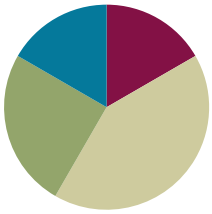
Lesson 7

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)

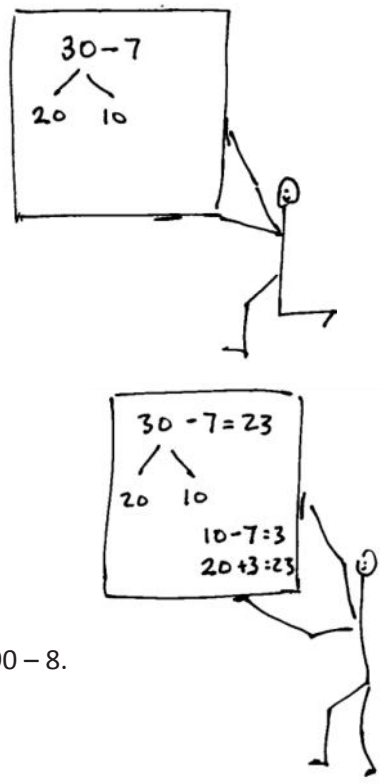
- Take Out Ten and Subtract **2.NBT.5** (10 minutes)

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.

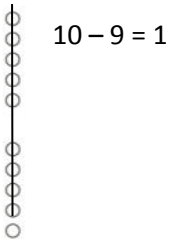


Continue with the following possible sequence: 40 – 7, 50 – 5, 70 – 5, 80 – 8, 90 – 8.

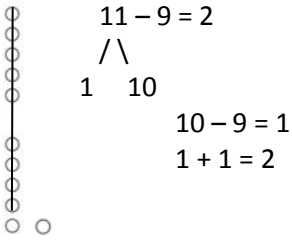
Concept Development (25 minutes)

Materials: (S) Personal white board

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

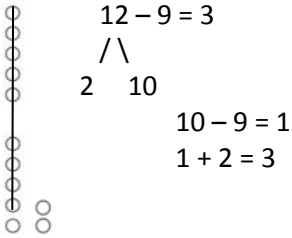


10 – 9 = 1



11 – 9 = 2
/ \
1 10

10 – 9 = 1
1 + 1 = 2



12 – 9 = 3
/ \
2 10

10 – 9 = 1
1 + 2 = 3

T: (Draw a 5-group column.)

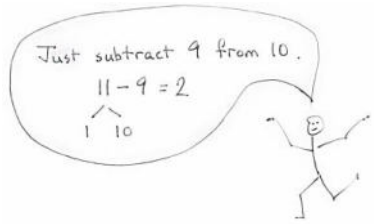
T: 10 – 9 is …? (Cross off 9 all at once.)

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 = ____. 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 + ___ = 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 = ___ with a number bond breaking apart 12 into 2 and 10.)

12 – 9 = ___
/ \
2 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.

10 – 9 = 1
1 + 2 = 3

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

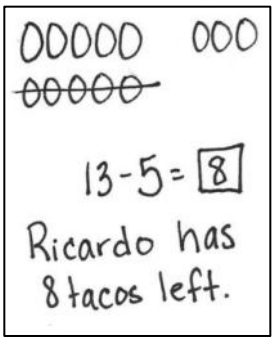
Repeat the process using the following suggested sequence: 12 – 8, 11 – 5, 13 – 6, and 11 – 7. Using personal white boards, students record solutions with number bonds. Allow them to use pretend fingers, if needed.

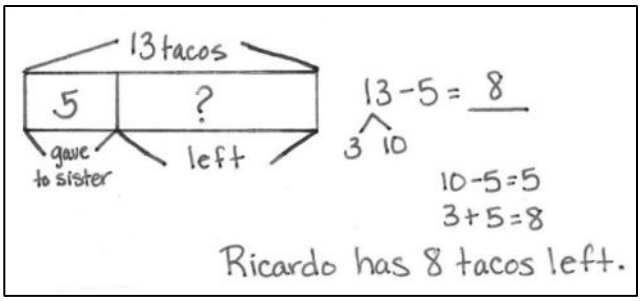
NOTES ON MULTIPLE MEANS OF REPRESENTATION:

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?



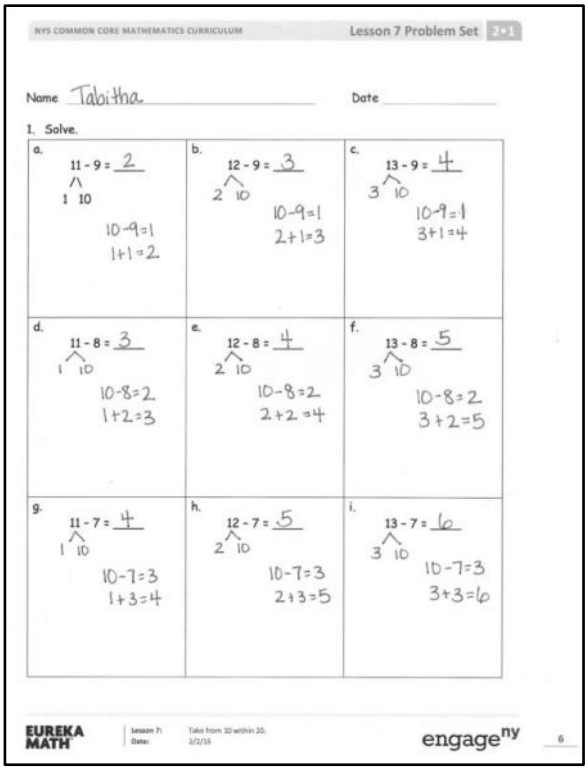


MP.5

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.

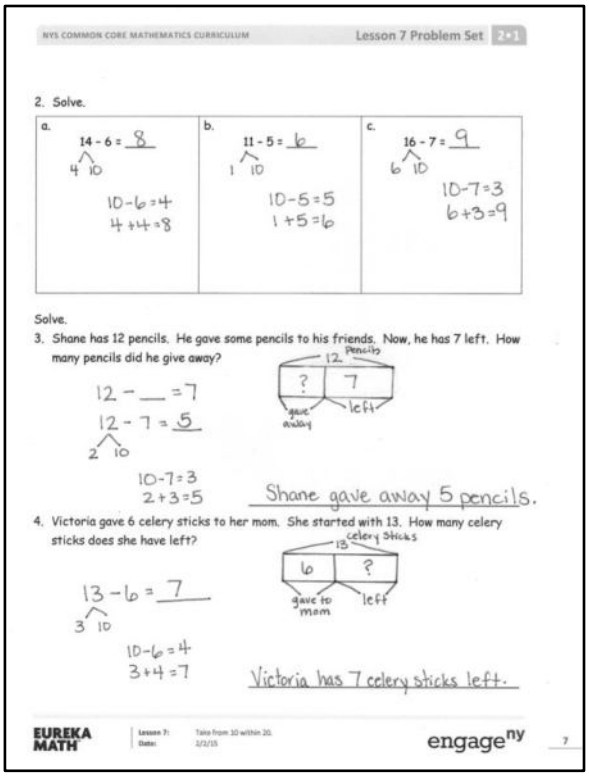
Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

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.



NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 7 Problem Set 2•1

2. Solve.

a. 14 - 6 = 8 (4, 10) 10-6=4 4+4=8

b. 11 - 5 = 6 (1, 10) 10-5=5 1+5=6

c. 16 - 7 = 9 (6, 10) 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 - ___ = 7

12 - 7 = 5 (2, 10) 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 (3, 10) 10-6=4 3+4=7

Victoria has 7 celery sticks left.

EUREKA MATH Lesson 7: Take from 10 within 20. 2/2/15 engage^ny 7

Name _____ Date _____

1. Solve.

a. 11 – 9 = ____ /\ 1 10	b. 12 – 9 = ____	c. 13 – 9 = ____
d. 11 – 8 = ____	e. 12 – 8 = ____	f. 13 – 8 = ____
g. 11 – 7 = ____	h. 12 – 7 = ____	i. 13 – 7 = ____

2. Solve.

a.	b.	c.
14 – 6 = _____	11 – 5 = _____	16 – 7 = _____

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.	2.
15 – 7 = _____	14 – 6 = _____

Name _____ Date _____

1. Take out ten.

17 / \ 7 10	14	18
13	16	19

2. Solve.

10 – 2 = _____	10 – 7 = _____	10 – 6 = _____
10 – 5 = _____	10 – 8 = _____	10 – 9 = _____

3. Solve.

a. 14 – 9 = _____ /\ 4 10 10 – 9 = 1 1 + 4 = _____	b. 15 – 8 = _____
c. 13 – 7 = _____	d. 12 – 8 = _____

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?