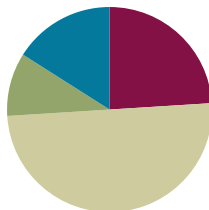


Lesson 14

Objective: Represent decomposition and composition addition stories to 7 with drawings and equations with no unknown.

Suggested Lesson Structure

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



Fluency Practice (12 minutes)

- Sprint: Make 7 **K.OA.3** (12 minutes)

Sprint: Make 7 (12 minutes)

Materials: (S) Make 7 Sprint (2 copies)

Note: This Sprint continues to support students' understanding of part–total relationships. The addition of numerals at the end of the Sprint gives students, who are comfortable with the partners of 7, an opportunity to move from pictorial to more abstract thinking.

T: It's time for a Sprint! (Briefly recall previous Sprint preparation activities, and distribute Sprints facedown.) Take out your pencil and one crayon, any color. For this Sprint, you are going to circle the number that makes 7. (Demonstrate the first problem as needed.)

Continue to follow the Sprint procedure as outlined in Lesson 3. Have students work on the Sprint for a second time (they soon work on two different Sprints in a single day). Continue to emphasize that the goal is simply to do better than the first time and celebrate improvement.



NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Challenge students working above grade level to solve another Application Problem but with an unknown, such as “The train is now pulling some cars. 2 of the cars are empty, and 3 are full.” Ask students to draw a number bond and write a number sentence of the situation.

Application Problem (5 minutes)

Materials: (S) Personal white board

Larry the train is pulling 7 cars. 3 cars are full, and 4 cars are empty.

Draw the train, and make a number bond about your picture. Discuss your work with your partner.

Extension: Can you make a number sentence to go with your picture?

Note: Decomposition and composition of the number 7 serves as an anticipatory set for today's lesson.

Concept Development (25 minutes)

Materials: (S) Linking cube 7-stick, train (Template) inserted into personal white board

T: You learned a lot about how to write number sentences yesterday! We will practice this more today using our 7-sticks. Let's pretend each cube is a train car. How many cars are on your train?

S: 7 cars!

T: Record that on your personal white board, and put your cars on the train track.

T: Snap your train into 2 groups to show 5 cars and 2 cars on your train track.

T: 7 cars is the same as ...?

S: 5 cars and 2 cars.

T: We write $7 = 5 + 2$. Write the number sentence that tells about what we did.

S: (Write $7 = 5 + 2$.)

T: Now we will put the parts together again. How many are in the longer part of the train?

S: 5 cars.

T: In the shorter part of the train?

S: 2 cars.

T: Let's write $5 + 2$. Put your cars together on the track. What number equals $5 + 2$?

S: 7.

T: Let's look at our number sentence. What does the 5 tell us?

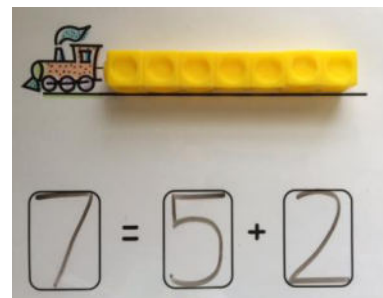
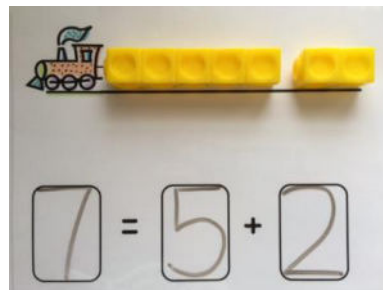
S: The 5 tells us about the longer part of the train.

T: What does the 2 tell us?

S: The 2 tells us about the shorter part of the train.

T: What does the 7 tell us?

S: The 7 tells us about the **total** number of cars on the track.



MP.2

- T: Turn and talk to your partner about your cars on the track. What if we broke your group of 7 train cars into a part with 3 and a part with 4? Show the cars on your track, and write a number sentence to tell about the new story. (Allow time for sharing and discussion. Circulate to ensure that the parts of the equation are being accurately represented.)
- T: With your partner, you are going to play several games of Snap with the train cars (see Lesson 11 for Snap instructions). Each time that you play, work together to show the cars on the track, and write a number sentence that shows what happened. Hmm... I wonder how many different number sentences our class can find about seven. (Circulate to observe accuracy and understanding, listening for correct vocabulary and rich mathematical discussion.)
- T: It's time to show and share how many number sentences you found! Hold up your board. What were some of your discoveries? Use your math words and your number sentences to tell me. (Create a list on the board as students share.)
- S: $7 = 6 + 1$. $\rightarrow 3 + 4 = 7$, too. $\rightarrow 2 + 5 = 7$. $\rightarrow 7 = 5 + 2$.
- T: How did you know where the numbers would go in your number sentences? Tell me how you decided to write them.

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 decomposition and composition addition stories to 7 with 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.

- Look at the bears on the Problem Set. How did you know where to put the 6? The 1? The 7? Does it matter where you write the numbers for the big bear and the little bears in the number bond?

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 14 Problem Set K•4


Name: NOAH Date: 2-15-13

There are 7 animals. There are 5 giraffes and 2 elephants.




$7 = 5 + 2$

At the store there were 1 big bear and 6 small bears. There were 7 bears.



$1 + 6 = 7$

$7 = 2 + 5$

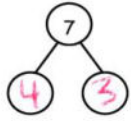


COMMON CORE Lesson 14: Represent pictorial decomposition and composition addition stories to 7 with drawings and equations with no unknown. engage^{ny} 4.C.6

- Look at the gray and white cubes. Is there a difference between the broken stick and the whole stick? What is the difference? What things are the same about the sticks?
- Why do you think you and your classmates were able to find so many different number sentences for 7 in the Snap game?
- What happens when you turn around one of the addition number sentences like I did on the board?

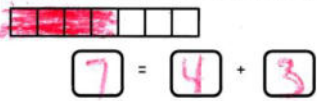
NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 14 Problem Set K•4

4 gray cubes and 3 white cubes are 7 cubes.




4 + 3 = 7

Color the cubes to match the cubes above. Fill in the number sentence.



7 = 4 + 3






























Create your own story and tell your partner. Have your partner draw a picture of your story and create a number sentence to go with the picture.



7 + 1 = 8

COMMON CORE Lesson 14: Represent pictorial decomposition and composition addition stories to 7 with drawings and equations with no unknowns. 8/25/13 engage^{ny} 4.C.7

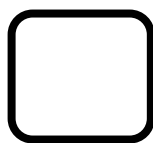
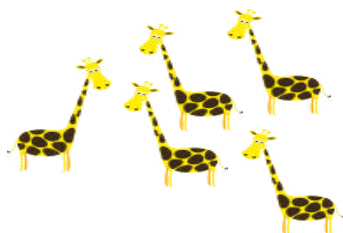
Circle the number to make 7.

1				
2				
3	* * * * *	* *	* * *	
4				
5				
6	* * *	* * *	* * * *	* *
7				
8				
9	* *	* *	* * * * *	* * * *
10	2	2	5	4
11				
12				
13	1	2	6	5

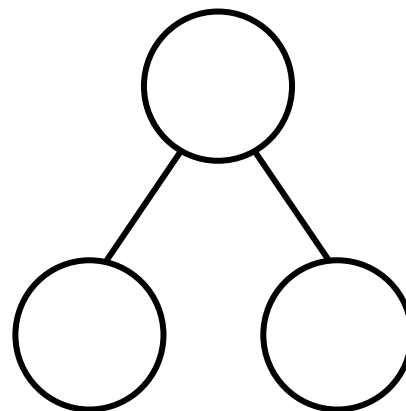
Name _____

Date _____

There are 7 animals. There are 5 giraffes and 2 elephants.



$$= 5 + 2$$



At the store, there was 1 big bear and 6 small bears. There were 7 bears.

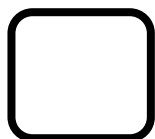
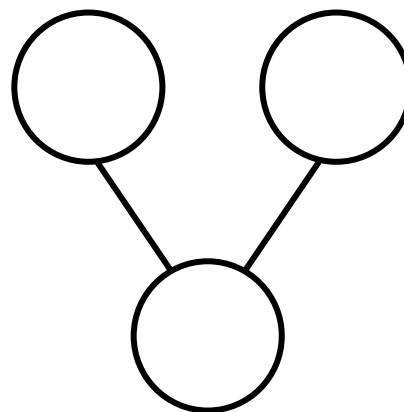
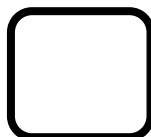


1

+

6

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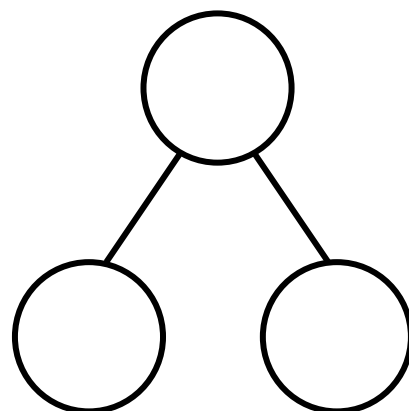
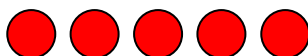


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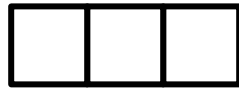
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5



The squares below represent cubes.
4 gray cubes and 3 white cubes are 7 cubes.

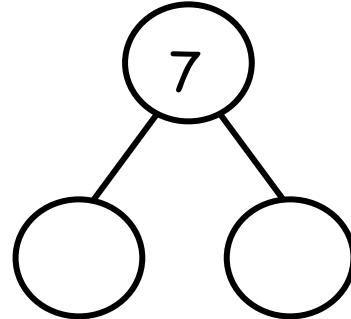
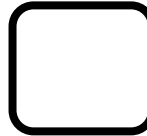


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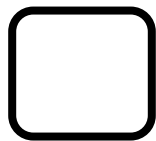
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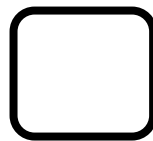
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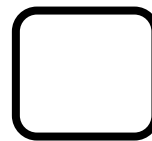
Color the cubes to match the cubes above. Fill in the number sentence.



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+



Create your own story, and tell your partner. Have your partner draw a picture of your story and create a number sentence to go with the picture.

Name _____

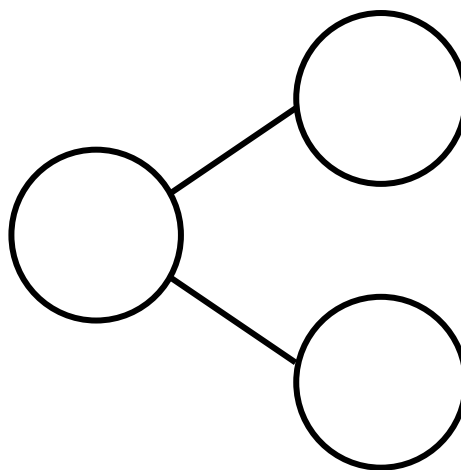
Date _____



There are 7 bears. 3 bears have bowties. 4 bears have hearts. Fill in the number sentences and the number bond.

$$\square = \square + \square$$

$$\square + \square = \square$$

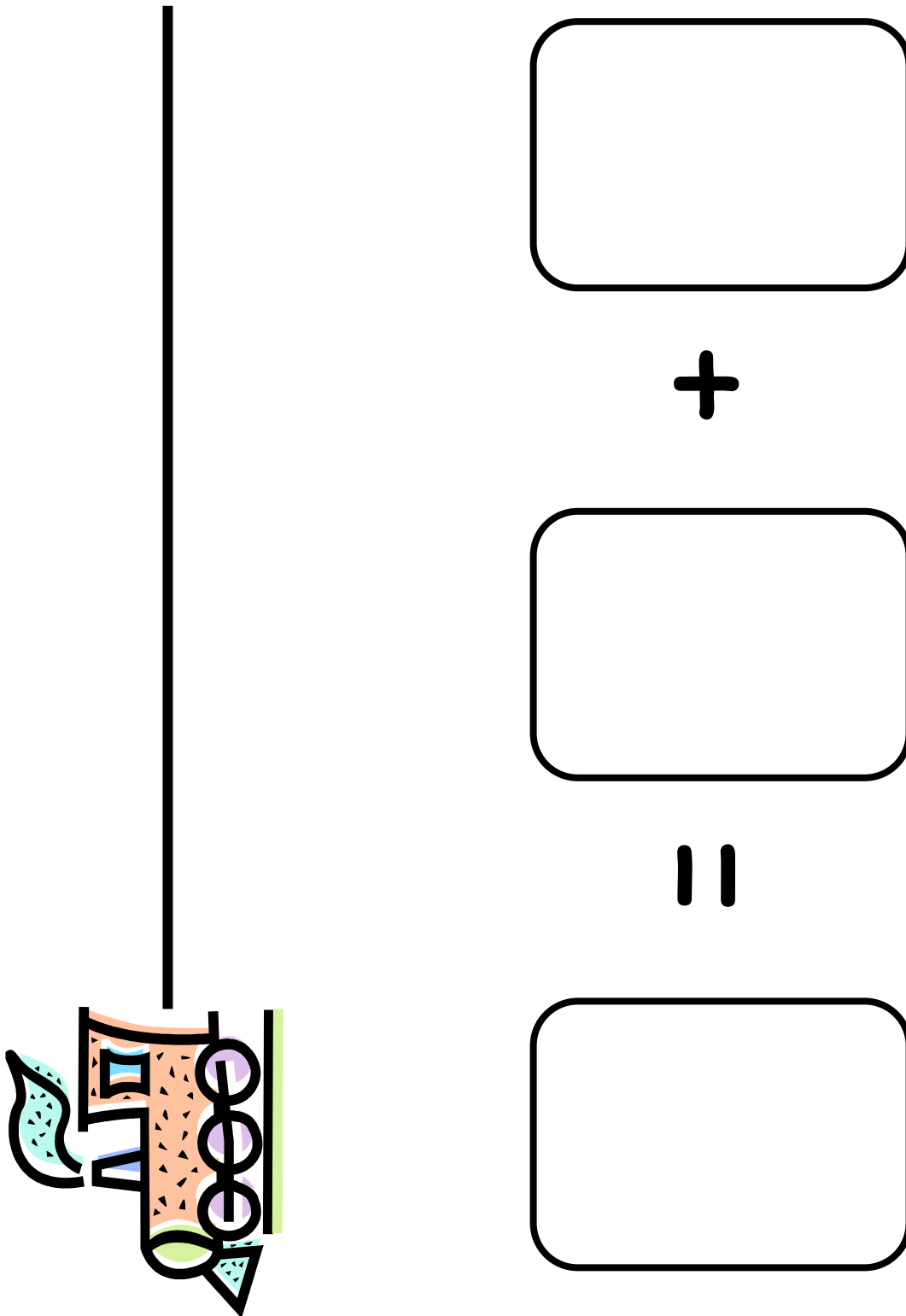


5 bears have scarves on, and 2 do not. There are 7 bears.

Write a number sentence that tells about the bears.

$$\square = \square + \square$$

On the back of your paper, draw a picture about the 7 bears. Write a number sentence, and make a number bond to go with it.



train