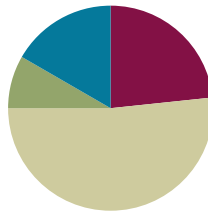# Lesson 8

## Objective:  Take from 10 within 100.

## Suggested Lesson Structure

- ■ Fluency Practice          (12 minutes)
- ■ Concept Development     (23 minutes)
- ■ Application Problem       (15 minutes)
- ■ Student Debrief            (10 minutes)

   **Total Time**               **(60 minutes)**

### Fluency Practice  (12 minutes)

- ▪ Take from a Ten or Take from the Ones  **2.OA.2**          (2 minutes)
- ▪ Take Out Ten and Subtract  **2.NBT.5**                      (10 minutes)

### Take from a Ten or Take from the Ones  (2 minutes)

Note:  This fluency activity draws attention to the fact that when there are not enough ones to subtract, students must take from a ten.

- T:  This time, tell me if I take from a ten or take from the ones.  When I say $13 - 2$, you say "take from the ones" since 3 ones – 2 ones = 1 one.
- T:  But if I say $13 - 9$, you say "take from a ten" since 3 ones – 9 ones is work for Grade 6 not Grade 2.  Ready?
- T:  $24 - 1$.
- S:  Take from the ones.
- T:  $24 - 9$.
- S:  Take from a ten.

Continue with the following suggested sequence:  $16 - 2$, $32 - 1$, $21 - 9$, $15 - 6$, $16 - 6$, $18 - 8$, $13 - 8$.

## 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.
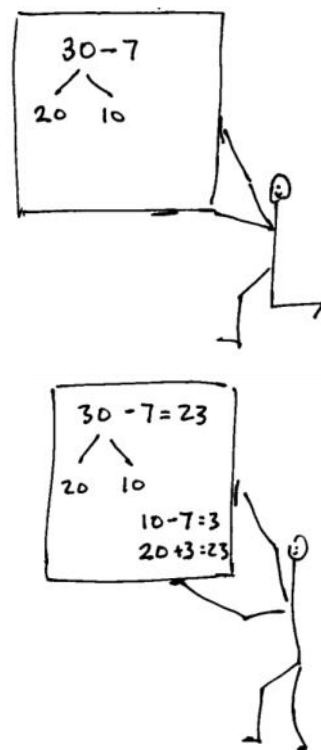- S:  20 and 10.
- T:  10 – 7 is …?
- S:  3.
- T:  20 + 3 is …?
- S:  23.
- T:  So, 30 – 7 is …?
- S:  23.

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

## Concept Development  (23 minutes)

Materials:  (S) Personal white board

Note:  In this lesson, students continue working with the take from ten strategy at the abstract level, using number bonds without the support of pretend fingers.

- T:  (Project and read aloud.)  Jacob has 13 bouncy balls. He gives 8 of them to his friend Pete.  How many bouncy balls does Jacob have left?
- T:  Take a moment to solve.  (Pause.)  Talk with your partner. What number sentence could you use to solve?
- S:  8 + 5 = 13.  →  13 – 8 = 5.
- T:  What strategy did you use to solve.
- S:  I counted on from 8.  →  I used pretend fingers. →  I used a number bond and take from ten.
- T:  If you didn't already, work with your partner to solve using the take from ten strategy.  Record your work on your personal white board.

> **NOTES ON MULTIPLE MEANS OF ENGAGEMENT:**
>
> As in Lesson 7, students may draw or use concrete materials to solve.  Take from ten is readily demonstrated on the Rekenrek or with 5-group rows as pictured below.  By alternating between using materials and visualizing, students may come to trust their thinking and find they can both understand and solve numerically.
>
>
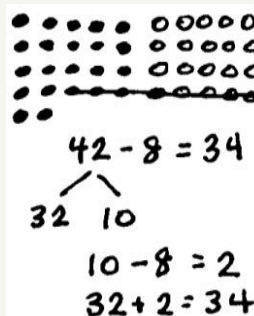
T: (Show correct student work.)  Explain how you used the take from ten strategy to solve.

S: I used a number bond to break 13 into 3 and 10.  Then I wrote $10 - 8 = 2$, and $2 + 3 = 5$, so $13 - 8 = 5$.

T: Let's return to our story.  What does this 5 mean in our story of Jacob and Pete?

S: Jacob has 5 bouncy balls left!

T: Let's pretend Jacob has 23 bouncy balls and shares 8 with Pete.  Work with your partner to see how many balls Jacob has left.  Record your work on your personal white board.

T: How did you solve?

| | | |
|---|---|---|
| $13 - 8 = 5$<br>∧<br>3  10<br>   $10 - 8 = 2$<br>   $3 + 2 = 5$ | $23 - 8 = $ ___<br>∧<br>13  10<br>   $10 - 8 = 2$<br>   $13 + 2 = 15$ | $43 - 8 = $ ___<br>∧<br>33  10<br>   $10 - 8 = 2$<br>   $33 + 2 = 35$ |

S: I used a number bond to break 23 into 13 and 10.  Then I wrote $10 - 8 = 2$, and $13 + 2 = 15$, so $23 - 8 = 15$.

T: Now solve $43 - 8$.  Work with your partner to solve using the take from ten strategy.  Record your work on your personal white board.

Continue with the following sequence:  $15 - 7$, $25 - 7$, $55 - 7$ and $14 - 9$, $24 - 9$, $64 - 9$.

T: Turn and talk to your partner.  What patterns did you notice when solving these problems?

S: I always took out the ten from the total and subtracted.  → Every time I subtracted 8 from ten I got 2 ones.  → I could make an easier problem with the parts that were left, like $33 + 2 = 35$.

T: Is taking from ten and adding the parts that are left a pattern?  Talk to your partner.

**MP.8**

S: No, because a pattern is something you have to see.  → Yes!  I remember we found patterns when we were learning our addition facts in first grade.  → And when we make ten, that is a pattern, too.  We just do the same thing over and over again!

T: Yes, a pattern can be something you see, but it's also something we do again and again.  We have a pattern here of taking from ten and adding the parts that are left to make an easier problem!

**NOTES ON MP.8:**

Students may say that there are patterns because they see a number bond or addition symbol in each problem.  Help students distinguish between the object (e.g., the bond or symbol) and the action (e.g., taking apart or putting together).  When communicating about MP.8, be sure that students realize that a set of actions can be a pattern, as is demonstrated in the vignette.  This is an important bridge to understanding multi-step processes such as the algorithms.

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Lesson 8:     Take from 10 within 100.

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## Application Problem  (15 minutes)

Emma has 45 pencils.  Eight pencils are sharpened.  How many pencils are not sharpened?
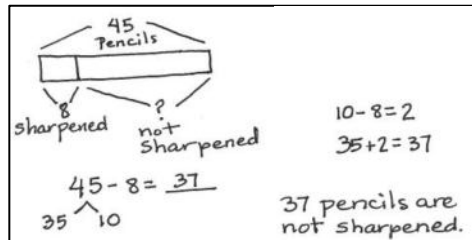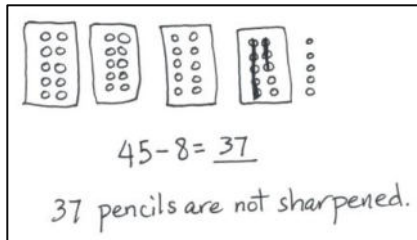


Note:  This *take apart addend unknown* problem provides practice decomposing to subtract from a ten.  The allotted time period includes 5 minutes to solve the Application Problem and 10 minutes to complete the Problem Set.

## 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 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.

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

- Look at Problem 1.  What patterns do you see?  What did you do to solve?
- How did you solve Problem 2?
- 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.

2. Solve.

a.
$24 - 9 = \underline{15}$
14   10

$10 - 9 = 1$
$14 + 1 = 15$

b.
$36 - 7 = \underline{29}$
26   10

$10 - 7 = 3$
$26 + 3 = 29$

c.
$53 - 6 = \underline{47}$
43   10

$10 - 6 = 4$
$43 + 4 = 47$

d.
$42 - 8 = \underline{34}$
32   10

$10 - 8 = 2$
$32 + 2 = 34$

e.
$61 - 5 = \underline{56}$
51   10

$10 - 5 = 5$
$51 + 5 = 56$

f.
$85 - 8 = \underline{77}$
75   10

$10 - 8 = 2$
$75 + 2 = 77$

3. Mrs. Watts has 17 tacos. The children ate some. Nine tacos are left. How many tacos did the children eat?

$17 - \underline{\phantom{xx}} = 9$

$17 - 9 = \underline{8}$
7   10

$10 - 9 = 1$
$7 + 1 = 8$

The children ate 8 tacos.

17 tacos
? | 9
children ate | left

Name _____ Date _____

1. Solve.

| a. 12 – 9 = _____  /\  2   10 | b. 22 – 9 = _____ | c. 42 – 9 = _____ |
|---|---|---|
| d. 13 – 8 = _____ | e. 23 – 8 = _____ | f. 53 – 8 = _____ |
| g. 14 – 6 = _____ | h. 24 – 6 = _____ | i. 84 – 6 = _____ |

2. Solve.

| | | |
|---|---|---|
| a.<br><br>24 – 9 = _____ | b.<br><br>36 – 7 = _____ | c.<br><br>53 – 6 = _____ |
| d.<br><br>42 – 8 = _____ | e.<br><br>61 – 5 = _____ | f.<br><br>85 – 8 = _____ |

3. Mrs. Watts had 17 tacos.  The children ate some.  Nine tacos were left.  How many tacos did the children eat?

_____

Name _____ Date _____

Solve.

| 1. $21 - 9 = $ _____ | 2. $34 - 8 = $ _____ | 3. $82 - 7 = $ _____ |
|---|---|---|
| | | |

Name _____ Date _____

1. Take out ten.

| 26<br>/ \\<br>16   10 | 34 | 58 |
|---|---|---|
| 85 | 77 | 96 |

2. Solve.

| 10 – 1 = _____ | 10 – 5 = _____ | 10 – 2 = _____ |
|---|---|---|
| 10 – 4 = _____ | 10 – 7 = _____ | 10 – 8 = _____ |

3. Solve.

| a.<br><br>13 – 7 = _____ | b.<br><br>15 – 8 = _____ |
|---|---|
| c.<br><br>14 – 6 = _____ | d.<br><br>16 – 9 = _____ |

| e.<br><br>42 – 7 = _____ | f.<br><br>54 – 6 = _____ |
| --- | --- |
| g.<br><br>71 – 5 = _____ | h.<br><br>92 – 9 = _____ |

4. Emma has 16 markers. She gave Jack some. Seven markers are left. How many markers did Emma give Jack?

_____