 7, 19 – 7, and 19 – 8.

T: Now we are going to play Simple Strategies! (Assign partners based on readiness levels. Instruct each pair to combine their numeral cards and make two piles: digits 11–19 and digits 7–9.) Here’s how you play:

1. Partner A picks a card from the teen numbers pile.
2. Partners use the 9 card and the subtraction sign to make a subtraction fact. (Put 8 and 7 cards aside for later use.)
3. Partner A solves by using any of the strategies from today’s lesson.
4. Partner B writes down the addition fact that helped to solve the problem (e.g., for 13 – 9, write 1 + 3).
5. Switch roles. Keep the 9 card up each time the partners begin a new expression using a new teen number card.

As students play, the teacher circulates and moves students to working with – 8, then – 7, as appropriate.

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.

Note: Students may use drawings that reflect the strategies they learned from the past few days. For example, they may use 5-group drawings, arrows on a number path, or drawings of fingers.
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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 work from Simple Strategies! What
did you notice about the addition facts for – 9
problems? – 8 problems? – 7 problems?
- Look at Problem 5 on your Problem Set. What is
happening to the solution as you move from Part
(a) to Part (c)? Explain why this is happening.
- Look at Problem 5 and 6. What do you notice?
Explain how Problem 6 (a) and (b) relate to
Problem 5 (a) and (b).
- Look at Problem 6 and 7. What do you notice?
Explain how the rows are related. If there was a
Column (d) here, what might the number
sentences be?
- Look at Problem 8(a) and Problem 9(a). How are
these related?
- Look at Problem 9. What did you do to solve
these? Explain your thinking.
- How could knowing Problem 9(b) help you solve
Problem 9(c)?
- Share your Application Problem with a partner.
How did you solve it?
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.
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<td>10 - 8 = □</td>
<td>16</td>
<td>10 - 8 = □</td>
<td></td>
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<tr>
<td>2</td>
<td>2 + 2 = □</td>
<td>17</td>
<td>11 - 8 = □</td>
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<td>17 - 8 = □</td>
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<td>2 + 1 = □</td>
<td>23</td>
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<td>10 - 8 = □</td>
<td>25</td>
<td>8 + □ = 12</td>
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<td>2 + 2 = □</td>
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<td>8 + □ = 15</td>
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<td>10 - 8 = □</td>
<td>28</td>
<td>8 + □ = 16</td>
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<td>14</td>
<td>2 + 5 = □</td>
<td>29</td>
<td>8 + □ = 17</td>
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<td>15</td>
<td>15 - 8 = □</td>
<td>30</td>
<td>8 + □ = 18</td>
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Number correct: □
**Lesson 20 Sprint**

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<tr>
<td>15</td>
<td>12 - 8 = ☐</td>
<td>30</td>
<td>8 + ☐ = 16</td>
<td></td>
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</tbody>
</table>

*Write the missing number. Pay attention to the addition or subtraction sign.*
Lesson 20 Problem Set

Name ___________________________ Date ______________

Solve the problems below. Use drawings or number bonds.

1. 11 - 9 = ____ 2. 11 - 8 = ____

3. 13 - 9 = ____ 4. 13 - 8 = ____

5. 13 - 7 = ____ 6. 12 - 7 = ____

7. Match the equal expressions.
   a. 16 - 7 ______ 13 - 9
   b. 17 - 7 ______ 18 - 9
   c. 12 - 8 ______ 15 - 9
   d. 14 - 8 ______ 18 - 8
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#### Subtract 7, 8, and 9 from teen numbers.

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Complete the subtraction sentences to make them true.

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
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<tbody>
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<td>1.</td>
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<td>13 - 9 = ___</td>
<td>14 - 9 = ___</td>
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<td>16 - 9 = ___</td>
<td>18 - 9 = ___</td>
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<td>5.</td>
<td>16 - ___ = 9</td>
<td>15 - ___ = 9</td>
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<tr>
<td>6.</td>
<td>15 - ___ = 6</td>
<td>11 - ___ = 3</td>
<td>16 - ___ = 7</td>
</tr>
</tbody>
</table>
Name ____________________________ Date ____________

Solve the problems below. Use drawings or number bonds.

a. 14 - 9 = _____  b. 14 - 7 = _____  c. 14 - 8 = _____

d. 16 - 7 = _____  e. 16 - 9 = _____  f. 16 - 8 = _____
Name _________________________________  Date ________________

Complete the number sentences to make them true.

1. 15 - 9 = _____  2. 15 - 8 = _____  3. 15 - 7 = _____

4. 17 - 9 = _____  5. 17 - 8 = _____  6. 17 - 7 = _____

7. 16 - 9 = _____  8. 16 - 8 = _____  9. 16 - 7 = _____

10. 19 - 9 = _____  11. 19 - 8 = _____  12. 19 - 7 = _____

13. Match equal expressions.
   a. 19 - 9    12 - 7
   b. 13 - 8    18 - 8
14. Read the math story. Use a drawing or a number bond to show how you know who is right.

   a. Elsie says that the expressions 17 - 8 and 18 - 9 are equal. John says they are not equal. Who is right?

   b. John says that the expressions 11 - 8 and 12 - 8 are not equal. Elsie says they are. Who is right?

   c. Elsie says to solve 17 - 9, I can take one from 17 and give it to 9 to make 10. So 17 - 9 is equal to 16 - 10. John thinks Elsie made a mistake. Who is correct?

   d. John and Elsie are trying to find several subtraction number sentences that start with numbers larger than 10 and always have an answer of 7. Help them figure out number sentences. They started the first one.

   \[
   16 - 9 = \underline{\hspace{2cm}}
   \]
<table>
<thead>
<tr>
<th>Expression</th>
<th>Value</th>
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