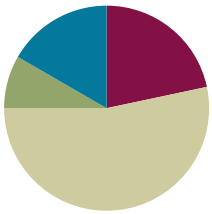
Lesson 10

Objective: Add and subtract multiples of 10 from multiples of 10 to 100, including dimes.

Suggested Lesson Structure

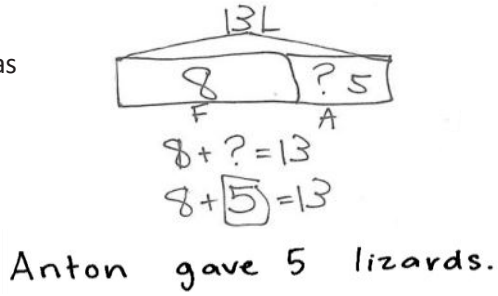


Application Problem	(5 minutes)
Fluency Practice	(13 minutes)
Concept Development	(32 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

Application Problem (5 minutes)

Fran had 8 lizards. Anton gave some lizards to Fran. Fran now has 13 lizards. How many lizards did Anton give Fran?

Note: Today's problem is an *add to with change unknown* problem type. Some students may use a double tape diagram to solve, while others may choose to use a single tape diagram to solve.



Fluency Practice (13 minutes)

- Core Fluency Differentiated Practice Sets **1.OA.6** (5 minutes)
- Race to the Top! **1.OA.6** (5 minutes)
- Get to Ten(s) **1.NBT.4** (3 minutes)

Core Fluency Differentiated Practice Sets (5 minutes)

Materials: (S) Core Fluency Practice Sets (Lesson 1)

Note: Give the appropriate Practice Set to each student. Students who completed all questions correctly on their most recent Practice Set should be given the next level of difficulty. All other students should try to improve their scores on their current levels.

Students complete as many problems as they can in 90 seconds. Assign a counting pattern and start number for early finishers, or have them practice make ten addition or subtraction on the back of their papers. Collect and correct any Practice Sets completed within the allotted time.

Race to the Top! (5 minutes)

Materials: (S) Personal white board, Race to the Top! (Fluency Template), 2 dice per pair of students

Note: This fluency activity primarily targets the core fluency for Grade 1. Remember to closely monitor the strategies of students who are not performing well on the Practice Sets or Sprints. For students whose fine motor skills are not well developed, activities like Race to the Top! allow them to demonstrate their growing fluency.

Assign partners. Students take turns rolling the dice, saying an addition sentence, and recording the sums on the graph. The game ends when time runs out or one of the columns reaches the top of the graph.

Get to Ten(s) (3 minutes)

Materials: (T) 100-bead Rekenrek

Note: In this fluency activity, students apply their knowledge of partners to ten to find analogous partners to multiples of 10. Students need this skill when they learn to apply the make ten strategy to add two two-digit numbers in Lesson 13.

Model with the Rekenrek for the first few problems. Then, put the Rekenrek away to give students practice mentally getting to the next ten.

T: (Show 9.) Say the number.
S: 9.
T: Say the number sentence to make ten.
S: 9 + 1 = 10.
T: (Move 1 bead to make 10. Show 19.)
T: Say the number.
S: 19.
T: Say the number sentence to make 20.
S: 19 + 1 = 20.

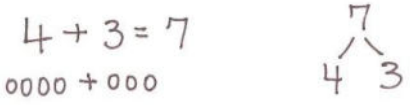
Continue with the following suggested sequence: 59, 79, 99; 5, 65, 85, 95; 8, 48, 78, 98; and 7, 37, 87, 97.

Concept Development (32 minutes)

Materials: (T) Chart paper, 10 dimes (S) Personal white board, number bond/number sentence set (Template), 5 dimes

Students sit in the meeting area in a semicircle formation.

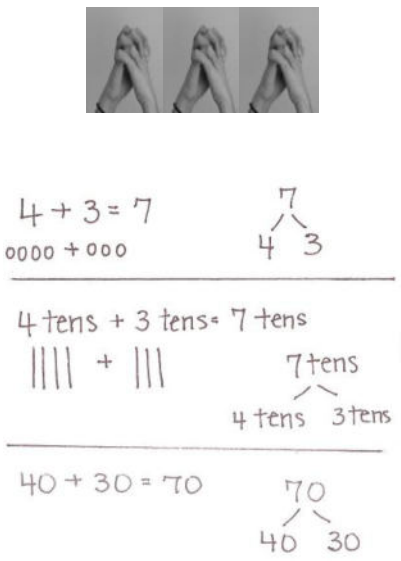
T: (Write 4 + 3 on the chart. Call up two volunteers.) Using your magic counting sticks, show us 4 + 3.
S: (Student A shows 4 fingers; Student B shows 3 fingers.)



T: How many fingers are there? Say the number sentence.
S: 4 + 3 = 7.
T: (Complete the number sentence on the chart.) Yes. 4 fingers + 3 fingers = 7 fingers.

On their personal white boards, have students write the number sentence, use math drawings to show 4 + 3 = 7, and make a number bond while recording the information on a chart.

T: Let's pretend these circles stand for bananas! Say the number sentence using bananas as the unit.
S: 4 bananas + 3 bananas = 7 bananas.
T: (Call for five additional volunteers to join the two volunteers.) Show us 4 tens + 3 tens using your magic counting sticks.
S: (Clasp hands to show 4 tens and 3 tens.)
T: (Help the first four students stand closer together to show 4 tens.)
T: (Point to the first four students.) How many tens do we have here?
S: 4 tens.
T: (Point to the last three students closely standing next to each other.) How many tens do we have here?
S: 3 tens.
T: How many tens are there in all?
S: 7 tens.
T: Say the number sentence the Say Ten way. (If students struggle, say, "Say the number sentence starting with 4 *tens*.")
S: 4 tens + 3 tens = 7 tens.
T: Say the number sentence the regular way starting with 40.
S: 40 + 30 = 70.
T: (Record the number sentence on the chart.)
T: (Point to the first problem on the chart.) Hmmm, how can knowing 4 + 3 = 7 help us with 4 tens + 3 tens? Turn and talk to your partner.
S: 4 tens + 3 tens = 7 tens is just like 4 + 3 = 7. It's just 4 things and 3 things make 7 things → 4 fingers and 3 fingers make 7 fingers. 4 bananas and 3 bananas make 7 bananas. 4 tens and 3 tens make 7 tens.
T: The numbers stay the same. The numbers, 4 and 3 and 7, stay the same, but the *units* change.



Direct students to write the number sentence, use math drawings, and make a number bond while charting their responses as shown to the bottom right.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Students demonstrate a true understanding of math concepts when they can apply them in a variety of situations. Some students may not be able to make the connection between different number bonds as seen in this lesson. Their path to abstract thinking may be a little longer than others. Support these students with the use of manipulatives (linking cubes and coins) and plenty of practice on their personal white boards.

Repeat the process using the following suggested sequence, and have students solve each problem using the Say Ten way and the regular way:

- 7 tens – 4 tens
- 30 + 60
- 9 dimes – 3 dimes
- 60 cents + 20 cents
- 70 + 30
- 10 tens – 4 tens

T: (Write 6 dimes – 4 dimes on the chart.) Draw a number bond for this subtraction problem, and share your thinking with your partner.

S: 6 dimes is the total. 4 dimes is one of the parts. → We know one part. The mystery is the other part to make 6 dimes or 60 cents → 6 dimes take away 4 dimes is 2 dimes → 60 cents take away 40 cents is 20 cents → I can take away a part from the total to find the missing part. (Show the number bond with 2 dimes still missing.)

T: What addition sentence can we write to match this number bond? Remember, we can say "unknown" or "mystery number."

S: 4 dimes + the mystery number = 6 dimes. (Record on the chart.)

T: What is the missing part?

S: 2 dimes!

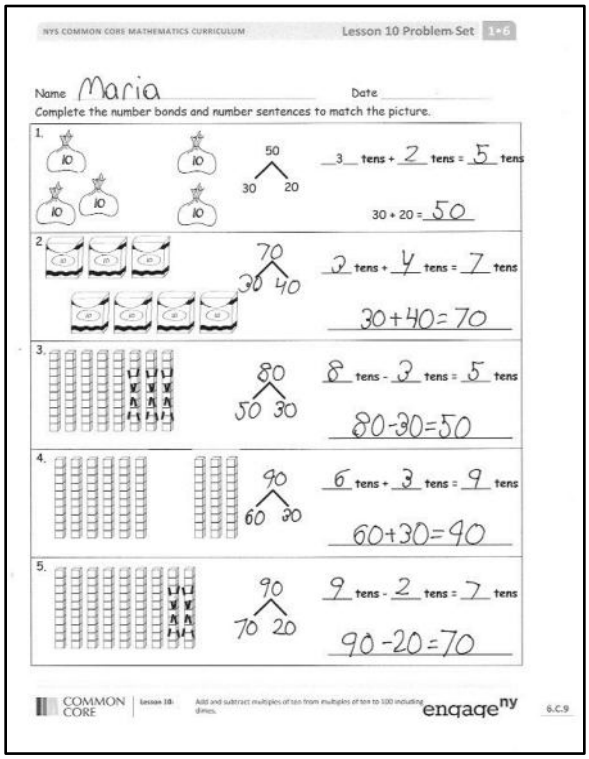
T: Say the subtraction sentence and the related addition sentence the Say Ten way.

S: 6 tens – 4 tens = 2 tens. 4 tens + 2 tens = 6 tens.

T: Let's say it the regular way, too.

S: 60 – 40 = 20. 40 + 20 = 60.

Repeat the process as needed to support students' understanding.


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 10 Problem Set 1•6

Name Maria Date

Complete the number bonds and number sentences to match the picture.

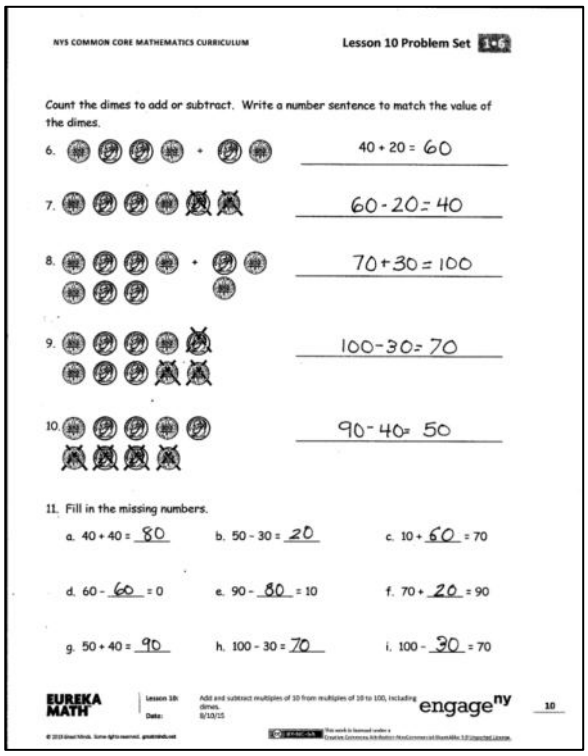
1. 3 tens + 2 tens = 5 tens; 30 + 20 = 50
2. 3 tens + 4 tens = 7 tens; 30+40=70
3. 8 tens - 3 tens = 5 tens; 80-30=50
4. 6 tens + 3 tens = 9 tens; 60+30=90
5. 9 tens - 2 tens = 7 tens; 90-20=70

COMMON CORE Lesson 10: Add and subtract multiples of ten from multiples of ten to 100 including dimes. engage^ny 6.C.9

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)



NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 10 Problem Set 1•6

Count the dimes to add or subtract. Write a number sentence to match the value of the dimes.

6. 40 + 20 = 60
7. 60 - 20 = 40
8. 70 + 30 = 100
9. 100 - 30 = 70
10. 90 - 40 = 50

11. Fill in the missing numbers.

a. 40 + 40 = 80 b. 50 - 30 = 20 c. 10 + 60 = 70

d. 60 - 60 = 0 e. 90 - 80 = 10 f. 70 + 20 = 90

g. 50 + 40 = 90 h. 100 - 30 = 70 i. 100 - 30 = 70

EUREKA MATH Lesson 10: Date: Add and subtract multiples of 10 from multiples of 10 to 100, including dimes. 8/10/15 engage^ny 10

Lesson Objective: Add and subtract multiples of 10 from multiples of 10 to 100, including dimes.

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 Problems 1 and 2. Did you show your bonds the regular way or the Say Ten way?
- What did you notice about Problems 6 and 7? Can you find another set of problems that show a similar pattern?
- Using Problem 10, create a related problem by drawing a picture and writing the number sentence in the same way that Problems 6 and 7 go together.
- Write all the ways you can make a total of 10 tens or 100 using only tens. You may use three addends!
- Explain how knowing 3 + 6 can help solve 30 + 60.
- How can Race to the Top! and the Core Fluency Practice Sets help you solve addition and subtraction problems from today's lesson?

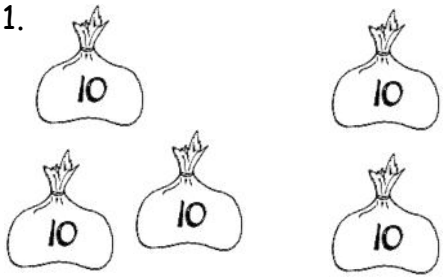
Exit Ticket (3 minutes)

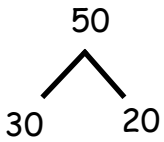
After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Name _____ Date _____

Complete the number bonds and number sentences to match the picture.

1.

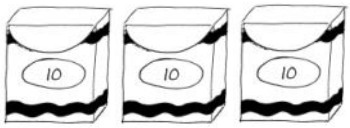


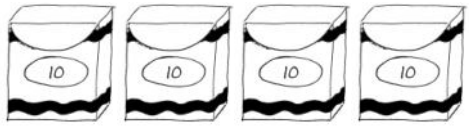


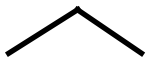
__3__ tens + _____ tens = _____ tens

30 + 20 =_____

2.



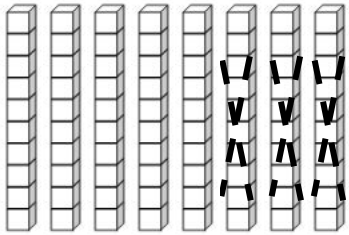




_____ tens + _____ tens = _____ tens

_____

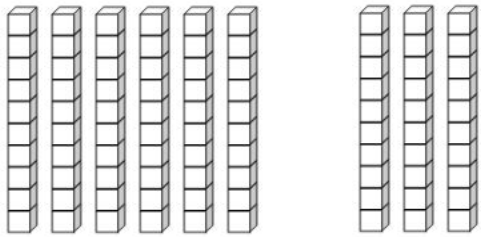
3.



_____ tens – _____ tens = _____tens

_____

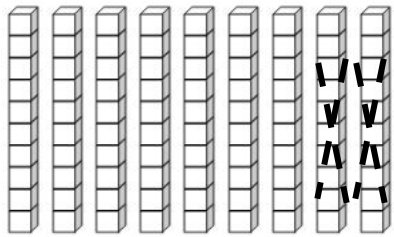
4.



_____ tens + _____ tens = _____ tens

_____

5.



_____ tens – _____ tens = _____ tens

_____

Count the dimes to add or subtract. Write a number sentence to match the value of the dimes.

6.  40 + 20 = _____

7.  _____

8.  _____

9.  _____

10.  _____

11. Fill in the missing numbers.

a. 40 + 40 = _____ b. 50 – 30 = _____ c. 10 + _____ = 70

d. 60 – _____ = 0 e. 90 – _____ = 10 f. 70 + _____ = 90

g. 50 + 40 = _____ h. 100 – 30 = _____ i. 100 – _____ = 70

Name _____ Date _____

1. Fill in the missing numbers.

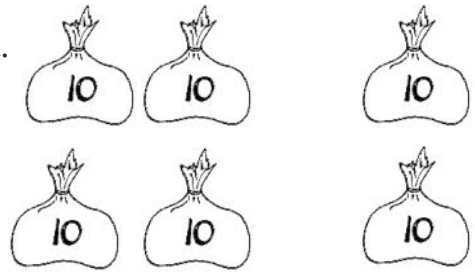
   a. 40 + 50 = _____ b. 80 – 60 = _____ c. 30 + _____ = 70

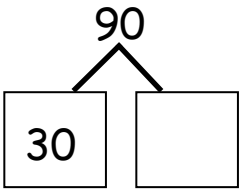
2. Write a number sentence to match the picture.

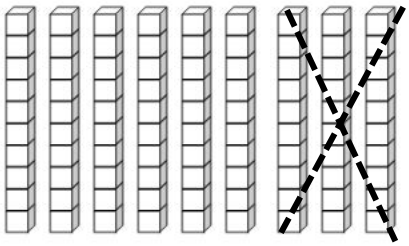
_____

Name _____ Date _____

1. Complete the number bond or number sentence, and draw a line to the matching picture.

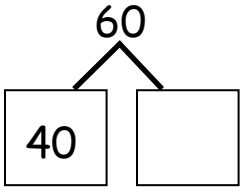
a. 



b. 

_____ - 40 = 60

c. 



d. 

80 - _____ = 60

2. Count the dimes to add or subtract. Write a number sentence to match the dimes.

a.  40 + 20 = _____

b.  _____

c.  _____

d.  _____

3. Fill in the missing numbers.

a. 70 + _____ = 90

b. _____ + 30 = 80

c. 100 – _____ = 20

d. 30 + 60 = _____

e. 70 – _____ = 20

f. 20 + _____ = 60

g. _____ – 20 = 60

h. 90 – _____ = 20

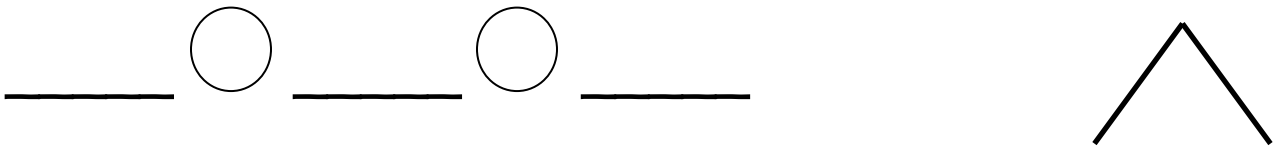
i. 50 + _____ = 100

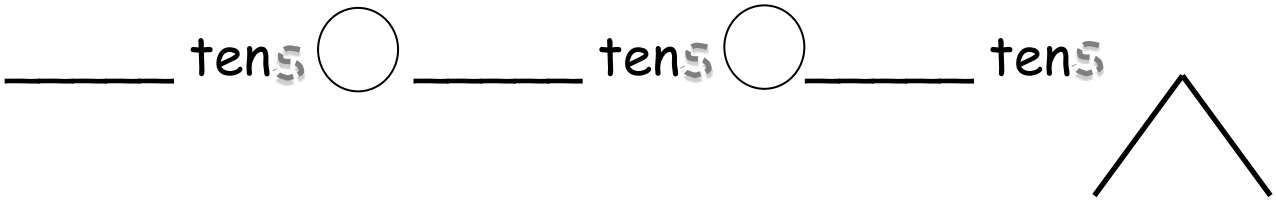
Names _____ Date _____

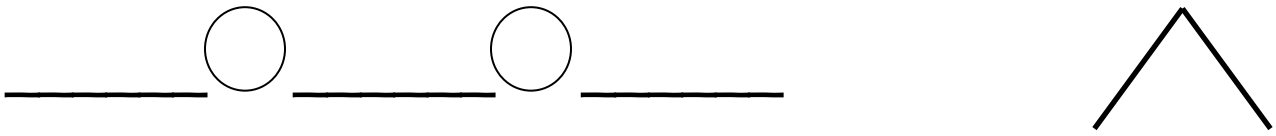
Race to the Top!

2	3	4	5	6	7	8	9	10	11	12

race to the top







number bond/number sentence set