





Lesson 6

Objective: Subtract single-digit numbers from multiples of 10 within 100.

Suggested Lesson Structure

 Fluency Practice	(10 minutes)
 Concept Development	(25 minutes)
 Application Problem	(15 minutes)
 Student Debrief	(10 minutes)



NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

During Fluency Practice, students build on their prior knowledge of place value from Grade 1. Design math centers that use place value materials such as:

- The Rekenrek: Students make ten, add/subtract across ten, or build numbers 11–100.
- Ten-frames: Students do ten-frame flash (with add or take away 1), two more/less, double it.

Total Time (60 minutes)

Fluency Practice (10 minutes)

- One or Two Less **2.NBT.5** (5 minutes)

- Take from Ten **2.OA.2** (2 minutes)
- Take Out Ten **2.OA.2** (3 minutes)

One or Two Less (5 minutes)

Note: Students have been counting up and down across the ten in fluency activities such as Happy Counting since Kindergarten. In this lesson, they extend their knowledge about the change in decades to subtract from multiples of ten.

- T: (Show 20 beads.) How many beads?
S: 20.
T: (Push one bead back.) 1 less than 20 is ...?
S: 19.
T: $20 - 1$ is ...? Tell me the complete number sentence.
S: $20 - 1 = 19$.

Continue with the following possible sequence: 30, 40, 50, 60, 70, 80, 90, 100. Repeat with 2 less.

Take from Ten (2 minutes)

Note: This activity develops the automaticity necessary to subtract fluently from the ten when using the take from ten strategy in Lessons 6, 7, and 8.

- T: When I say $10 - 9$, you say $10 - 9 = 1$. Ready? $10 - 9$.
S: $10 - 9 = 1$.
T: $10 - 5$.
S: $10 - 5 = 5$.

Continue with the following sequence: $10 - 2$, $10 - 4$, $10 - 6$, $10 - 7$, $10 - 3$, and $10 - 8$.

- T: When I say 1, you say 9. Ready? 1.
S: 9.
T: 2.
S: 8.

Continue with the following sequence: 5, 0, 4, 7, 3, 8, 6, and 10.

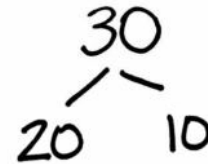
Take Out Ten (3 minutes)

Material: (S) Personal white board

Note: Taking out 10 prepares students for subtracting a single-digit from a two-digit number where there are

not enough ones.

- T: Let's take out 10 from each number. I say 30. You draw a number bond for 30 with parts 20 and 10. Show the ten on the right.
- T: 30. Show me your board.
- S: (Show number bond).
- T: Read the parts from left to right.
- S: 20 and 10.



Continue with the following possible sequence: 50, 40, 60, 80, 70, 90, and 100. If time permits, invite partners to take turns giving each other more practice with numbers between 20 and 100.

Concept Development (25 minutes)

Materials: (S) Personal white board

Part 1: Subtraction of single-digit numbers from 20, 30, 40, 50, 60, 70, 80, and 90 using drawings.

$$10 - 9 = 1$$

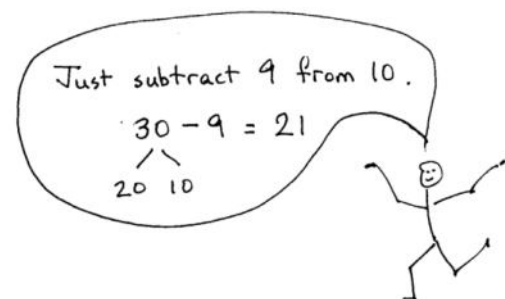


$$20 - 9 = 11$$



$$30 - 9 = 21$$

T:



(Draw a 5-group column.)

- T: $10 - 9$ is ...? (Cross off 9 quickly with one line.)
- S: 1.
- T: (Draw a quick ten to the left of the 5-group column.)
- T: $20 - 9$ is ...?
- S: 11.
- T: Watch. (Write $20 - 9 = \underline{\quad}$, and show a number bond that breaks apart 20 into 10 and 10. Write

$$10 - 9 = 1 \text{ and } 10 + 1 = 11.)$$

- T: Talk to your partner. How do the two number sentences relate to what we showed with our drawing? (Gesture to the picture.)
- S: The 10 minus 9 shows how we took from the ten. □ The 10 and the 1 are the parts that are left. We add them together, so $20 - 9 = 11$. □ It's like Take Out Ten! We broke 20 into 10 and 10, so we could take 9 from the ten. Then we added what was left.
- T: (Draw another quick ten, as shown.)
- T: $30 - 9$ is ...?
- S: 21.
- T: Explain to your partner how $10 - 9$ helps us to solve $30 - 9$.
- S: They're the same, but 30 has 2 more tens. □ 10 is inside 30 so you take from the ten. □ I know 30 is $20 + 10$ and $10 - 9$ is 1, so then I added 20 and 1.
- T: Yes! Knowing our partners of ten makes that easy! You noticed we always took from ten. After that, we put the parts that are left together.

Part 2: Subtraction of single-digit numbers from 20, 30, 40, 50, 60, 70, 80, and 90 without drawings.

Note: Following Part 1's work with the teacher drawing quick tens, model the use of just the number bond to solve. However, give students the option to draw.

- T: Watch. (Write $40 - 9 = \underline{\quad}$ with a number bond breaking apart 40 into 30 and 10.)
- T: What is the first step to solve?
- S: Take from 10.
- T: Give me the number sentence to take from ten.
- S: $10 - 9 = 1$.
- T: (Write $10 - 9 = 1$.) What is the next step?
- S: Add the parts that are left.
- T: Give me the number sentence.
- S: $30 + 1 = 31$.
- T: (Write $30 + 1 = 31$.)

$ \begin{array}{r} 40 - 9 = 31 \\ / \quad \backslash \\ 30 \quad 10 \\ \quad 10 - 9 = 1 \\ \quad 30 + 1 = 31 \end{array} $
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Give students a variety of problems from simple to complex. Encourage them to solve without the quick ten and 5-group column. Use this possible sequence:

$$20 - 5$$

$$60 - 5$$

$$30 - 5$$

$$70 - 5$$

$$40 - 9$$

$$80 - 6$$

$$50 - 9$$

$$80 - 6$$

$100 - 8$

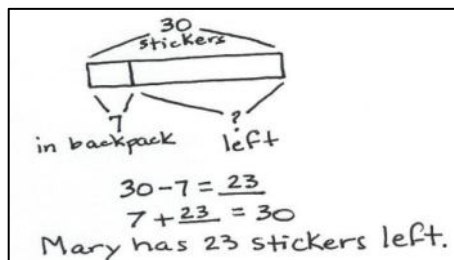
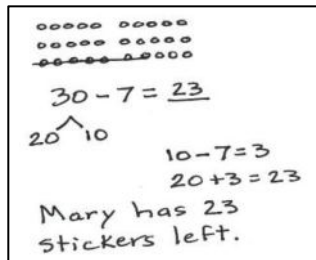
$100 - 7$

Allow time for students to work on their personal white boards so that they practice many problems. As students demonstrate proficiency, allow them to work on the Problem Set.

Application Problem (15 minutes)

Note: This Application Problem follows the Concept Development to allow students to apply their understanding to a *take from result unknown* problem. The allotted 15 minutes includes 5 minutes to solve the Application Problem and 10 minutes to complete the Problem Set.

Mary buys 30 stickers. She puts 7 in her friend's backpack. How many stickers does Mary have left?



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.

Student Debrief (10 minutes)

Lesson Objective: Subtract single-digit numbers from multiples of 10 within 100.

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.

Name Tarick Date _____

1. Solve.

a. $20 - 9 = \underline{11}$ $\begin{array}{r} 20 \\ -9 \\ \hline 11 \end{array}$ $10 - 9 = 1$ $10 + 1 = 11$	b. $30 - 9 = \underline{21}$ $\begin{array}{r} 30 \\ -9 \\ \hline 21 \end{array}$ $10 - 9 = 1$ $20 + 1 = 21$
c. $20 - 8 = \underline{12}$ $\begin{array}{r} 20 \\ -8 \\ \hline 12 \end{array}$ $10 - 8 = 2$ $10 + 2 = 12$	d. $30 - 7 = \underline{23}$ $\begin{array}{r} 30 \\ -7 \\ \hline 23 \end{array}$ $10 - 7 = 3$ $20 + 3 = 23$
e. $40 - 7 = \underline{33}$ $\begin{array}{r} 40 \\ -7 \\ \hline 33 \end{array}$ $10 - 7 = 3$ $30 + 3 = 33$	f. $50 - 6 = \underline{44}$ $\begin{array}{r} 50 \\ -6 \\ \hline 44 \end{array}$ $10 - 6 = 4$ $40 + 4 = 44$
g. $80 - 6 = \underline{74}$ $\begin{array}{r} 80 \\ -6 \\ \hline 74 \end{array}$ $10 - 6 = 4$ $70 + 4 = 74$	h. $90 - 5 = \underline{85}$ $\begin{array}{r} 90 \\ -5 \\ \hline 85 \end{array}$ $10 - 5 = 5$ $80 + 5 = 85$

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

MP.7

- Explain how you solved Problem 1(b).
- How did number bonds help you solve our subtraction problems today?
- Can you figure out the goal of today's lesson? What name would you give our lesson today?
- Do you think you could teach what you learned to someone else? How?

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.

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 6 Problem Set 2•1

i. $70 - 4 = 66$ $\begin{array}{r} 70 \\ - 4 \\ \hline 66 \end{array}$ $10 - 4 = 6$ $60 + 6 = 66$	j. $60 - 2 = 58$ $\begin{array}{r} 60 \\ - 2 \\ \hline 58 \end{array}$ $10 - 2 = 8$ $50 + 8 = 58$
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2. Fill in the number bond and solve.

$$\begin{array}{r} 90 - 9 = 81 \\ \begin{array}{r} 90 \\ - 9 \\ \hline 81 \end{array} \end{array}$$

$10 - 9 = 1$
 $80 + 1 = 81$

3. Show how $10 - 6$ helps you solve $50 - 6$.

$$\begin{array}{r} 10 - 6 = 4 \\ 50 - 6 = 44 \\ \begin{array}{r} 50 \\ - 6 \\ \hline 44 \end{array} \end{array}$$

$10 - 6 = 4$
 $40 + 4 = 44$

I know $10 - 6 = 4$. I can take out 10 from 50 and subtract 6 from 10. Then I can add what is left, 40 + 4 to get 44.

4. Carla has 70 paper clips. She gives 6 away. How many paper clips does Carla have left?

$$\begin{array}{r} 70 - 6 = 64 \\ \begin{array}{r} 70 \\ - 6 \\ \hline 64 \end{array} \end{array}$$

$10 - 6 = 4$
 $60 + 4 = 64$

Carla has 64 paper clips left.

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Lesson 6: Subtract single-digit numbers from multiples of 10 within 100.
 Date: 3/3/15

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Name _____

Date _____

1. Solve.

a. $20 - 9 = \underline{\quad}$

$$\begin{array}{r} / \backslash \\ 10 \quad 10 \end{array}$$

$10 - 9 = 1$

$10 + 1 = 11$

b. $30 - 9 = \underline{\quad}$

c. $20 - 8 = \underline{\quad}$

d. $30 - 7 = \underline{\quad}$

e. $40 - 7 = \underline{\quad}$

f. $50 - 6 = \underline{\quad}$

g. $80 - 6 = \underline{\quad}$

h. $90 - 5 = \underline{\quad}$

i. $70 - 4 = \underline{\quad}$

j. $60 - 2 = \underline{\quad}$

2. Fill in the number bond and solve.

$$\begin{array}{r} 90 - 9 = \underline{\quad} \\ \diagup \quad \diagdown \\ \underline{\quad} \quad \underline{\quad} \end{array}$$

3. Show how $10 - 6$ helps you solve $50 - 6$.

4. Carla has 70 paper clips.

She gives 6 away.

How many paper clips does Carla have left?

Carla has _____ paper clips left.

Name _____

Date _____

Solve.

1. $70 - 4 = \underline{\hspace{2cm}}$

2. $60 - 3 = \underline{\hspace{2cm}}$

Name _____

Date _____

1. Take out ten.

$\begin{array}{r} 30 \\ / \backslash \\ 20 \quad 10 \end{array}$	40	50
70	60	80

2. Solve.

$10 - 1 = \underline{\hspace{2cm}}$	$10 - 4 = \underline{\hspace{2cm}}$	$10 - 9 = \underline{\hspace{2cm}}$
$10 - 7 = \underline{\hspace{2cm}}$	$10 - 2 = \underline{\hspace{2cm}}$	$10 - 5 = \underline{\hspace{2cm}}$

3. Solve.

<p>a. $20 - 9 = \underline{11}$</p> $\begin{array}{r} / \backslash \\ 10 \quad 10 \end{array}$ <p>$10 - 9 = 1$ $10 + 1 = 11$</p>	<p>b. $30 - 9 = \underline{\hspace{2cm}}$</p>
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c. $40 - 8 = \underline{\quad}$

d. $50 - 8 = \underline{\quad}$

e. $60 - 7 = \underline{\quad}$

f. $70 - 7 = \underline{\quad}$

g. $80 - 6 = \underline{\quad}$

h. $90 - 5 = \underline{\quad}$

4. Show how $10 - 4$ helps you solve $30 - 4$.