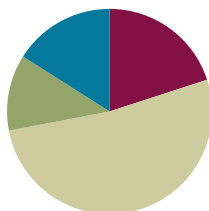


Lesson 8

Objective: Model teen numbers with materials from abstract to concrete.

Suggested Lesson Structure

■ Fluency Practice	(10 minutes)
■ Application Problem	(6 minutes)
■ Concept Development	(26 minutes)
■ Student Debrief	(8 minutes)
Total Time	(50 minutes)



Fluency Practice (10 minutes)

- Number Bonds of Eight **K.CC.2** (4 minutes)
- Separating Ten Ones Inside Teen Numbers **K.NBT.1** (3 minutes)
- Teen Number Bonds **K.NBT.1** (3 minutes)

Number Bonds of Eight (4 minutes)

Materials: (T) Dot cards of 8 (Lesson 6 Fluency Template) (S) Personal white board

Note: This fluency activity gives students an opportunity to develop increased familiarity with compositions of eight and to review number bonds.

T: (Show a dot card, and indicate 7 and 1 as parts.) Say the larger part. (Give students time to count.)

S: 7.

T: Say the smaller part.

S: 1.

T: What is the total number of dots? (Give time to count.)

S: 8.

T: Write your number bond.

Continue with 5 and 3, 4 and 4, 6 and 2, 8 and 0.

Separating Ten Ones Inside Teen Numbers (3 minutes)

Materials: (S) Bag with about 20 small objects

Note: This activity gives continued practice in locating 10 ones embedded in the teen numbers and allows students to experience conservation.

- T: Empty your bag. Put all the items on your work mat. Count out 10 ones, and move them together into a bunch.
- T: (Wait while students complete the task.) How many things are in your bunch?
- S: 10.
- T: Are there some outside your bunch?
- S: Yes.
- T: Push all your things back together. Spread them all out over your work mat.

Repeat this process two or three more times.

Teen Number Bonds (3 minutes)

Materials: (T) Number bond cards (Fluency Template)

Note: This activity advances the work with teen numbers by allowing students to see that the parts of a number bond can be switched around, and the total remains the same.

- T: (Show a number bond with 10 and 5 as parts.) Say the number sentence starting with 10.
- S: 10 and 5 makes 15.
- T: Flip it.
- S: 5 and 10 makes 15.

Continue with 10 and 1, 10 and 9, 10 and 4, 10 and 8, 10 and 2, 10 and 6, 10 and 3, 10 and 7.



NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

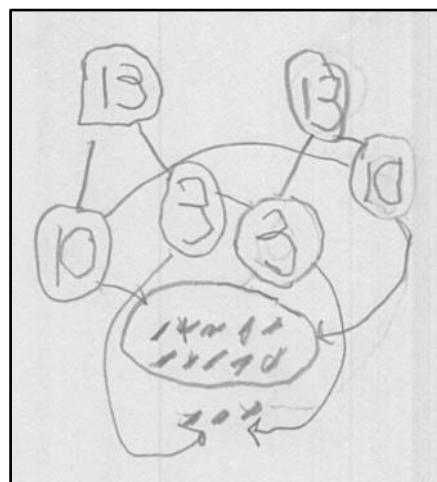
To support English language learners in explaining what they see, let them work with a student who speaks their own language. This is the key in illustrating the commutative property in a very student-friendly setting. It is always easier to explain using a familiar language.

Application Problem (6 minutes)

MP.3

Peter drew a number bond of 13 as 10 and 3. Bill drew a number bond, too, but he switched around the 10 and 3. Show both Bill's and Peter's number bonds. Draw a picture of thirteen things as 10 ones and 3 ones. Explain your thinking to your partner about what you notice about the two number bonds.

Note: The students have noticed that the parts of a number bond can be switched around in Module 4. Make it exciting for them to find out that the same rules, or math truths, apply to larger numbers, too!



Concept Development (26 minutes)

Materials: (S) personal white board; bag of Hide Zero cards: 1 Hide Zero 10 card (Lesson 6 Template 2) and 5-group cards 1–9 (Lesson 1 Fluency Template 2), bag of 10 linking cubes in one color and 10 linking cubes in another color (per pair)

Part 1: Modeling Teen Numbers 11–20 with Linking Cubes and Hide Zero Cards.

- T: Partner A, open the bag with the Hide Zero cards, and put them on your work mat. With your partner, put them in order from 10 to 1. (Wait.)
- T: Partner B, open the bag with the linking cubes, and put them on your work mat.
- T: (Write 11 on the board.) What number is this?
- S: Eleven!
- T: How would you say it the Say Ten way?
- S: Ten 1.
- T: Please write the number 11 on your personal white board. When I ask you to show me your board, show me.
- S: (Write 11.)
- T: Show me!
- S: (Hold up their personal white boards.)
- T: Now, I want you to work with your partner to show the number. Partner A, show the number with the Hide Zero cards, and remember to hide the zero!
- T: Partner B, show the number with the linking cubes. Use one color to show 10 ones and the other color to show the other ones.
- T: Check each other's work. Explain why you're both showing 11.

**NOTES ON
MULTIPLE MEANS
OF REPRESENTATION:**

Support your English language learners who have difficulty distinguishing between words such as *thirteen* and *thirty* and *fourteen* and *forty* by instructing them to practice saying “thirteen” and “thirty” as you point to both the numeral and the word written under each numeral.

Repeat the process with the numbers 12–19.

Part 2: Modeling Teen Numbers 11–20 with Hide Zero Cards.

- T: (Write 15 on the board.) What is the number?
- S: Fifteen!
- T: The Say Ten way?
- S: Ten 5.
- T: Write 15 on your personal white board, and then show me.
- T: This time, Partner A is going to show 15 with the dot side of the Hide Zero cards, and Partner B is going to show 15 with the numeral side. After you check each other's work, you'll switch.

Repeat the process above with numbers 11–19.

Problem Set (7 minutes)

Students should do their personal best to complete the Problem Set within the allotted time. Have students use the bag of 20 small objects from today's fluency activity as they complete the Problem Set.

Student Debrief (8 minutes)

Lesson Objective: Model teen numbers with materials from abstract to concrete.

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.

Have a set of 5-group cards, Hide Zero cards, and 20 linking cubes in two different colors ready to display.

- What is the same/different about the 5-group cards and the Hide Zero cards?
- How can you prove 20 is the same as 2 ten?
- When you write the number 18 on your personal white board, how is it the same and different from the number 18 when you show it with Hide Zero cards or 5-group cards?
- Which is your favorite way to show a number—with linking cubes, the Hide Zero cards, the 5-group cards, or just writing the number? Why?
- Count up to 20 in standard form, and count back to 0 the Say Ten way.
- Who can prove that the 1 in 14 is 10 ones, not 1 one?

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 8 Problem Set K•5

Name Ben Date 8/18/14

Use your materials to show each number as 10 ones and some more ones. Use your 5-Groups way of drawing. Show each number with your Hide Zero cards. Whisper count as you work.

11	18
15	14

COMMON CORE Lesson 8: Model teen numbers with materials from abstract to concrete. 8/18/14 engage^{ny} 5.B.7

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NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 8 Problem Set K•5

12	17
20	13

COMMON CORE Lesson 8: Model teen numbers with materials from abstract to concrete. 8/22/14 engage^{ny} 5.B.7

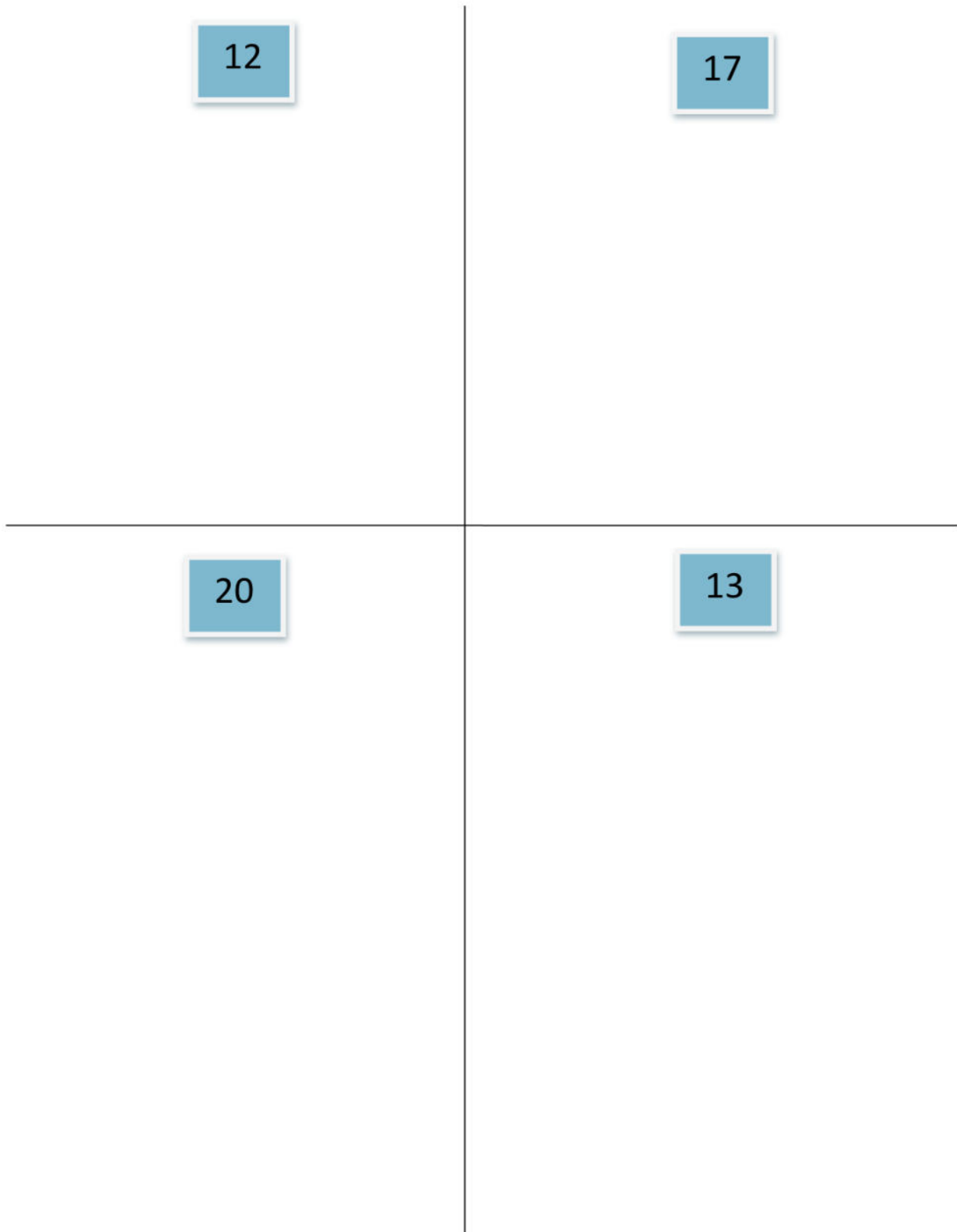
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Name _____

Date _____

Use your materials to show each number as 10 ones and some more ones.
Use your 5-groups way of drawing. Show each number with your Hide Zero cards. Whisper count as you work.

11	18
15	14



Name _____

Date _____

Use your materials to show the number as 10 ones and some more ones.
Use your 5-groups way of drawing.

1 6

Use your cubes to show the number. Then, color in the cubes to match the number.

1 2

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Name _____

Date _____

Use your materials to show each number as 10 ones and some more ones.
Use your 5-groups way of drawing.

1 5

1 3

Ten seven

Ten one

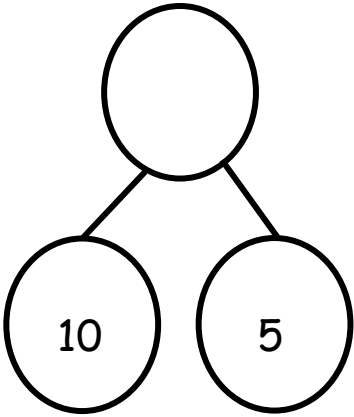
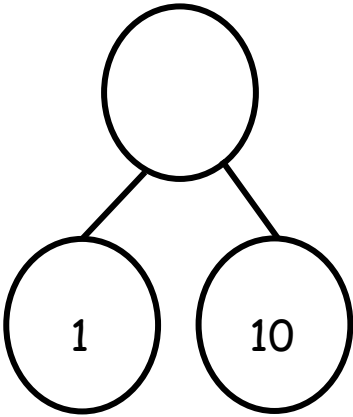
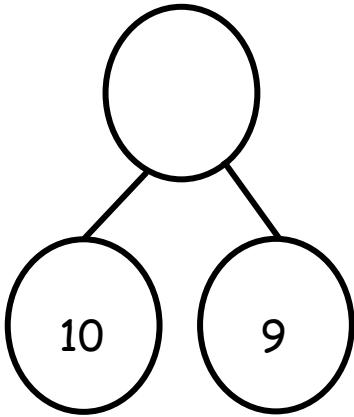
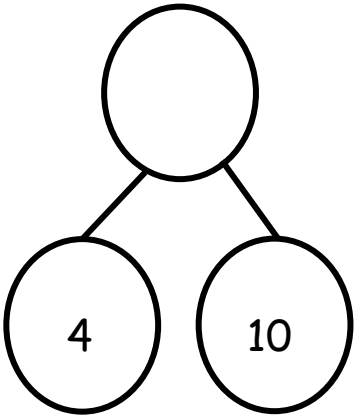
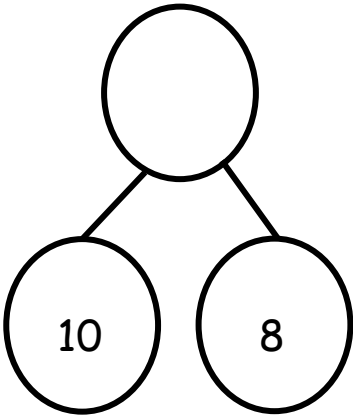
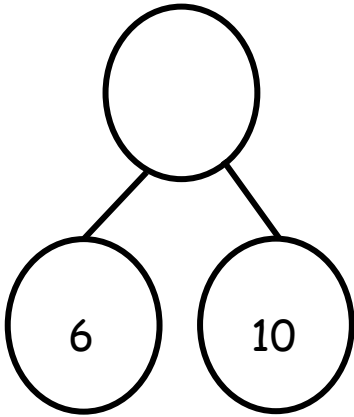
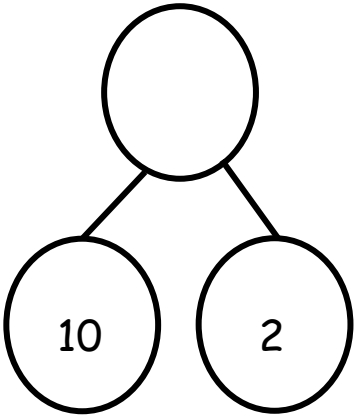
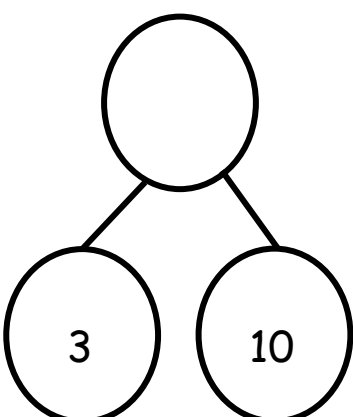
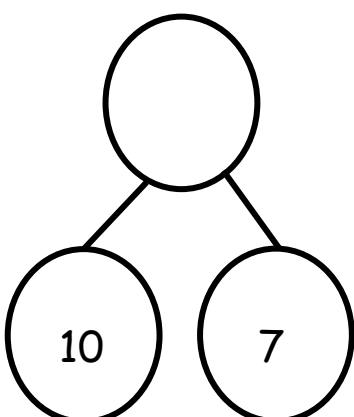


1 2

1 6

2 ten

Ten four

number bond cards