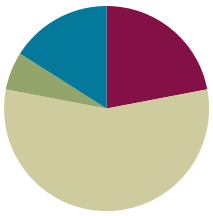
Lesson 23

Objective: Decompose the number 7 using 5-group drawings by hiding a part, and record each decomposition with a drawing and subtraction equation.

Suggested Lesson Structure

Fluency Practice	(11 minutes)
Application Problem	(3 minutes)
Concept Development	(28 minutes)
Student Debrief	(8 minutes)
Total Time	**(50 minutes)**



Fluency Practice (11 minutes)

- Happy Counting **K.CC.2** (3 minutes)
- 5-Group Hands **K.OA.3** (4 minutes)
- Take Away Fingers **K.OA.1** (4 minutes)

Happy Counting (3 minutes)

Note: Fluidity with counting forward and backward builds students' number sense and sets the stage for counting on strategies used in Grade 1.

Conduct the activity as described in Lesson 19. As a variation, add 11 and 12 to the count.

5-Group Hands (4 minutes)

Materials: (T) Large 5-group cards (1–10) (Lesson 12 Fluency Template 2)

Note: This activity helps to solidify students' understanding of numbers to 10 in relationship to the five and prepares them for using 5-groups with subtraction operations.

Show the 5-group cards, and have students show the 5-group using their hands (for numbers 6–10, 5 on the top and some ones on the bottom). Suggested sequence: 4, 5, 6, 2, 3, 7, 8, 1, 9, 10. Repeat without using the 5-group cards as support.

Take Away Fingers (4 minutes)

Note: This fluency activity provides additional practice with subtraction using fingers, a set of manipulatives always available to students. Some kindergartners need to count all of their fingers to determine how many fingers are left, but when working within 5, many have the ability to subitize, especially after much practice counting the Math Way.

T: Show me 3 fingers the Math Way.
S: (Hold up the pinky, ring, and middle fingers of the left hand.)
T: Take away 1 finger. (Students put down the middle finger.) How many fingers are left?
S: 2.
T: Say the number sentence with me: 3 minus 1 equals 2.

Continue with the following suggested progression: 3 – 2, 2 – 1, 4 – 1, 4 – 3, 4 – 2, 5 – 1, 5 – 4, 5 – 2, and 5 – 3. Stop saying the number sentence along with students after two or three examples. Listen to determine who has gained mastery.

Application Problem (3 minutes)

Materials: (S) Personal white board

Noah had 7 red balloons. 2 balloons popped as he and his kitties played with them.

MP.1

Draw Noah's balloons. How would you show that 2 of them popped in the picture? Can you make a number sentence about your story? Try to draw a number bond to go with it!

Note: This problem introduces work with the number 7 for today's decomposition lesson.

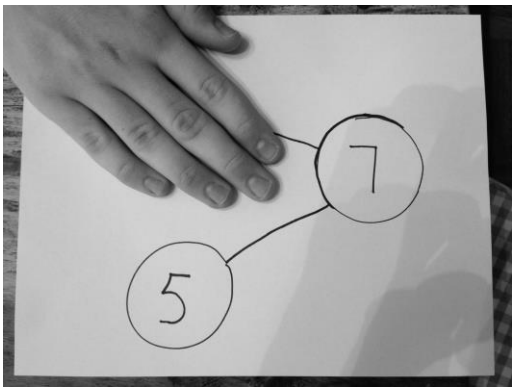
NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Scaffold the Application Problem for students with disabilities who might still need support by providing linking cubes to model the problem before drawing on their personal white boards.

Concept Development (28 minutes)

Materials: (T) Large foam die (S) Linking cube 7-sticks, personal white board, 1 die (per pair)

T: Count the number of cubes in your stick. How many?
S: There are 7.
T: Break 2 cubes off the end of your stick, and hide them in your lap. How many cubes do you still have left in your hand?
S: 5.
T: Tell me a number sentence about what you just did.
S: 7 take away 2 is 5.



T: Yes! You took your 7 and made it into a 2 and a 5. Draw the cubes on your personal white board, and cross off the ones you hid. Now, let's make a number bond about what we just did. You have 2 cubes hiding in your lap and 5 cubes in your hand. How many together?

S: 7.

T: (Demonstrate the number bond on the board.) Then, you took 2 away. I will hide the part, 2. (Cover part of the number bond.) How many were left?

S: 5.

T: Write the number bond on your board, too. You can cross out the part, 2, to show what you did. How would we write our number sentence? (Demonstrate 7 – 2 = 5.)

S: 7 take away 2 is 5.

Repeat the exercise several times with varying subtrahends. Each time, allow students to record the action, the number bond, and the number sentence on their personal white boards.

T: Put your cubes away, and erase your board. Does anyone remember how we could draw 7 the 5-group way? (Allow students to offer guidance in creating the representation on the board.) Let's roll the die to see how many we should take away from our 7. (Demonstrate.) How many?

S: 4.

T: I will cross off 4 to show the ones we are taking away. (Demonstrate.) How many are left?

S: There are still 3 left.

T: What would my number sentence be?

S: 7 – 4 = 3.

T: How could we make a number bond about our picture and then show that we are taking part away? (Allow time for discussion and demonstration.)

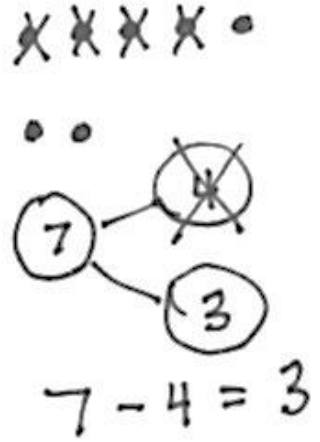
T: On your personal white board, draw the 5-group for the number 7. With your partner, take turns rolling the die to find out how many you should take away each time. When you roll, cross off the dots, and work with your partner to make the number bond and write the number sentence. Let's see how many different number sentences we can find! (Circulate during the activity to check understanding and correct representation of the 5-group situations.)

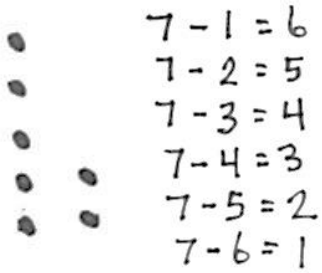
T: Who would like to share one of her number sentences with the class? I will list them on the board.

S: 7 – 1 = 6. → We got 7 – 5 = 2. → We found 7 – 3 = 4.

NOTES ON MULTIPLE MEANS OF REPRESENTATION:

Scaffold the lesson for English language learners by pointing to visuals on the word wall while talking about *number bond*s and the *5-group way*. Model the use of the math vocabulary they should use with their partners (e.g., "I rolled a 3; 7 take away 3 is 4").





Problem Set (10 minutes)

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

Student Debrief (8 minutes)

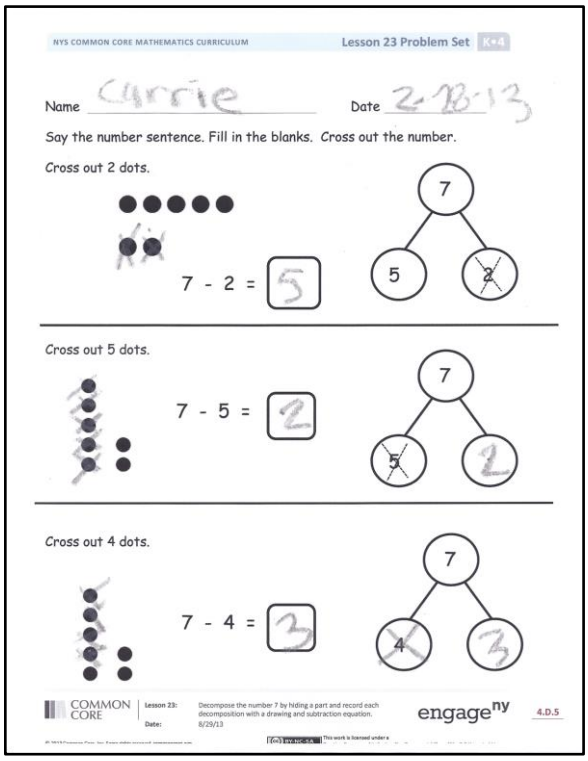
Lesson Objective: Decompose the number 7 using 5-group drawings by hiding a part, and record each decomposition with a drawing and subtraction equation.

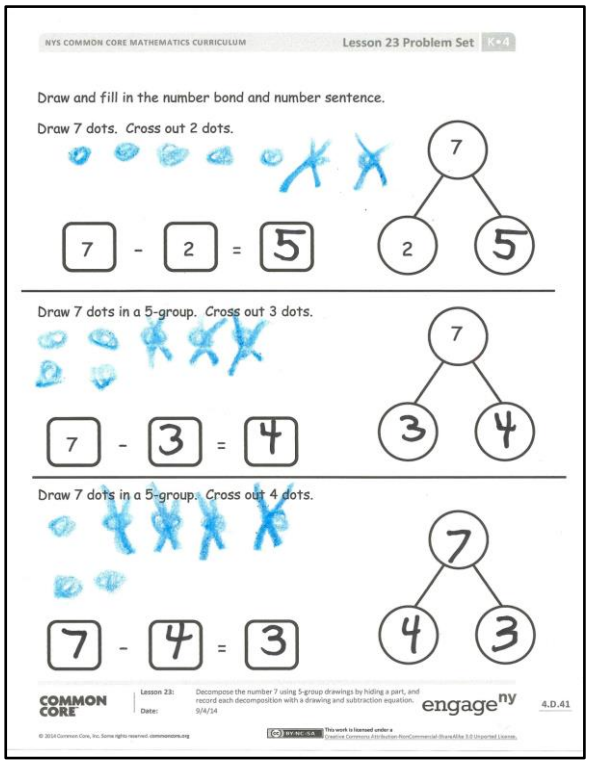
The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

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. Why is there a 7 at the top of each number bond? Where is the 7 in the number sentence?
- Which dots is the number 7 talking about?
- Compare with your neighbor the dots you put an X on. Did you put the X on the same dots as your neighbor? Did it change how many dots were left?
- How can the number bond help you when you are taking away part of a number?
- How do the number bonds and number sentences go together?

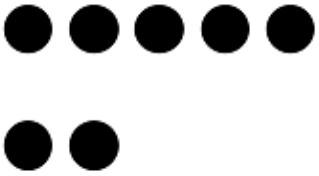




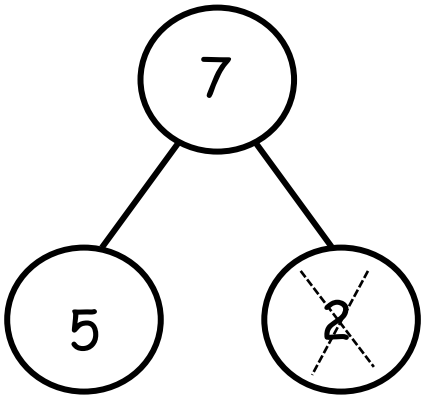
Name _____ Date _____

Say the number sentence. Fill in the blanks. Cross out the number.

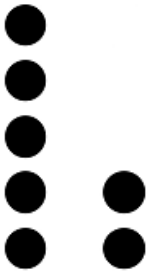
Cross out 2 dots.



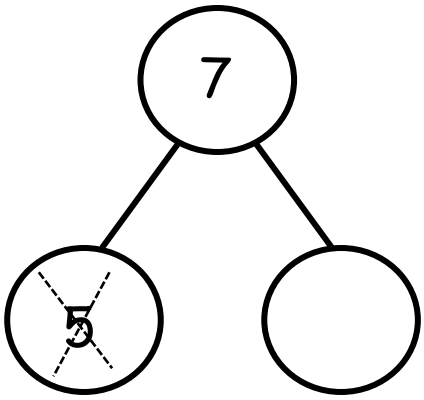
7 - 2 = ☐



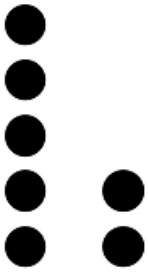
Cross out 5 dots.



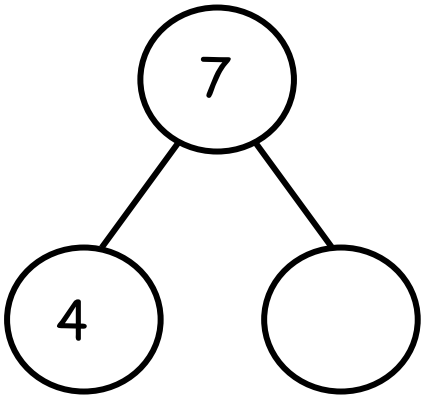
7 - 5 = ☐



Cross out 4 dots.

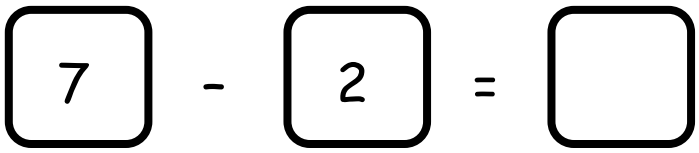


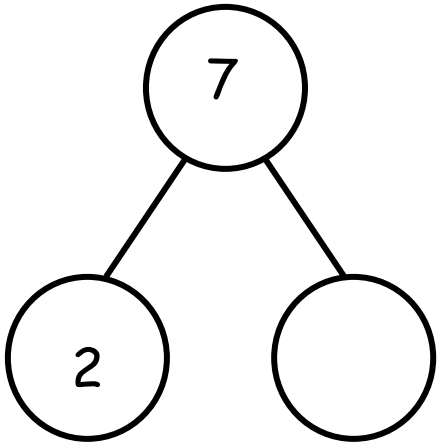
7 - 4 = ☐



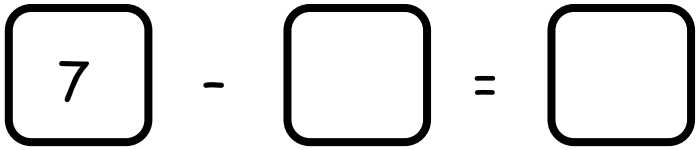
Draw and fill in the number bond and number sentence.

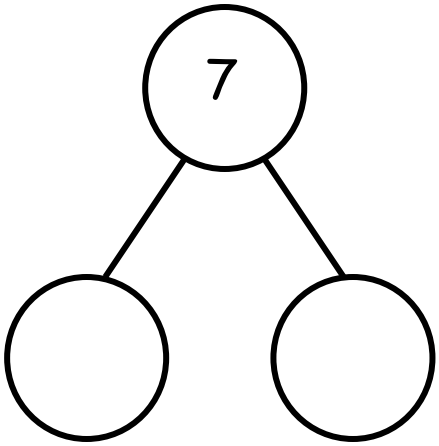
Draw 7 dots. Cross out 2 dots.



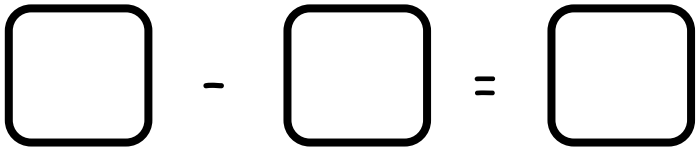


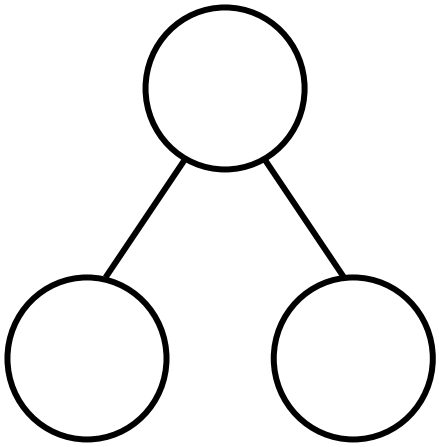
Draw 7 dots in a 5-group. Cross out 3 dots.





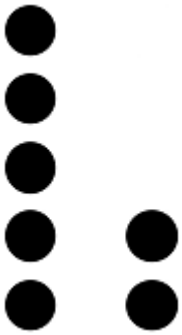
Draw 7 dots in a 5-group. Cross out 4 dots.



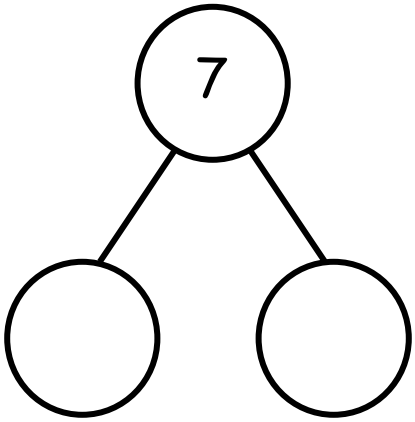


Name _____ Date _____

Fill in the number sentence and number bond.
Cross out 5 dots.

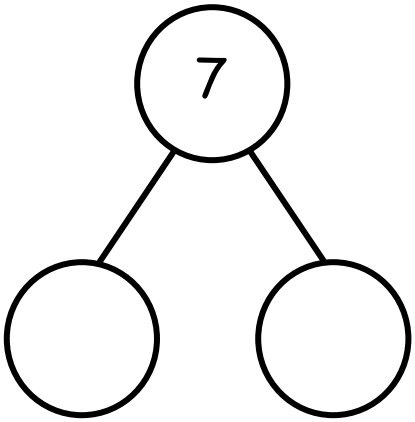


7 - ☐ = ☐



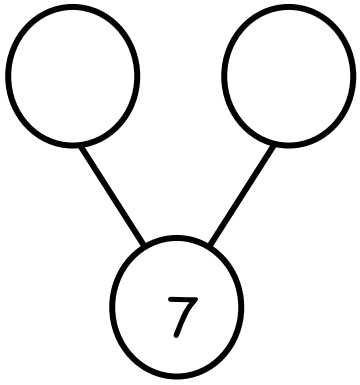
Draw 7 dots. Cross out 3 dots.

7 - ☐ = ☐



Draw 7 dots in a 5-group like the first problem.
Cross out 4 dots.

7 - ☐ = ☐



On the back of your paper, draw 7 dots. Cross out some, and write a number sentence and a number bond to match.