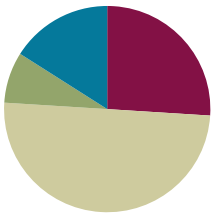
Lesson 29

Objective: Represent pictorial decomposition and composition addition stories to 9 with 5-group drawings and equations with no unknown.

Suggested Lesson Structure

Fluency Practice	(13 minutes)
Application Problem	(4 minutes)
Concept Development	(25 minutes)
Student Debrief	(8 minutes)
Total Time	**(50 minutes)**



Fluency Practice (13 minutes)

- Grade K Core Fluency Differentiated Practice Sets **K.OA.5** (5 minutes)
- 1, 2, 3, Sit on 10 and 20 **K.CC.2** (4 minutes)
- 5-Group Flashes **K.CC.5** (4 minutes)

Grade K Core Fluency Differentiated Practice Sets (5 minutes)

Materials: (S) Core Fluency Practice Sets

Note: During Topic F and for the remainder of this module, each day's fluency activity includes an opportunity for review and mastery of the sums and differences with totals through 5 by means of the Core Fluency Practice Sets or Sprints. Five options are provided in this lesson for the Core Fluency Practice Sets, with Sheet A being the most simple addition fluency of the grade and Sheet E being the most complex (including mixed addition and subtraction). Start all students on Sheet A. Keep a record of student progress, so they can be moved to more complex sheets when they are ready.

Students complete as many problems as they can in 96 seconds (6 seconds per problem). One hundred percent accuracy and completion are recommended before moving to the next level. Collect any Practice Sets that have been completed within the 96 seconds, and check the answers. If students do not finish, encourage them to take the sheets home and continue their work. The next time Core Fluency Practice Sets are used,

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Timing students' work in kindergarten is a sensitive issue. Work through any social or emotional issues that surface.

- Encourage students to enjoy practice; show them that practice leads to improvement. For example, "Today, you found 4 + 1 quickly whereas yesterday you got stuck on that one. How did you practice to perform better?"
- Support them in focusing on their own improvement rather than competing with their peers.
- Have conversations about how everyone is different and their job is to do their personal best.

students who have successfully completed their sets today can be provided with the next level, and the other students can work on a new Sheet A.

Consider assigning early finishers a counting pattern and start number (e.g., count forward starting at 5, count backward starting at 10). Celebrate improvement as well as advancement. Students should be encouraged to compete with themselves rather than their peers. Interview students on practice strategies. Notify caring adults of each child's progress.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Some students may not be ready for Practice Sets. Invite them to join a "get ready" group. Begin by having students effectively use their fingers to model the problems while the others solve the problems. Consider allowing any students to join the group. This may diffuse the stress so they can connect with the Practice Set.

1, 2, 3, Sit on 10 and 20 (4 minutes)

Note: In this activity, students improve on rote counting to 20, a necessary skill for success in Module 5.

T: (Call students to stand in a circle on the rug. Refer to Module 1, Lesson 22 for a variation of 1, 2, 3, Sit on 10.) We're going to play a fast counting game. You remember we used to play 1, 2, 3, Sit on 10. Well, now, you can count to 20. Remember, each person says the next three numbers. So, if you come after 10, you say…?

S: 11, 12, 13.

T: Then, the next person says…?

S: 14, 15, 16.

T: And the next person?

S: 17, 18, 19.

T: Here comes the change. The next person says 20, and he has to…?

S: Sit.

T: That's right! Should you be sad if you have to sit?

S: No.

T: Wait until you see what happens at the end. Okay, let's get started.

S: 1, 2, 3.

S: 4, 5, 6.

Proceed around the circle to 20, and then start again at 1. Continue until all students are sitting.

5-Group Flashes (4 minutes)

Materials: (T) Large 5-group cards (Lesson 12 Fluency Template 2)

Note: This activity gives students practice subitizing or counting quantities in 5-group configurations in preparation for the day's objective.

Conduct the activity as described in Lesson 25. This time, work with numbers to 8.

Application Problem (4 minutes)

Materials: (S) 9 pennies, pencil, paper

Emma had 9 pennies. Show her pennies in the middle of the desk.

She wanted to use 4 of her pennies to buy some gum and 5 pennies to buy a balloon. Count and slide apart the pennies she needs to buy the gum and the balloon. On your paper, show the number bond that corresponds to her pennies now.

Now, slide your groups of pennies together again. How many pennies in all? Would you need to create a new number bond about what you just did? Turn and talk to your partner about your work.

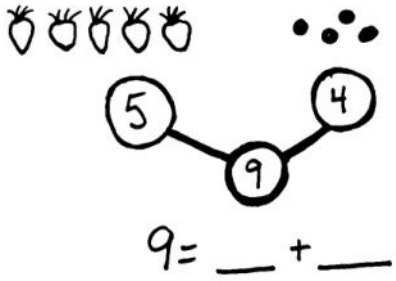
NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Model the Application Problem for students with disabilities. When asking students to count, slide apart the 4 pennies and 5 pennies; then, count 4 pennies while moving these to one side, and count 5 pennies while moving those to the other side. Have students practice a few times in class until they can carry on independently with confidence.

Note: The physical decomposition and composition of 9 with the pennies, and the subsequent thinking about the number bond, serves as the anticipatory set for representations with equations in this lesson.

Concept Development (25 minutes)

Materials: (S) Personal white board



T: Listen to my story. Toby had 9 tasty berries. 5 were strawberries, and 4 were blueberries. How many berries did he have in all?

S: 9.

T: How many strawberries?

S: 5.

T: How many blueberries?

S: 4.

T: Excellent listening! Draw Toby's berries on the blank side of your personal white board, and I will draw them here. (Demonstrate.)

T: Count the strawberries, and write that number underneath them. Now, count the blueberries, and write that number. We want to use your numbers to make a number bond and a number sentence about Toby's berries. How many berries in all?

S: 9.

T: Great! Let's make a number bond with those numbers. (Demonstrate using the 5 and 4 previously written under the drawings.)

T: Let's make our number sentence now. We could begin our number sentence with 9 to show how many berries in all. (Write 9 = ___ + ___.) How do I know what numbers to write in the blanks?

S: Put in the strawberries and the blueberries! → Those are the parts!

T: (Demonstrate.) Yes! Write the number sentence on your board, too. Turn to your partner, and read the number sentence. Talk about how you knew which number should go where. (Circulate to ensure understanding.)

T: Erase your board. I have another story for you. Kate had 6 beads. Her friend gave her 3 more beads. Now Kate has 9 beads. How many beads did Kate have at first? (6.) How many did her friend give her? (3.) How many beads does Kate have altogether? (9.)

T: On your board, draw the number of beads Kate had at first in the 5-group way. Let's fill in these beads to help us keep track of them. (Demonstrate.) Now, draw the beads her friend gave her using empty circles. (Demonstrate using empty circles.) How could we make a number sentence about the story and your drawing?

S: Write the numbers for the parts first! Then, we can put the total at the end after our equal sign.

T: (Write ___ + ___ = 9.) What number should go in the first blank?

S: Six for how many beads she had at first.

T: And the second blank?

S: Three for the ones her friend gave her.

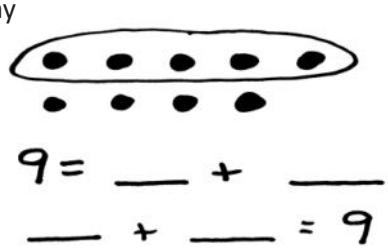
T: Great! Write your number sentence on your board.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

After reading and pointing to the number sentence, have English language learners practice repeating it (e.g., 9 equals 5 and 4, 8 equals 5 and 3). This helps them feel more confident about reading their number sentences to a partner. Allow them to point to their number bond to show how they knew where to put the whole and the parts.

How is this number sentence different from the first one you wrote about the berries?

S: This time, we have our parts first. → Last time, we put how many berries in all first. (Allow time for discussion.)



MP.7

T: Erase your board again, and draw 9 the 5-group way. With your marker, circle the group of 5 dots at the top. We want to write two different number sentences about your picture. (Write 9 = ___ + ___ and ___ + ___ = 9.) Who can help me fill in the blanks? (Allow time for discussion.) Write the number sentences on your board, and show your partner.

T: Erase your board. Work with your partner to draw 8 the 5-group way. See if you can find the 5 inside the 8, circle it, and create number sentences about your picture. (Allow time for partner work, allowing students to share their equations with the class. If time permits, ask them to work with 5-group pictures and decompositions for 7 and 6 as well.)

Problem Set (10 minutes)

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

Student Debrief (8 minutes)

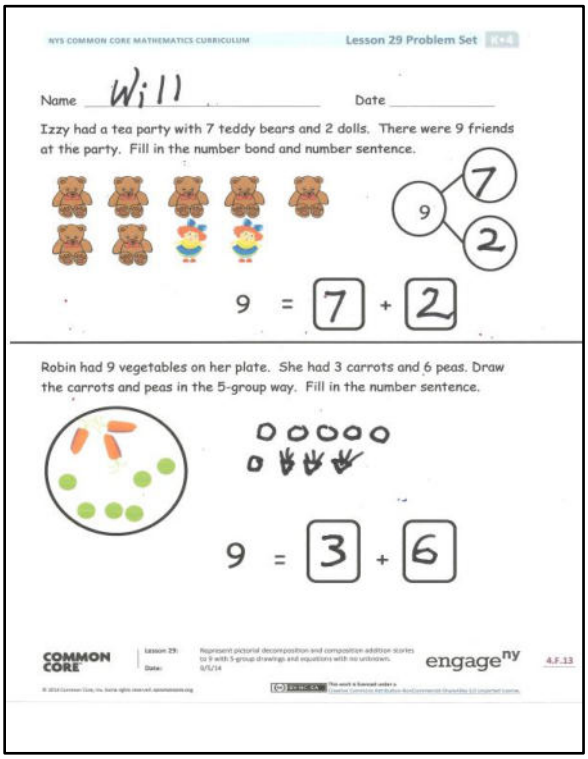
Lesson Objective: Represent pictorial decomposition and composition addition stories to 9 with 5-group drawings and equations with no unknown.

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.

- How did the number bonds help you to make your number sentences in the Problem Set?
- How do you know where the whole or total goes in your number sentence? The parts? (Check for understanding that the sum can be represented on either side of the equation.)
- When you drew your marbles, why was it helpful to make them in the 5-group way?
- How did circling the group of 5 help you with your counting when using 5-groups? What were your strategies?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 29 Problem Set K•4

Name Will Date

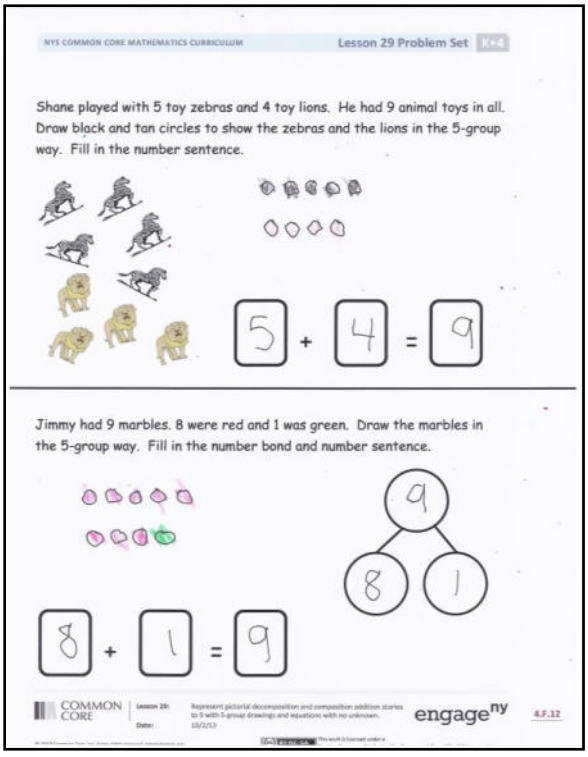
Izzy had a tea party with 7 teddy bears and 2 dolls. There were 9 friends at the party. Fill in the number bond and number sentence.

9 = 7 + 2

Robin had 9 vegetables on her plate. She had 3 carrots and 6 peas. Draw the carrots and peas in the 5-group way. Fill in the number sentence.

9 = 3 + 6

COMMON CORE engage^ny 4.F.13


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 29 Problem Set K•4

Shane played with 5 toy zebras and 4 toy lions. He had 9 animal toys in all. Draw black and tan circles to show the zebras and the lions in the 5-group way. Fill in the number sentence.

5 + 4 = 9

Jimmy had 9 marbles. 8 were red and 1 was green. Draw the marbles in the 5-group way. Fill in the number bond and number sentence.

9 (8, 1)

8 + 1 = 9

COMMON CORE engage^ny 4.F.12

Name _____ Date _____

My Addition Practice


1 + 1 = ☐	2 + 3 = ☐
4 + 1 = ☐	1 + 3 = ☐
1 + 2 = ☐	2 + 2 = ☐
3 + 1 = ☐	3 + 1 = ☐
1 + 4 = ☐	2 + 3 = ☐
2 + 1 = ☐	4 + 1 = ☐
2 + 2 = ☐	3 + 2 = ☐
3 + 2 = ☐	1 + 3 = ☐

Name _____ Date _____

My Decomposition Practice

1 + 1 = ☐	2 = ☐ + ☐
☐ = 4 + 1	3 = ☐ + ☐
1 + 2 = ☐	2 + 2 = ☐
3 + 2 = ☐	☐ = 3 + 1
☐ = 1 + 3	3 = ☐ + ☐
2 + 1 = ☐	3 + 2 = ☐
1 + 4 = ☐	4 = ☐ + ☐
☐ = 3 + 2	4 = ☐ + ☐

Name _____ Date _____

My Subtraction Practice


5 - 1 = ☐	5 - 4 = ☐
4 - 1 = ☐	5 - 3 = ☐
3 - 1 = ☐	5 - 2 = ☐
2 - 1 = ☐	3 - 1 = ☐
5 - 2 = ☐	2 - 1 = ☐
3 - 2 = ☐	3 - 2 = ☐
4 - 3 = ☐	4 - 2 = ☐
4 - 2 = ☐	4 - 1 = ☐

Name _____ Date _____

My Subtraction Practice


5 - 1 = ☐	5 - 4 = ☐
☐ = 4 - 1	5 - 3 = ☐
3 - 1 = ☐	5 - 2 = ☐
2 - 1 = ☐	☐ = 3 - 1
☐ = 5 - 2	☐ = 2 - 1
3 - 2 = ☐	3 - 2 = ☐
4 - 3 = ☐	4 - 2 = ☐
☐ = 4 - 2	4 - 1 = ☐

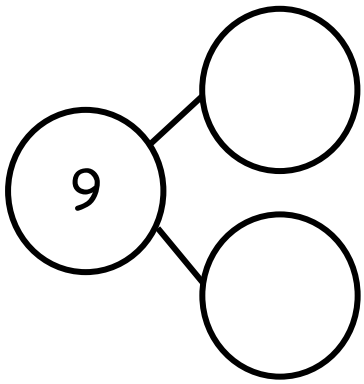
Name _____ Date _____

My Mixed Practice to 5


1 + 1 = ☐	5 - 4 = ☐
☐ = 2 - 1	☐ = 2 + 3
3 + 1 = ☐	5 - 2 = ☐
4 - 1 = ☐	☐ = 3 - 1
☐ = 1 + 3	☐ = 2 + 1
3 + 2 = ☐	1 + 2 = ☐
5 - 3 = ☐	2 + 2 = ☐
☐ = 4 + 1	4 - 2 = ☐

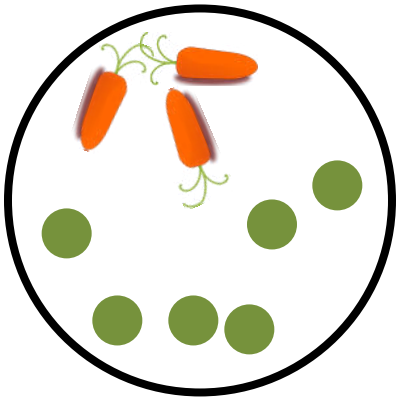
Name _____ Date _____

Izzy had a tea party with 7 teddy bears and 2 dolls. There were 9 friends at the party. Fill in the number bond and number sentence.



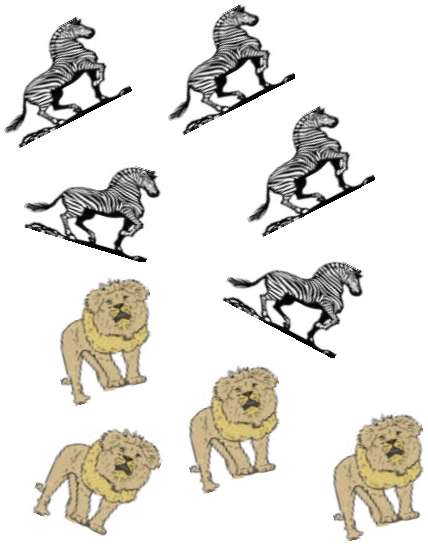
9 = ☐ + ☐

Robin had 9 vegetables on her plate. She had 3 carrots and 6 peas. Draw the carrots and peas in the 5-group way. Fill in the number sentence.



9 = ☐ + ☐

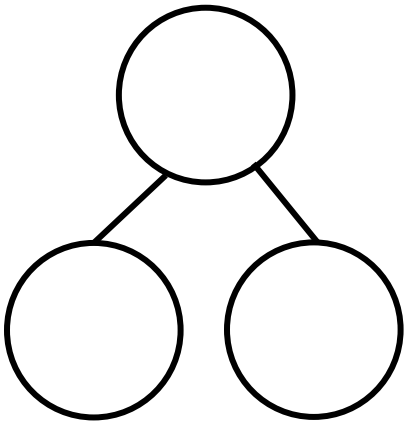
Shane played with 5 toy zebras and 4 toy lions. He had 9 animal toys in all. Draw black and tan circles to show the zebras and the lions in the 5-group way. Fill in the number sentence.



☐ + ☐ = ☐

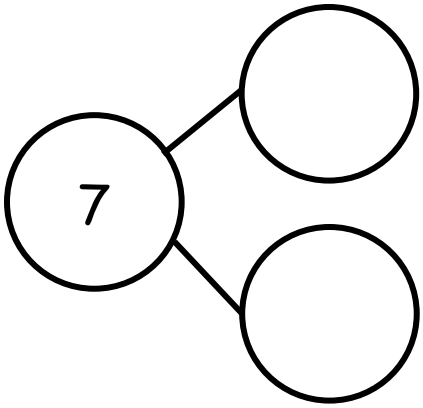
Jimmy had 9 marbles. 8 were red, and 1 was green. Draw the marbles in the 5-group way. Fill in the number bond and number sentence.

☐ + ☐ = ☐



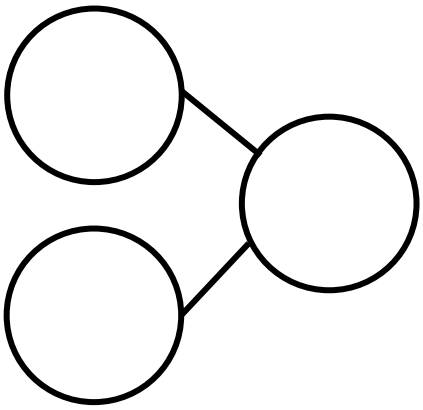
Name _____ Date _____

Jack found 7 balls while cleaning the toy bin. He found 6 basketballs and 1 baseball. Fill in the number sentence and the number bond.



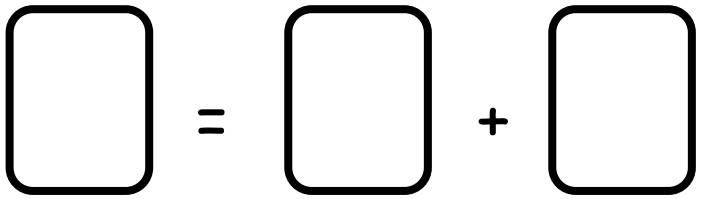
7 = ☐ + ☐

Jack found 7 mitts and 2 bats. He found 9 things. Fill in the number sentence and the number bond.



☐ + ☐ = ☐

Jack found 8 hockey pucks and 1 hockey stick. He found 9 hockey things. Draw the hockey pucks and stick in the 5-group way. Fill in the number sentence.



Jack needs a snack. He found 9 pieces of fruit. 5 were strawberries, and 4 were grapes. Draw the strawberries and grapes in the 5-group way. Fill in the number sentence.