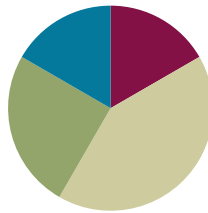


Lesson 7

Objective: Take from 10 within 20.

Suggested Lesson Structure

| | |
|-----------------------|---------------------|
| ■ Fluency Practice | (10 minutes) |
| ■ Concept Development | (25 minutes) |
| ■ Application Problem | (15 minutes) |
| ■ Student Debrief | (10 minutes) |
| Total Time | (60 minutes) |



Fluency Practice (10 minutes)

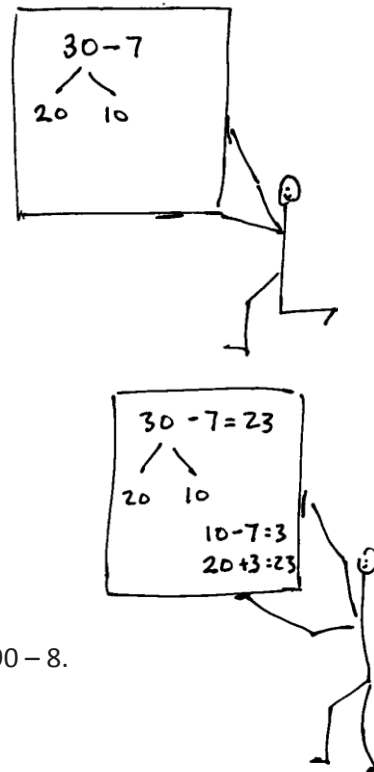
- Take Out Ten and Subtract **2.NBT.5** (10 minutes)

Take Out Ten and Subtract (10 minutes)

Materials: (S) Personal white board

Note: Taking out ten reviews subtracting a single digit from a two-digit multiple of ten ones.

- T: Write $30 - 7$ on your boards.
 T: Let's take out 10 from 30 using a number bond. Show the ten on the right.
 T: Show me your board.
 S: (Show number bond.)
 T: Read the parts from left to right.
 S: 20 and 10.
 T: $10 - 7$ is ...?
 S: 3.
 T: $20 + 3$ is ...?
 S: 23.
 T: So, $30 - 7$ is ...?
 S: 23.

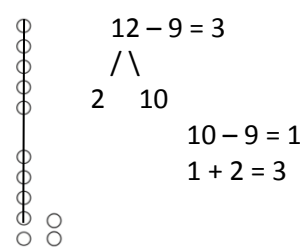
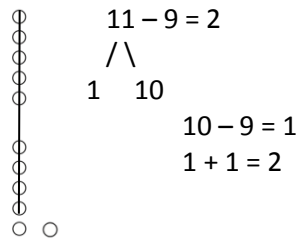
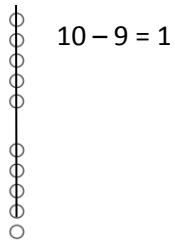


Continue with the following possible sequence: $40 - 7$, $50 - 5$, $70 - 5$, $80 - 8$, $90 - 8$.

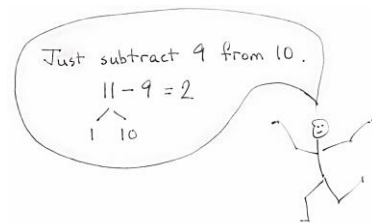
Concept Development (25 minutes)

Materials: (S) Personal white board

Part 1: Subtraction of single-digit numbers from teen numbers using drawings.



- T: (Draw a 5-group column.)
- T: $10 - 9$ is ...? (Cross off 9 all at once.)
- S: 1.
- T: (Draw a one to the right of the 5-group column, as shown above, to model eleven.)
- T: $11 - 9$ is ...?
- S: 2.
- T: Watch. (Write $11 - 9 = \underline{\quad}$. Then show a number bond that breaks apart 11 into 1 and 10. Write $10 - 9 = 1$ and $1 + 1 = 2$.)
- T: Talk to your partner. How do the two number sentences relate to what we drew? (Gesture to the picture.)
- S: The 10 minus 9 shows how we took from the ten.
 - We put together the parts that are left, the 1 and 1.
 - It's like Take Out Ten! We broke 11 into 1 and 10, so we could take 9 from ten. Then, we added the one.
- T: (Draw another one, as shown above in the third image, to model 12.)
- T: $12 - 9$ is...?
- S: 3.
- T: (Write $12 - 9 = 3$. Then, show a number bond that breaks apart 12 into 2 and 10. Write $10 - 9 = 1$ and $1 + 2 = 3$.)
- T: Explain to your partner how $10 - 9$ helps us to solve $12 - 9$.
- S: $10 - 9 = 1$ is an easier problem because I know my partners to ten. $1 + 2$ is super easy! → 12 just has 2 more ones than 10, so the answer is just 2 more than $10 - 9$.
- T: Yes! Knowing our partners of ten makes that easier! You noticed we always took from ten. After that, we put the parts that are left together.



NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

As students become proficient with making an easier problem, they may use alternate methods to solve. Accept any mathematically reasonable strategy. For example, to solve $13 - 8$, students may think $13 - 3 = 10$ and $10 - 5 = 5$. Another strategy is to count on by thinking $8 + \underline{\quad} = 13$. $8 + 2 = 10$ and $10 + 3 = 13$, so $2 + 3 = 5$. Encourage students to share their thinking with the class.

Part 2: Subtraction of single-digit numbers from teen numbers without drawings.

Note: Following Part 1’s work with drawing the 5-group column, model the use of just the number bond to solve. However, give students the option to draw or use their fingers.

T: Watch how I solve without a drawing. (Write $12 - 9 = \underline{\quad}$ with a number bond breaking apart 12 into 2 and 10.)

$$\begin{array}{r}
 12 - 9 = \underline{\quad} \\
 / \quad \backslash \\
 2 \quad 10 \\
 \\
 10 - 9 = 1 \\
 1 + 2 = 3
 \end{array}$$

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: $1 + 2 = 3$.

T: (Write $1 + 2 = 3$.)

T: We can do this another way! Show me 12 fingers.

S: We only have 10.

T: Put 2 pretend fingers in your mind.

S: Okay!

T: Let’s subtract $12 - 9$.

T: Take 9 from your real fingers all at once.

S: (Put down 9 fingers.)

T: How many fingers are left?

S: 1 finger.

T: You forgot about your pretend fingers! We are solving $12 - 9$, not $10 - 9$.

S: Oops! 3 fingers.

T: So, what is $12 - 9$? Say the complete number sentence.

S: $12 - 9 = 3$.



10 fingers..... 2 pretend fingers



1 finger..... 2 pretend fingers

Repeat the process using the following suggested sequence: $12 - 8$, $11 - 5$, $13 - 6$, and $11 - 7$. Using personal white boards, students record solutions with number bonds. Allow them to use pretend fingers, if needed.



**NOTES ON
MULTIPLE MEANS
OF REPRESENTATION:**

Students working below grade level might use ten-sticks of linking cubes or drawings of 5-groups to assist in understanding the take from ten strategy. To bridge back to solving numerically, encourage students to visualize to avoid overdependence on the models.

Application Problem (15 minutes)

Ricardo gave 5 tacos to his sister. He started with 13. How many tacos does Ricardo have left?

Handwritten student work showing base ten blocks representing 13 (one ten rod and three ones units) and 5 (five ones units). The equation $13 - 5 = 8$ is written, with the answer 8 boxed. Below it, the text reads "Ricardo has 8 tacos left."

Handwritten student work showing a ten frame with 13 tacos (5 in the first column, 8 in the second, with a question mark above the second column). The text "gave to sister" is written under the 5, and "left" is written under the 8. To the right, the equation $13 - 5 = 8$ is written with a ten frame showing the decomposition of 13 into 10 and 3. Below this, the equations $10 - 5 = 5$ and $3 + 5 = 8$ are written. At the bottom, it says "Ricardo has 8 tacos left."

MP.5

Note: This *take from change unknown* problem provides practice in recognizing that the missing part can be found by subtracting or adding on. A flexible understanding of the relationship of addition to subtraction and parts to totals is also necessary to use Level 3 strategies. The allotted time period of 15 minutes includes 5 minutes to solve the Application Problem and 10 minutes to complete the Problem Set.

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: Take from ten within 20.

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.

A grid of 9 subtraction problems (a-i) with handwritten student solutions using the RDW method. Each problem is solved by decomposing the minuend into a ten and a ones unit, subtracting the subtrahend from the ten, and then adding the remaining ones unit to the result.

| | | |
|---|---|---|
| a. $11 - 9 = 2$ $\begin{array}{r} 11 \\ \wedge \\ 1 \ 10 \\ 10 - 9 = 1 \\ 1 + 1 = 2 \end{array}$ | b. $12 - 9 = 3$ $\begin{array}{r} 12 \\ \wedge \\ 2 \ 10 \\ 10 - 9 = 1 \\ 2 + 1 = 3 \end{array}$ | c. $13 - 9 = 4$ $\begin{array}{r} 13 \\ \wedge \\ 3 \ 10 \\ 10 - 9 = 1 \\ 3 + 1 = 4 \end{array}$ |
| d. $11 - 8 = 3$ $\begin{array}{r} 11 \\ \wedge \\ 1 \ 10 \\ 10 - 8 = 2 \\ 1 + 2 = 3 \end{array}$ | e. $12 - 8 = 4$ $\begin{array}{r} 12 \\ \wedge \\ 2 \ 10 \\ 10 - 8 = 2 \\ 2 + 2 = 4 \end{array}$ | f. $13 - 8 = 5$ $\begin{array}{r} 13 \\ \wedge \\ 3 \ 10 \\ 10 - 8 = 2 \\ 3 + 2 = 5 \end{array}$ |
| g. $11 - 7 = 4$ $\begin{array}{r} 11 \\ \wedge \\ 1 \ 10 \\ 10 - 7 = 3 \\ 1 + 3 = 4 \end{array}$ | h. $12 - 7 = 5$ $\begin{array}{r} 12 \\ \wedge \\ 2 \ 10 \\ 10 - 7 = 3 \\ 2 + 3 = 5 \end{array}$ | i. $13 - 7 = 6$ $\begin{array}{r} 13 \\ \wedge \\ 3 \ 10 \\ 10 - 7 = 3 \\ 3 + 3 = 6 \end{array}$ |

EUREKA MATH Lesson 7: Take from 10 within 20. engage^{ny} 6

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

- Look at Problem 1. What patterns do you see?
- Look at Problem 2(a). How does knowing your partners of 10 help you solve both $14 - 8$ and $14 + 8$?
- What do you have to know to be able to use the take from ten strategy?
- What do you think the math goal of this lesson was? What would be a good name for this lesson?

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.

Lesson 7 Problem Set 2•1

2. Solve.

| | | |
|---|---|---|
| <p>a.</p> $\begin{array}{r} 14 - 6 = 8 \\ \begin{array}{r} 4 \\ \hline 10 \end{array} \end{array}$ $10 - 6 = 4$ $4 + 4 = 8$ | <p>b.</p> $\begin{array}{r} 11 - 5 = 6 \\ \begin{array}{r} 1 \\ \hline 10 \end{array} \end{array}$ $10 - 5 = 5$ $1 + 5 = 6$ | <p>c.</p> $\begin{array}{r} 16 - 7 = 9 \\ \begin{array}{r} 6 \\ \hline 10 \end{array} \end{array}$ $10 - 7 = 3$ $6 + 3 = 9$ |
|---|---|---|

Solve.

3. Shane has 12 pencils. He gave some pencils to his friends. Now, he has 7 left. How many pencils did he give away?

$$12 - \underline{\quad} = 7$$

$$\begin{array}{r} 12 - 7 = 5 \\ \begin{array}{r} 2 \\ \hline 10 \end{array} \end{array}$$

$$10 - 7 = 3$$

$$2 + 3 = 5$$

Shane gave away 5 pencils.

4. Victoria gave 6 celery sticks to her mom. She started with 13. How many celery sticks does she have left?

$$13 - 6 = 7$$

$$\begin{array}{r} 13 - 6 = 7 \\ \begin{array}{r} 3 \\ \hline 10 \end{array} \end{array}$$

$$10 - 6 = 4$$

$$3 + 4 = 7$$

Victoria has 7 celery sticks left.

Lesson 7: Take from 10 within 20.
 Date: 2/2/15

Name _____

Date _____

1. Solve.

| | | |
|--|------------------------------------|------------------------------------|
| a. $11 - 9 = \underline{\quad}$ \wedge 1 10 | b. $12 - 9 = \underline{\quad}$ | c. $13 - 9 = \underline{\quad}$ |
| d. $11 - 8 = \underline{\quad}$ | e. $12 - 8 = \underline{\quad}$ | f. $13 - 8 = \underline{\quad}$ |
| g. $11 - 7 = \underline{\quad}$ | h. $12 - 7 = \underline{\quad}$ | i. $13 - 7 = \underline{\quad}$ |

2. Solve.

| | | |
|------------------------------------|------------------------------------|------------------------------------|
| a. $14 - 6 = \underline{\quad}$ | b. $11 - 5 = \underline{\quad}$ | c. $16 - 7 = \underline{\quad}$ |
|------------------------------------|------------------------------------|------------------------------------|

Solve.

3. Shane has 12 pencils. He gives some pencils to his friends. Now, he has 7 left. How many pencils did he give away?

4. Victoria gave 6 celery sticks to her mom. She started with 13. How many celery sticks does she have left?

Name _____

Date _____

Solve.

1.

$15 - 7 = \underline{\quad}$

2.

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

Name _____

Date _____

1. Take out ten.

| | | |
|---|----|----|
| $\begin{array}{r} 17 \\ / \backslash \\ 7 \ 10 \end{array}$ | 14 | 18 |
| 13 | 16 | 19 |

2. Solve.

| | | |
|------------------------------|------------------------------|------------------------------|
| $10 - 2 = \underline{\quad}$ | $10 - 7 = \underline{\quad}$ | $10 - 6 = \underline{\quad}$ |
| $10 - 5 = \underline{\quad}$ | $10 - 8 = \underline{\quad}$ | $10 - 9 = \underline{\quad}$ |

3. Solve.

| | |
|--|---|
| <p>a. $14 - 9 = \underline{\quad}$</p> $\begin{array}{r} / \backslash \\ 4 \ 10 \end{array}$ <p style="text-align: center;">$10 - 9 = 1$</p> <p style="text-align: center;">$1 + 4 = \underline{\quad}$</p> | <p>b. $15 - 8 = \underline{\quad}$</p> |
| <p>c. $13 - 7 = \underline{\quad}$</p> | <p>d. $12 - 8 = \underline{\quad}$</p> |

Solve.

4. Robert has 16 cups. Some are red. Nine are blue. How many cups are red?

_____ cups are red.

5. Lucy spent \$8 on a game. She started with \$14. How much money does Lucy have left?
