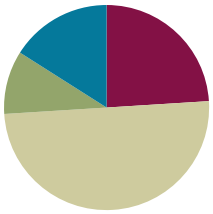
Lesson 17

Objective: Solve *put together with total unknown* word problems to 8 using objects and drawings.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(25 minutes)
Student Debrief	(8 minutes)
Total Time	**(50 minutes)**



A NOTE ON CLASSROOM ORGANIZATION FOR LESSONS 16, 17, AND 18:

Because Lessons 16, 17, and 18 involve word problems that must be read aloud to the majority of kindergarten students, it is suggested that additional adult support be sought for these instructional days. (See the more extensive note in Lesson 16.)

Fluency Practice (12 minutes)

- How Many? **K.OA.1** (7 minutes)
- Partners of 5 **K.OA.3** (5 minutes)

How Many? (7 minutes)

Materials: (S) Bags of red and white beans, number bond (Lesson 1 Template 2), blank paper or personal white board, dice (with the 6 side covered on both dice or the 5 and 6 covered on one die)

Note: This fluency activity focuses on composition in preparation for today's work. Students use the familiar number bond model to refresh their understanding of part–total relationships before working with equations in this lesson.

1. Partner A rolls a die and places that many red beans in one of the part circles in the number bond.
2. Partner B rolls a die and places that many white beans on the other part circle.
3. The partners move their beans to the total circle and count the total number of beans.
4. Both partners record the number bond using pictures or numerals.

Circulate to observe and provide support.

Partners of 5 (5 minutes)

Materials: (S) Personal white board

Note: Students write number bonds and number sentences to 5 using fingers and the more abstract numerals.

T: Write your numbers 1, 2, 3, and 4. (Pause as students do so.)

T: (Draw a number bond with a 5 as the whole.) You are going to write number bonds that have 5 as the total. Use only these numbers as parts. You can use your fingers if that will help you.

Encourage students to write at least two number bonds. Ask early finishers to write addition number sentences to match their bonds.

Application Problem (5 minutes)

Materials: (S) Personal white board

Marissa is creating designs with shapes. She has 5 triangles and 2 circles. Draw the shapes, and write a number sentence. Talk to your partner about your picture and number sentence.

Note: Solving a *put together with total unknown* story serves as an anticipatory set for this lesson.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Provide students with disabilities and those working below grade level with pattern blocks to represent the problem concretely before asking them to draw the problem and write a number sentence. Make manipulatives available to students who still need them.

Concept Development (25 minutes)

Materials: (S) Container with 8 attribute blocks for each pair or small group of students (4 circles, 4 triangles), personal white board, tree and sun (Template)

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

To assist English language learners, refer students to the word wall, and have them point to the shapes (triangles, circles) as they respond to the prompts. Students can refer to the visuals of the shapes as they complete the tasks of the lesson.

T: In your container, you have a block with three sides. What is it called?

S: A triangle!

T: With your partner, find 3 of them, and put them on your desk.

T: Do you have a block with no straight sides? What is it called?

S: A circle!

T: Put 3 circles in front of you, too. What do you notice about the blocks in front of you?

S: There are 3 circles and 3 triangles! → We have a lot of shapes.

T: Draw your shapes on your personal white board. We want to make a number sentence about all of our shapes. We already have two clues for our number sentence! We have 3 circles and 3 triangles. Write a 3 under your set of circles and another 3 under your set of triangles to show how many. On your board, show me how we could use these numbers to make a number sentence.

S: (Write 3 + 3.)

MP.1 T: Let's add our equal sign. Now, put a mystery box at the end of your number sentence, like we did yesterday, so that we have a place to show how many shapes there are in all. How could we figure out our total number of shapes?

S: We could count them. → We could start from 3 and count 3 more.

T: You are right! Those are good ideas. Let's count the shapes. Help me finish the number sentence. 3 + 3 is…?

MP.1

S: 6.

T: Let's write it together: 3 + 3 = 6. Show your partner how you wrote your number sentence! (Circulate to ensure accuracy and understanding.)

T: Erase your board. Turn it over so you can see the tree and sun. Let's pretend our shapes are robins. How many robins do you have?

S: 6 robins!

T: Put those robins in the tree. Now, let's pretend that 2 more robins are flying.

T: On your mat, use your attribute blocks to show what that would look like.

T: How many robins are there in all?

S: 8 robins!

T: Now, let's just draw. Take off your blocks, and draw a circle for each robin, like this. (Demonstrate.)

S: (Draw.)

T: How many robins do you have now?

S: 8 robins.

T: Erase your board. Listen to the story. Four of the robins are flying through the air. Draw the robins flying through the air. (Students do so.) Four robins are on the ground, eating worms. Draw the robins on the ground. (Students do so.)

T: Let's write a number sentence about our robins. The robins will give us clues for our number sentence. How many robins are flying?

S: 4 robins.

T: Let's start with the number 4. (Write 4 + on the board.) What should we add to find out how many robins we have in all?

S: The robins on the ground. → The rest of the robins!

T: How many robins are on the ground?

S: 4 robins.

T: (Write the second 4 in the expression.) 4 + 4. Let's write the equal sign. (Write =.) We want to find the total. (Draw a mystery box next to the equal sign to designate the unknown.) Now, work with your partner to find the rest of the number sentence. 4 + 4 is…?

S: 8.

T: Yes, 4 robins and 4 robins equal 8 robins altogether. 4 + 4 = 8.

Have students continue to play with the robin story in partners. Partners should take turns telling a story about the bird while the other draws the story on the board and writes a number sentence.

Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted time.

Please see the note at the beginning of this lesson. The adults should read each problem aloud to their group and watch to ensure understanding during the completion of the exercise.

Student Debrief (8 minutes)

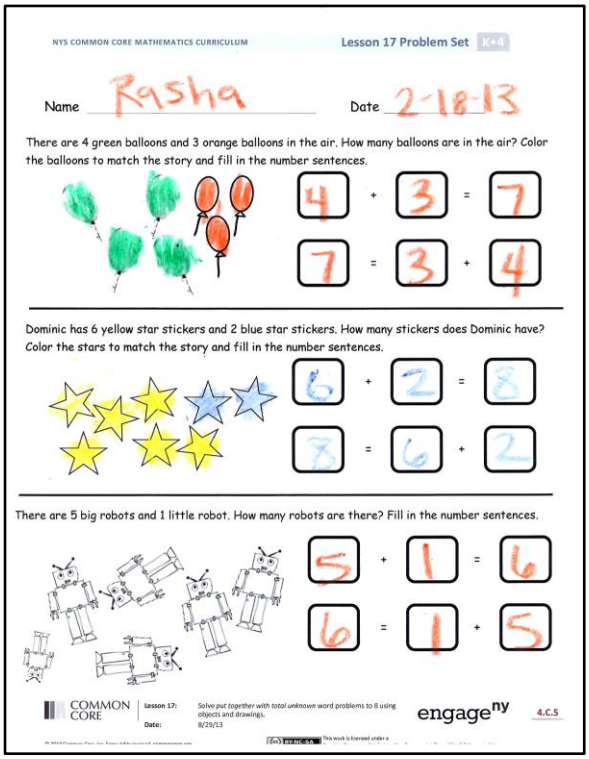
Lesson Objective: Solve *put together with total unknown* word problems to 8 using objects and drawings.

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 the Problem Set. Talk to your neighbor about the balloons. Tell your neighbor what each number in your number sentences is talking about.
- Look at the Problem Set. Sometimes, the mystery box is at the beginning, and sometimes, it is at the end. Does it matter? (Lead a discussion that the mystery box tells "what you are trying to figure out" no matter where it is.)
- How did you and your partner find out how many shapes you had together?
- How are the number sentences you wrote today different from the ones we worked on before?
- Is there another way you could have written the number sentence?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 17 Problem Set K•4

Name Rasha Date 2-18-13

There are 4 green balloons and 3 orange balloons in the air. How many balloons are in the air? Color the balloons to match the story and fill in the number sentences.

4 + 3 = 7

7 = 3 + 4

Dominic has 6 yellow star stickers and 2 blue star stickers. How many stickers does Dominic have? Color the stars to match the story and fill in the number sentences.

6 + 2 = 8

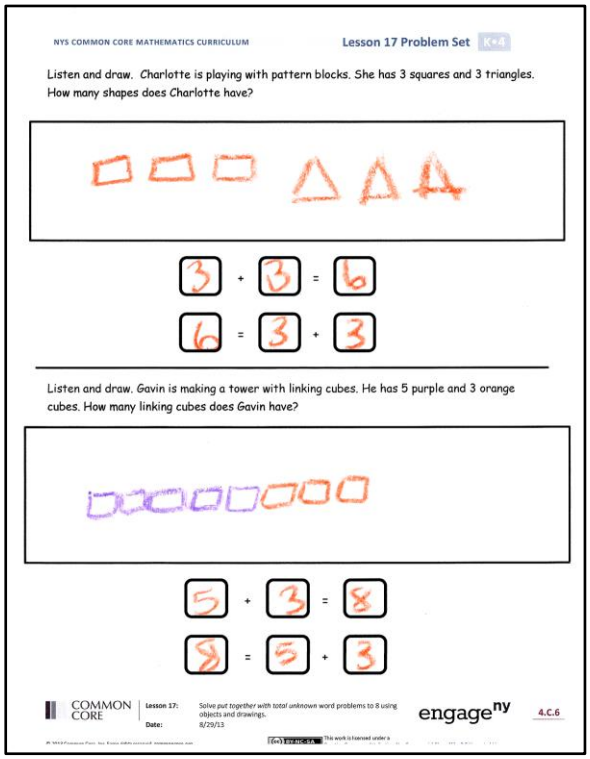
8 = 6 + 2

There are 5 big robots and 1 little robot. How many robots are there? Fill in the number sentences.

5 + 1 = 6

6 = 1 + 5

COMMON CORE Lesson 17: Solve *put together with total unknown* word problems to 8 using objects and drawings. Date: 8/29/13 engage^ny 4.C.5


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 17 Problem Set K•4

Listen and draw. Charlotte is playing with pattern blocks. She has 3 squares and 3 triangles. How many shapes does Charlotte have?

3 + 3 = 6

6 = 3 + 3

Listen and draw. Gavin is making a tower with linking cubes. He has 5 purple and 3 orange cubes. How many linking cubes does Gavin have?

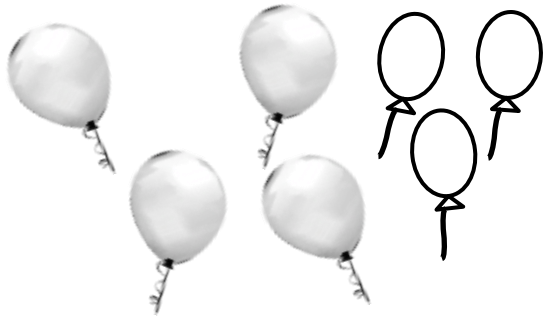
5 + 3 = 8

8 = 5 + 3

COMMON CORE Lesson 17: Solve *put together with total unknown* word problems to 8 using objects and drawings. Date: 8/29/13 engage^ny 4.C.6

Name _____ Date _____

There are 4 green balloons and 3 orange balloons in the air. How many balloons are in the air? Color the balloons to match the story, and fill in the number sentences.



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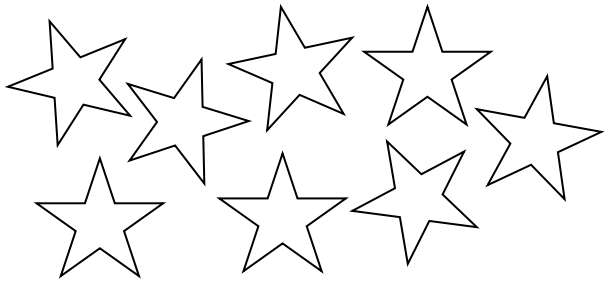
Dominic has 6 yellow star stickers and 2 blue star stickers. How many stickers does Dominic have? Color the stars to match the story, and fill in the number sentences.



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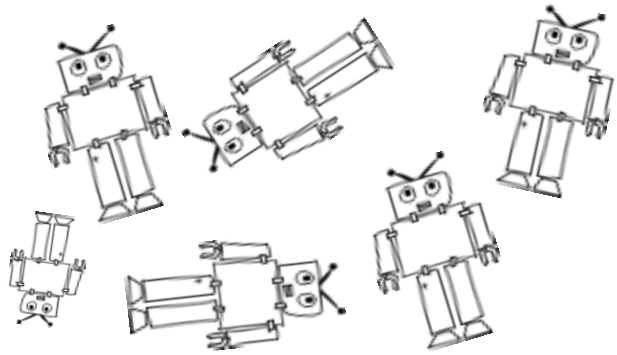
There are 5 big robots and 1 little robot. How many robots are there? Fill in the number sentences.



☐ + ☐ = ☐

☐ = ☐ + ☐

Listen and draw. Charlotte is playing with pattern blocks. She has 3 squares and 3 triangles. How many shapes does Charlotte have?

☐ + ☐ = ☐

☐ = ☐ + ☐

Listen and draw. Gavin is making a tower with linking cubes. He has 5 purple and 3 orange cubes. How many linking cubes does Gavin have?

☐ + ☐ = ☐

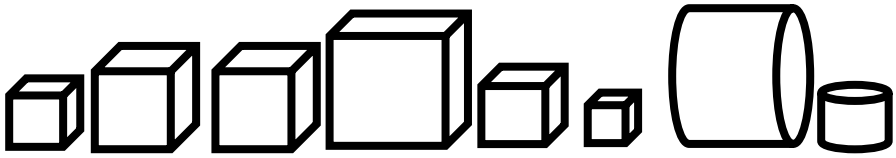
☐ = ☐ + ☐

Name _____ Date _____

There are 5 hexagons and 2 triangles. How many shapes are there?

☐ = ☐ + ☐

☐ + ☐ = ☐



There are 6 cubes and 2 cylinders. How many shapes are there?

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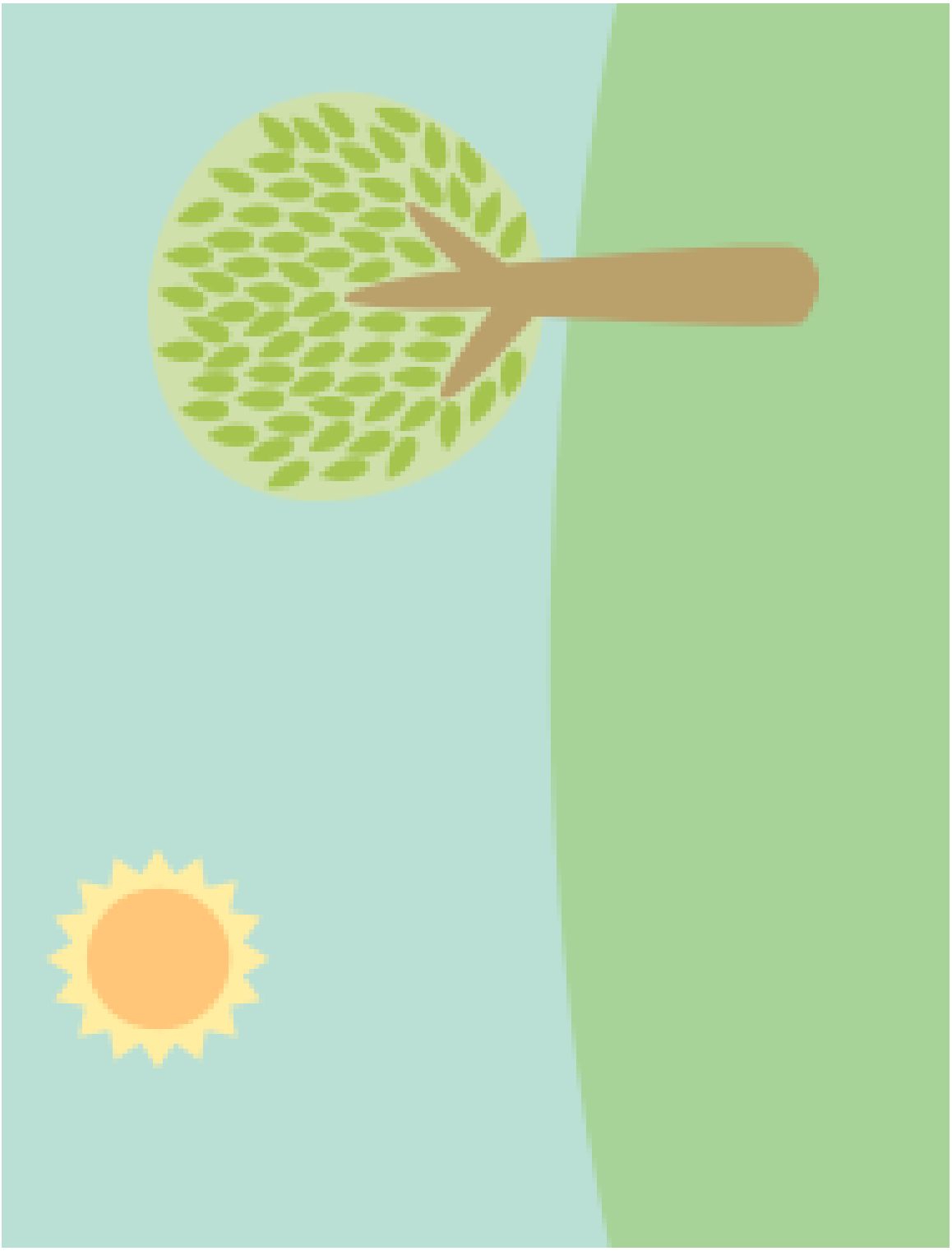
☐ + ☐ = ☐

On the back of your paper, draw some shapes, and make a number sentence to match.



tree and sun