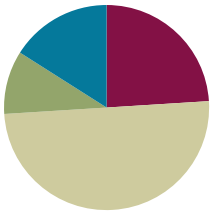
Lesson 20

Objective: Solve *take from with result unknown* expressions and equations using the minus sign 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: Cross 1 Out and Write How Many **K.CC.4c** (12 minutes)

Sprint: Cross 1 Out and Write How Many (12 minutes)

Materials: (S) Cross 1 Out and Write How Many Sprint (2 copies)

Note: This Sprint supports this topic's lesson, giving students experience with taking away and determining how many are left within the familiar context of *1 less*.

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 cross 1 out and write how many. (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.

Application Problem (5 minutes)

Materials: (S) Paper and pencil or personal white board

Draw the 5 monkeys from yesterday's song on your paper. Decide how many monkeys were sensible and stayed on the bed, and cross off the monkeys who fell off and bumped their heads.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Support English language learners' oral responses by providing sentence starters like:
"I drew ___ monkeys. I took away ___ monkeys, and I have ___ monkeys left." to facilitate their partner share and provide them with a review of the *take away* language they need for the lesson.

With your math words, think about how you would tell the story. How many did you start with? How many did you take away? How many were left?

Share your picture with your partner, and use your math words to tell your story. Did your partner do it the same way? How are your number stories different?

Note: Reviewing the math language from Lesson 19 and giving students a chance to articulate their knowledge serve as a gateway to today's more abstract presentation of the subtraction concept.

Concept Development (25 minutes)

Materials: (S) 5 linking cubes, personal white board

T: Place your linking cubes on the table in front of you. Count them. How many do you have?
S: There are 5.
T: Put 3 linking cubes in your hand, and take them away. How many are left on the table?
S: 2.
T: Yes, 5 take away 3 is 2. There is a special Math Way to write what we just did. We had 5 cubes. I will write the number 5 to show all of the cubes together. (Demonstrate.) There is a special sign we can use when we want to show that we are removing some cubes. It looks like this. (Write the **minus** sign.) How many did we take away?
S: 3.
T: I write the 3 here. (Demonstrate.) You know the next part already! Our sign for *is the same as* or *equals*. (Write the equal sign.) How many were left on the table?
S: 2.
T: I will write that here: 2. Read with me: 5 take away 3 equals 2.
S: 5 take away 3 equals 2.
T: Let's do another one. This time, let's make a picture on our boards about the cubes. Draw your 5 cubes. Now we want to take away 4. How should we show that we are taking them away?
S: Cross them out.
T: Cross out 4 cubes. How many cubes do you have left?
S: 1.
T: Let's write the number sentence together. I will write it on the class board while you write it on your personal white board. 5 cubes take away 4 cubes is 1 cube. 5 – 4 = 1. Read it with me.
S: 5 take away 4 is 1.

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Ask students working above grade level to write their own take away math story and show their solution in writing. Ask early finishers to share their new stories with each other, and encourage them to solve as many stories as they come up with.

Vary the use of the term *equals* by sometimes using *is* or *is the same as.* These multiple means of expression keep the meaning of the symbol fresh.

T: Erase your board. I have a story for you! 5 students were playing on the slide. Draw a circle for each student on your board. 2 of the students left to go to the swings. In your drawing, cross out the students who went to the swings. How many students were left at the slide?

S: 3.

T: Help me write the number sentence, and write it on your board, too. How many students were there at first?

MP.4 S: 5.

T: 5 minus…? How many students went to the swings?

S: 2.

T: 5 – 2 equals…?

S: 3.

T: Let's read it all together: 5 – 2 = 3.

S: 5 – 2 = 3.

T: On your board, draw pictures to make up a take away story of your own. Share your picture with your friend. Can you write the number sentence that tells your story? (Allow time for writing and discussion.)

T: Who would like to share their story and picture with the class?

Problem Set (10 minutes)

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

Student Debrief (8 minutes)

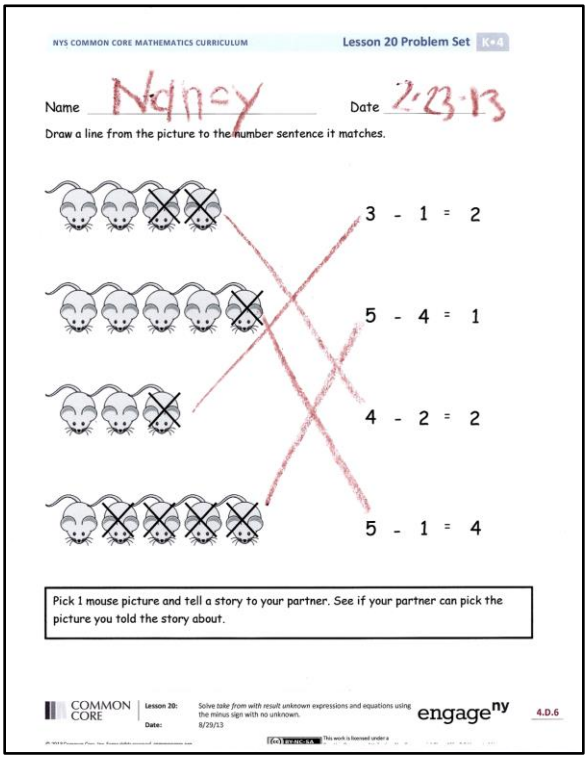
Lesson Objective: Solve *take from with result unknown* expressions and equations using the minus sign with no unknown.

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 mice. What numbers did you use in the number sentence to find the matching mice?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 20 Problem Set K•4

Name Nancy Date 2-13-13

Draw a line from the picture to the number sentence it matches.

3 - 1 = 2

5 - 4 = 1

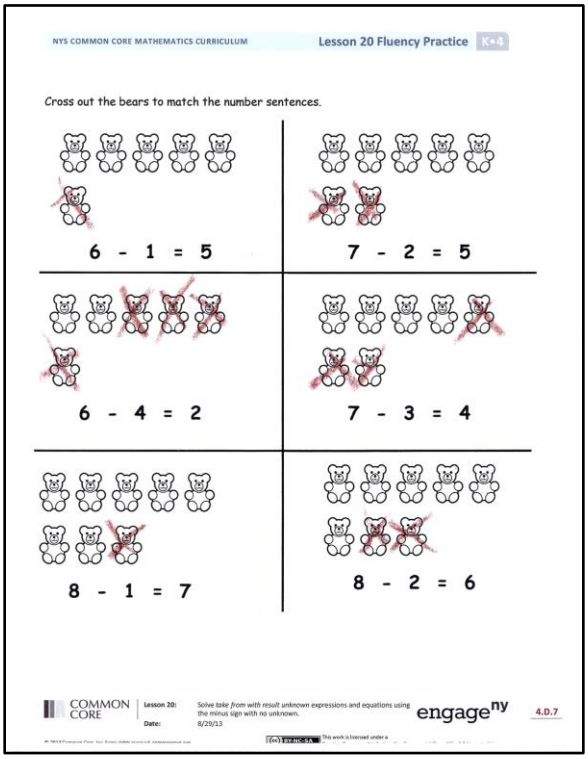
4 - 2 = 2

5 - 1 = 4

Pick 1 mouse picture and tell a story to your partner. See if your partner can pick the picture you told the story about.

COMMON CORE Lesson 20: Date: Solve *take from with result unknown* expressions and equations using the minus sign with no unknown. 8/29/13 engage^ny 4.D.6

- Look at the 4 mice. How many have an X? Tell your neighbor what number in the matching number sentence would have an X on it.
- Look at the bears you crossed out. Compare with your partner's. Did you cross out the same bears as your partner? Does it make a difference which bears you cross out?
- When we write a number sentence about taking away, what number do we write first?
- If we want to show that a number is being *taken away,* what symbol do we use? Draw it in the air with your finger.
- Which number do we write next?
- What number do we write after our symbol for *is*?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 20 Fluency Practice K•4

Cross out the bears to match the number sentences.

6 - 1 = 5

7 - 2 = 5

6 - 4 = 2

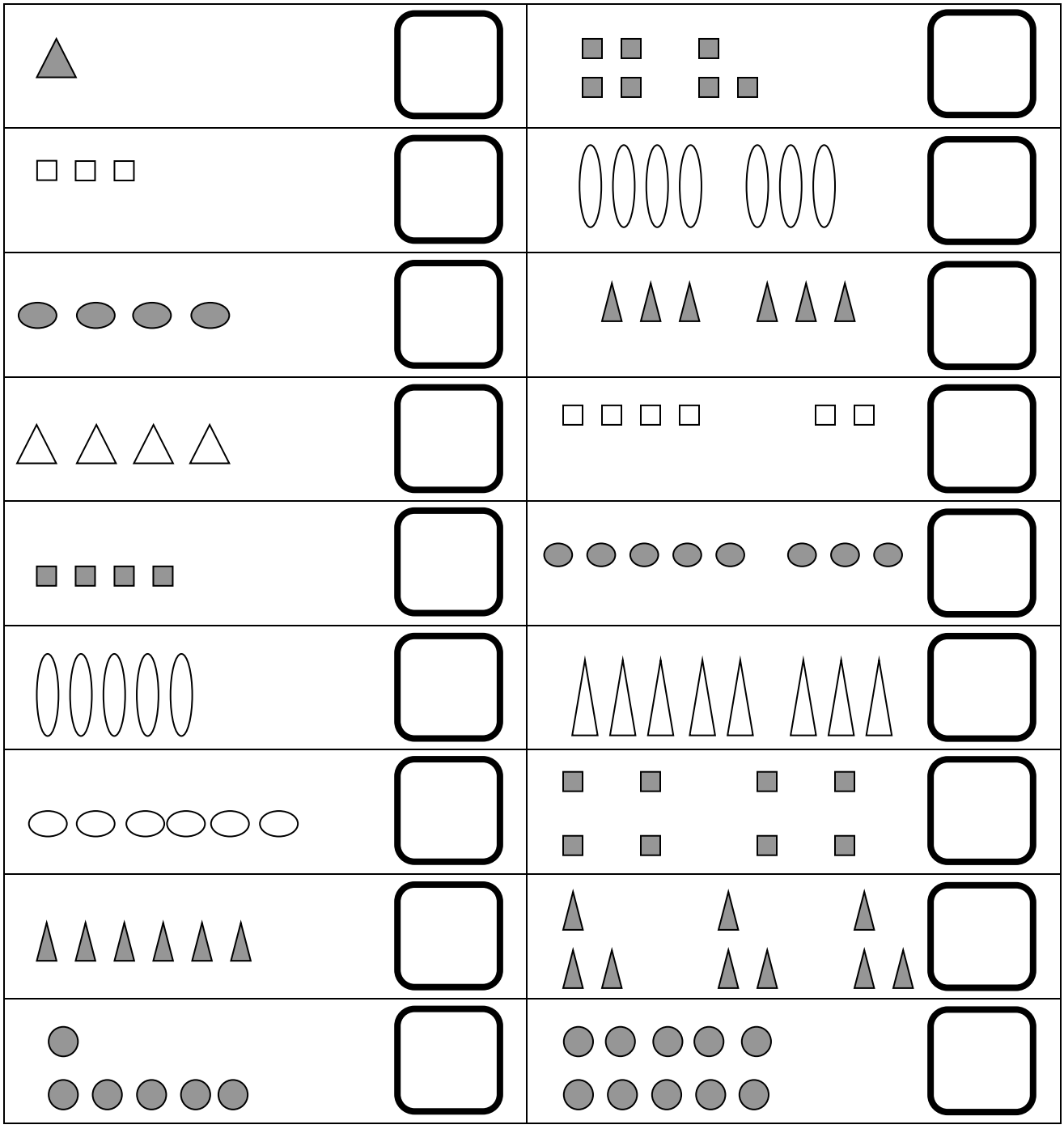
7 - 3 = 4

8 - 1 = 7

8 - 2 = 6

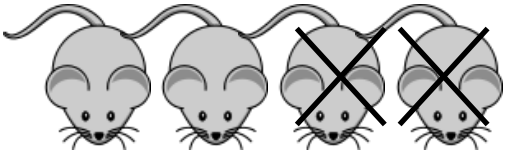
COMMON CORE Lesson 20: Date: Solve *take from with result unknown* expressions and equations using the minus sign with no unknown. 8/29/13 engage^ny 4.D.7

Cross 1 out, and write how many.



Name _____ Date _____

Draw a line from the picture to the number sentence it matches.



3 - 1 = 2

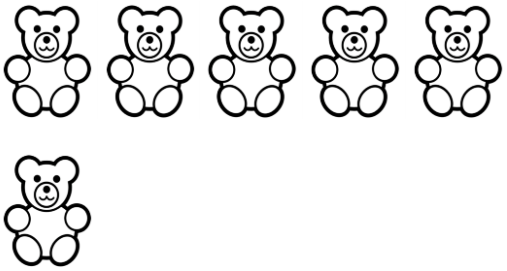
5 - 4 = 1

4 - 2 = 2

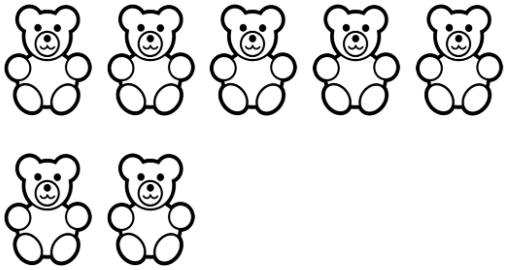
5 - 1 = 4

Pick 1 mouse picture, and tell a story to your partner. See if your partner can pick the picture you told the story about.

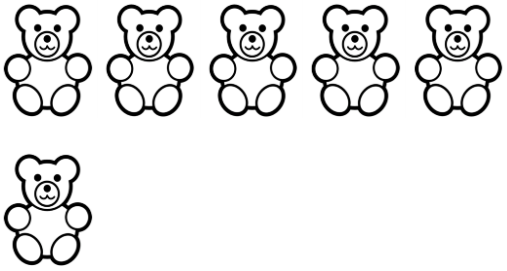
Cross out the bears to match the number sentences.



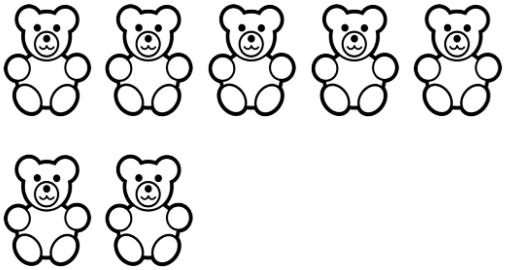
6 - 1 = 5



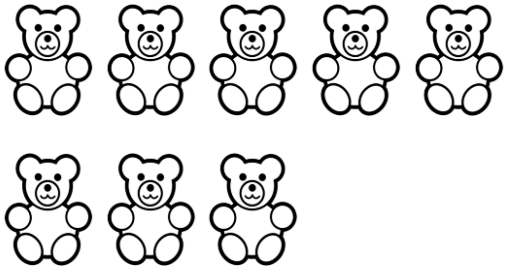
7 - 2 = 5



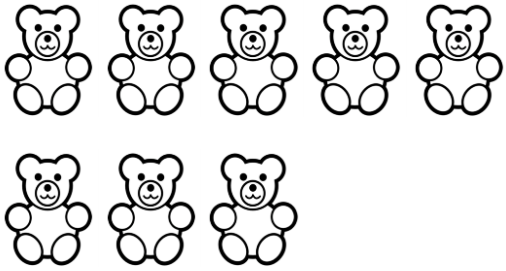
6 - 4 = 2



7 - 3 = 4



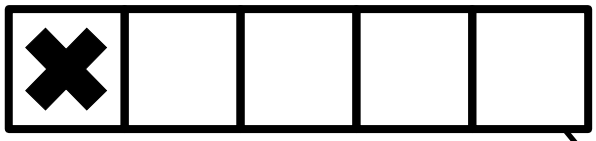
8 - 1 = 7



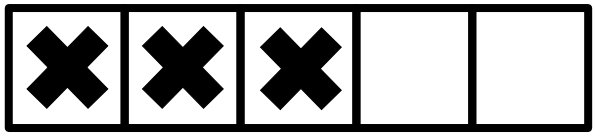
8 - 2 = 6

Name _____ Date _____

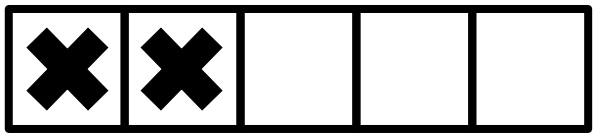
The squares below represent cube sticks. Match the cube stick to the number sentence.



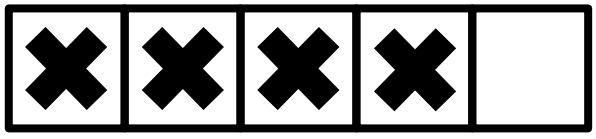
5 - 3 = 2



5 - 1 = 4



5 - 4 = 1



5 - 2 = 3

On the back of the paper, draw a 5-stick, cross out some cubes, and write a number sentence.