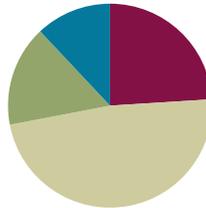


Lesson 16

Objective: Compose 8, and then decompose into two parts. Match to the numeral 8.

Suggested Lesson Structure

■ Fluency Practice	(6 minutes)
■ Application Problem	(4 minutes)
■ Concept Development	(12 minutes)
■ Student Debrief	(3 minutes)
Total Time	(25 minutes)



Fluency Practice (6 minutes)

- Flap and Count to 10 **PK.CC.1** (2 minutes)
- Count Socks **PK.CC.4** (4 minutes)

Flap and Count to 10 (2 minutes)

Note: This fluency activity introduces counting by rote to 10. As students prepare to move into the second half of the module, it is preferable that they have mastery of the counting word sequence so that their attention can be directed to touching and counting in different configurations and seeing simple number relationships such as *1 more*.

- T: Let's pretend we are big, colorful birds. Let's flap our wings and count to 9. Join in when you are ready!
(Repeat until all are participating.) 1, 2, 3, 4, 5, 6, 7, 8, 9.
- T: Let's flap and count to 10. Join in when you are ready!
(Repeat until all are participating.)

As in Lesson 14, use a change of pace while counting the number of flaps. Do not let the students count ahead of each flap. Keep it playful and fun.



NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Students who are acquiring language may be hesitant to ask questions. One option to check for understanding of the directions while still allowing exploration of 8 is to demonstrate by providing a visual model of the direction using a different number of cubes (e.g., 4 or 6 cubes).

Count Socks (4 minutes)

Materials: (S) 8 loose cubes (2 each of 4 colors)

Note: In this fluency activity, students are given the opportunity to practice counting 8 objects in an array configuration.

- T: Pretend your cubes are socks. Find two socks that match, and put them together. (Pause as students do so.)
- T: Put another pair of socks together. (Pause and observe.) And another. (Pause.) And another. (Pause.)
- T: Stack your pairs of socks like this (demonstrate as pictured to the right). Count the socks in my stack as I touch them (demonstrate touching left to right and top to bottom). 1, 2, 3, 4, 5, 6, 7, 8.
- T: Now, you touch and count your socks. (Pause and observe the students’ strategies as they move through the cubes.)



Application Problem (4 minutes)

Tell students that the class is having a barnyard dance today. To model 1 row of 2, ask one child to be a dancing chicken, shaking one leg and then the other as the class counts, “1 leg, 2 legs.”

To model 2 rows of 2, ask two children to make a dancing cow by forming a line, with the child in the back placing her hands on the shoulders of the other. Starting with the child in front, have each student shake one leg and then the other as the class counts, “1 leg, 2 legs, 3 legs, 4 legs.”

To model 3 and 4 rows of 2, repeat the process by creating a dancing ant next and then finally a dancing spider.

Culminate the activity by having the spider dance a different way by first standing on its left legs and then on its right legs. Ask the students how many legs are in the air each time.

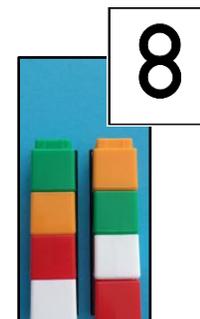
Note: Because animal legs come in pairs, they provide a context for creating arrays of 2, 4, 6, and 8. Arrays provide a natural entry point for embedded numbers, as they make it easy to see a whole broken into different parts.

Concept Development (12 minutes)

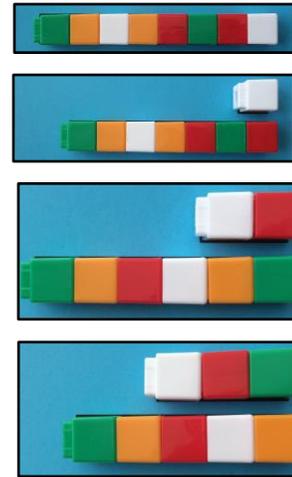
Part 1: Concept Introduction

Materials: (T) 8 loose cubes (multiple colors), Partners of 8 Puzzle (4- and 4-stick, Template cut apart) (S) small resealable bag with 8-stick of multiple colors, 1 Partners of 8 Puzzle (Template cut apart), numeral card 8 (Lesson 6 Template 2)

1. Place the 8 loose cubes on the floor. Invite two students forward, and tell each to make a stick of 4 cubes.



2. Display the puzzle template. Invite the two students to place their sticks on the matching puzzle places.
3. Use self-talk while joining the two sticks: “These are such friendly numbers! We love 4 and know it so well. I wonder what would happen if I put these two sticks together.” Join the sticks, and guide children to see that there is now one longer stick. Count the 8 cubes as a class.
4. Introduce the numeral 8. “This is how we show the number 8. Everyone, trace it with your finger in the air.” Invite students to share their thoughts about its shape and if it reminds them of anything.
5. Ask, “Can I break this 8-stick so I have the same two small sticks again?” Invite a student to demonstrate that the sticks are the same by placing them on the puzzle.
6. Distribute a bag to each student. Invite children to touch and count the cubes in their sticks. Have them trace the numeral 8 with their fingers and say “eight” as they do so.
7. Have children break their sticks to match their puzzles. Guide them to describe their work. “I made smaller sticks.” “I broke my 8-stick into two parts.” “I have some cubes here and some cubes here.” “I have 3 cubes here and 5 cubes here.” Instruct children to put their sticks back together to form the original stick. Every time they count and make 8 again, have them use the numeral card to trace 8 with a finger.



Note: Although formation of numbers 6–10 is not a Pre-K standard, it is helpful to note the correct formation of an 8. When students are tracing the 8, provide them with the correct way to form an 8. In Kindergarten, students learn a rhyme: “Make an S and do not stop. Go right back up, and an eight you’ve got.” (Another possible rhyme is “Make an S and do not wait. Go back up, and it’s an 8.”)

Part 2: Practice

Materials: (S) 8-stick, Partners of 8 Puzzles (Template cut apart), numeral card 8 (Lesson 6 Template 2)

Continue to work in the circle, so children can easily pass the puzzles.

1. Distribute a new Partners of 8 puzzle to each child. Demonstrate how to break the stick into two parts to match the puzzle.
2. Give students a chance to break their sticks and place them on the puzzle. Guide them to use their words to describe their work as they did in the Concept Introduction.
3. Have children put the parts together again. Guide them to count and tell how many are in their 8-stick. Each time they make 8 again, have them trace the numeral.
4. Have children pass the puzzle to the right and repeat Steps 2 and 3.



NOTES ON MULTIPLE MEANS FOR ACTION AND EXPRESSION:

A multi-sensory approach when learning numerals helps students with number recognition. Provide multiple types of numerals for tracing made from a variety of media, for example, puffy paint, sand paper, or string. Large numeral cards can also be made for students to “trace” as they walk or hop over the numeral, which also develops their gross motor skills.

Student Debrief (3 minutes)

Lesson Objective: Compose 8, and then decompose into two parts. Match to the numeral 8.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience. It is also an opportunity for informal assessment. Consider taking anecdotal notes or using a simple checklist to note each child's progress toward meeting the lesson objective.

As students complete the Practice portion of the Concept Development, listen for misconceptions or misunderstandings that can be addressed in the Debrief.

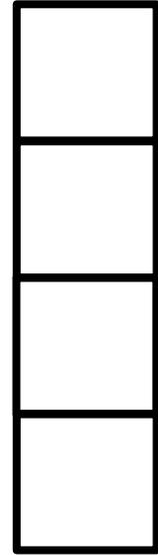
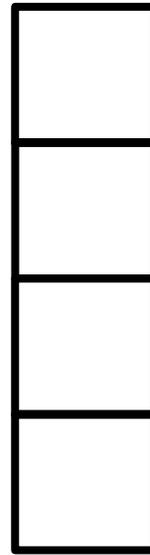
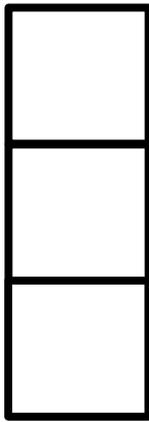
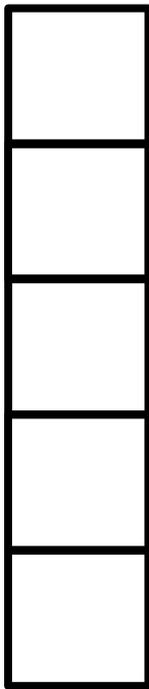
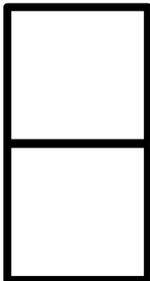
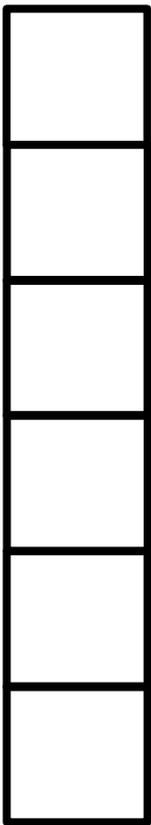
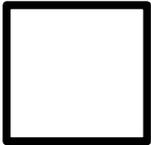
Any combination of the questions below may be used to help students express ideas, make connections, and use new vocabulary.

- Show me 8 fingers. Wiggle 3 fingers. (Repeat wiggling different numbers of fingers. Let students use their fingers in any way they wish.)
- (Have four students make a dancing spider again by standing on their left feet and then on their right feet.) Can you break your 8-stick to match the number of legs in the air and legs on the ground? Can you use your fingers to show the number of legs in the air and legs on the ground?
- Let's compare the number 8 with the number 1. How do they look different? (Repeat with 2–7.)

**CENTER CONNECTION:**

Add the Partners of 8 Puzzles to the block or puzzle center. Add puzzles for numbers 3, 4, 5, 6, and 7 for variety. Use a coding system so children are able to find the puzzles that go with each number (e.g., all Partners of 8 Puzzles on blue paper).

Cut along dashed lines to prepare Partners of 8 Puzzles.



partners of 8 puzzles