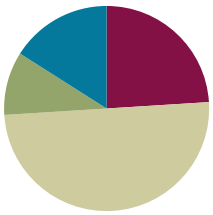
Lesson 34

Objective: Represent subtraction story problems by breaking off, crossing out, and hiding a part.

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)

- Hide 2 **K.OA.1** (3 minutes)
- What Is Less? **K.OA.3** (4 minutes)
- Snap **K.OA.3** (5 minutes)

Hide 2 (3 minutes)

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

Note: This activity prepares students to focus on subtraction in today's lesson.

T: (Show the 4 dot card.) Raise your hand when you know how many dots are on the card. (Wait for all hands to go up, and then give the signal.) Ready?

S: 4.

T: Now, hide 2. You can use your hand to hide 2 of the dots from your eyes, or you can just see it in your mind. Now how many dots are left?

S: 2.

Continue with the following suggested sequence: 3, 5, 6, 7, 8, 9, and 10.

What Is Less? (4 minutes)

Materials: (S) Personal white board

Note: This activity builds on students' understanding of comparison and builds fluency with subtraction facts for numbers to 5.

T: (Write 2 on the board.) Think of a number that is less than 2. Write it on your personal white board, and show me.

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S: (Write 1 or 0.)
T: Write this subtraction sentence on your board: 2 minus 1.
S: (Write 2 – 1.)
T: Write the answer, and show me.
S: (Write 2 – 1 = 1.)
T: Say the subtraction sentence.
S: 2 minus 1 equals 1.

Repeat with 3, 4, and 5. Use each of the smaller numbers students identify to build a subtraction equation (e.g., 3 – 1, 3 – 2). Invite students who choose zero to write a subtraction equation using zero, and show it to the class. Addition and subtraction of zero is covered in Lesson 37.

Snap (5 minutes)

Materials: (S) 5-stick of linking cubes

Note: This fast-paced game serves as a concrete review of the composition and decomposition of numbers to 5. It also supports the part–whole thinking needed in the upcoming lesson.

1. Partner A shows Partner B her 5-stick and then puts it behind her back.
2. When Partner B says, "Snap!" Partner A quickly breaks her stick into two parts.
3. Partner A shows Partner B one part.
4. Partner B tries to figure out the hidden part.
5. Partner A shows the hidden part and checks Partner B's guess.
6. Both partners say the subtraction sentence together (e.g., "5 take away 2 equals 3").

Partners take turns, continuing with the 5-stick. If time permits, students can also play with a 4-stick, 3-stick, etc.

Application Problem (5 minutes)

Materials: (S) Personal white board

Tony had 8 checkers. His friend took 3 away. How many checkers did Tony have left?

Draw a picture of the story. Make a number bond and a number sentence about the story.

Show your work to your friend. Did you both do it the same way?

Note: Thinking about a *take from* problem and discussing the work with a partner provides an anticipatory set for today's lesson.

NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

Have students who are working below grade level and students with disabilities act out the Application Problem before asking them to make a picture of it and explain their thinking.

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Concept Development (25 minutes)

Materials: (S) Linking cube 10-stick with a color change at the five, 10 teddy bears or other counters, paper bowl per pair, personal white board

Problem 1

T: Take out your linking cube stick. How many cubes do you have?

S: 10.

T: Break off 3 cubes from the end. Now how many do you have left?

S: 7.

T: Let's make a number bond about what we just did. What was our whole? (10.) What are our parts now? (7 and 3.) How would we talk about what we just did?

S: We had 10 and broke off 3. → We took away 3. Now we have 7 left. → We made 10 into parts of 3 and 7.

T: Yes! Draw the number bond on your personal board. (Demonstrate.) How could we make a number sentence about this?

S: 10 take away 3 is 7. → 10 – 3 = 7. (If students say 7 + 3 = 10, acknowledge the correct addition sentence, and ask them to say the subtraction sentence.)

Write the number sentence on the board, and ask students to represent it on their personal white boards. Repeat with several different iterations of breaking off, asking students to record number bonds and number sentences each time.

Problem 2

T: Put your linking cubes away. Listen to my story, and draw the picture on your personal white board.

T: Ellie had 9 grapes. Draw the grapes on your board. (Allow time for drawing; circulate to check for accuracy.)

T: She shared 4 grapes with a friend. How could we show that in your drawing?

S: We could cross them out like we did before!

T: Cross out the number of grapes that she shared. How many grapes does Ellie have left?

S: 5. → We crossed out 4; now we have 5 left.

T: How would we make a subtraction sentence about what we did?

S: 9 – 4 = 5.

T: Write the number sentence on your personal white board. Whisper-read it to your partner.

T: Let's tell the story in a different way. This time, Ellie had 10 grapes. She shared 8 grapes. How will your picture and your number sentence change? (Repeat several iterations of the story, each time changing the minuend and subtrahend and asking students to record the drawing and the results in a number sentence.)

NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:

Scaffold the lesson for English language learners by showing them what they are being asked to do. Draw nine grapes, and cross off the number of grapes while instructing students to cross out the number of grapes shared. As the lesson progresses, use gestures to illustrate what students should do.

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Problem 3

MP.1

T: Get out your bears! Now it is time to work with your partner. How many bears do you have?

S: 10.

T: Let's pretend 4 bears went to sleep in a cave. Hide 4 bears under the bowl to show the sleepy bears. How many bears do you have left?

S: We have 6.

T: Draw a number bond on your personal white board. Show the 10 bears you had and the 4 sleepy bears. How many bears were still awake? (6.) Finish the number bond, and write the number sentence. Let's read it together.

S: 10 – 4 = 6.

T: Great job! Let's do some more of this work together. Take turns with your partner hiding some sleepy bears. Each time, write the number bond and the number sentence. Let's see how many *take away* sentences we can make! (Circulate to check for understanding and accuracy. As students create number sentences, list them on the board to be reviewed at the end of the lesson or during the Student Debrief.)

Problem Set (10 minutes)

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

Student Debrief (8 minutes)

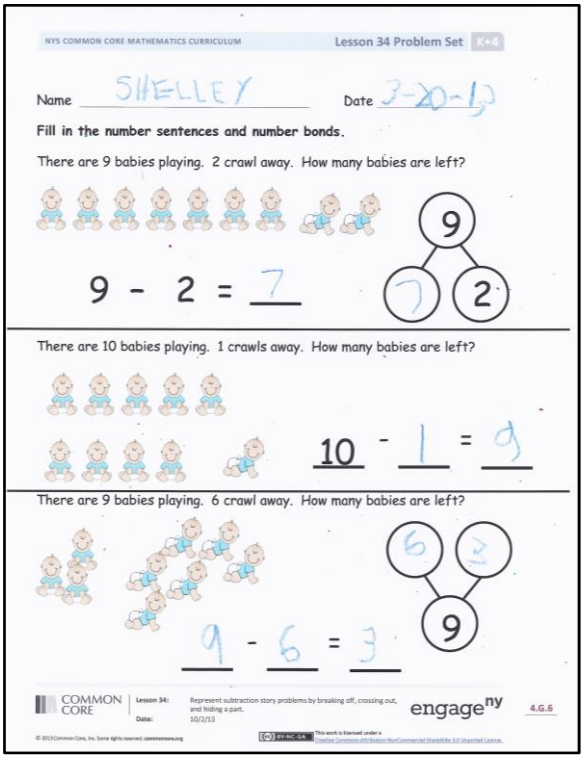
Lesson Objective: Represent subtraction story problems by breaking off, crossing out, and hiding a part.

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 pictures in your Problem Set help you to make your number bonds?
- How were the number bonds related to your subtraction sentences?
- How did you know where to put the different numbers in your *take away* sentences?


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 34 Problem Set K•4

Name SHELLEY Date 3-20-13

Fill in the number sentences and number bonds.

There are 9 babies playing. 2 crawl away. How many babies are left?

9 - 2 = 7

There are 10 babies playing. 1 crawls away. How many babies are left?

10 - 1 = 9

There are 9 babies playing. 6 crawl away. How many babies are left?

9 - 6 = 3

COMMON CORE Lesson 34: Date: Represent subtraction story problems by breaking off, crossing out, and hiding a part. 10/2/13 engage^ny 4.G.6

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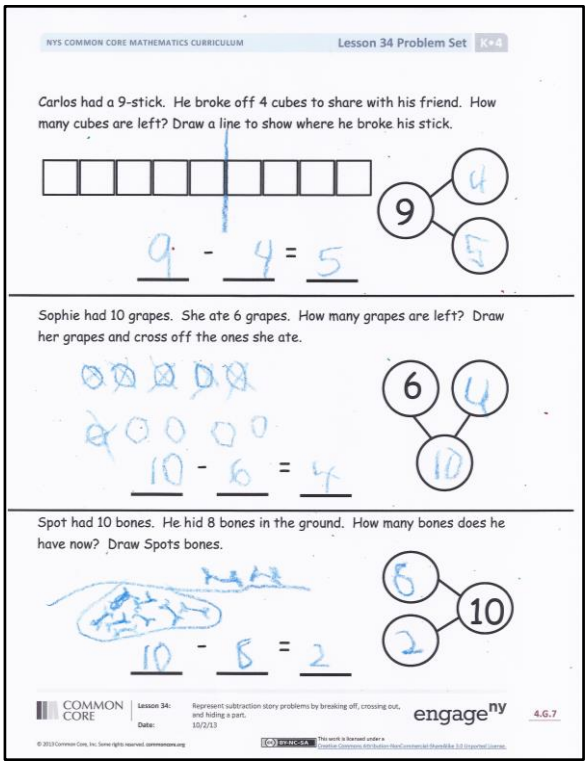
- How are the number sentences we wrote on the board similar? How are they different?
- Think back to Tony's checkers in the Application Problem. What would it look like if we hid the checkers his friend took? What would it look like if we crossed off the ones his friend took? Is there a way that we could break off a part? (Breaking off a part could entail lining up all of the checkers and pulling 3 away from the rest, or students could represent the checkers using an 8-stick and break off 3.)


NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 34 Problem Set K•4

Carlos had a 9-stick. He broke off 4 cubes to share with his friend. How many cubes are left? Draw a line to show where he broke his stick.

9 - 4 = 5

Sophie had 10 grapes. She ate 6 grapes. How many grapes are left? Draw her grapes and cross off the ones she ate.

10 - 6 = 4

Spot had 10 bones. He hid 8 bones in the ground. How many bones does he have now? Draw Spots bones.

10 - 8 = 2

COMMON CORE Lesson 34: Represent subtraction story problems by breaking off, crossing out, and hiding a part. Date: 10/2/13 engage^ny 4.G.7

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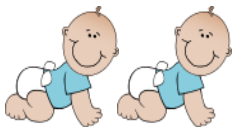
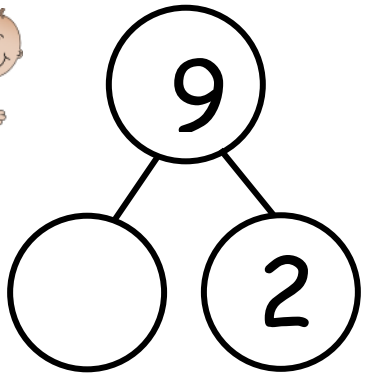
Name _____ Date _____

Fill in the number sentences and number bonds.

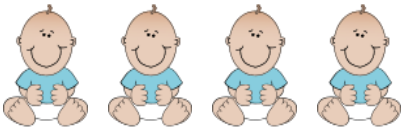
There are 9 babies playing. 2 crawl away. How many babies are left?





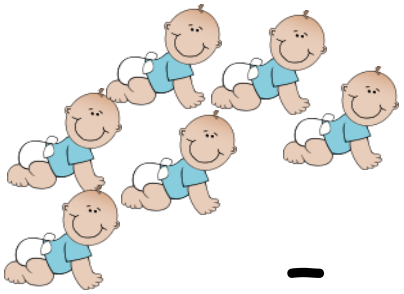
9 – 2 = ____

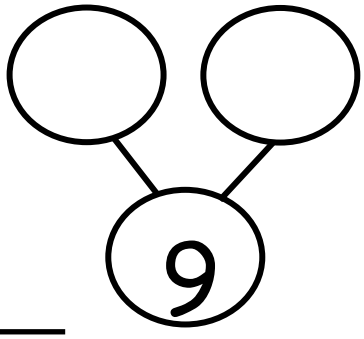
There are 10 babies playing. 1 crawls away. How many babies are left?



10 – ____ = ____

There are 9 babies playing. 6 crawl away. How many babies are left?





____ – ____ = ____

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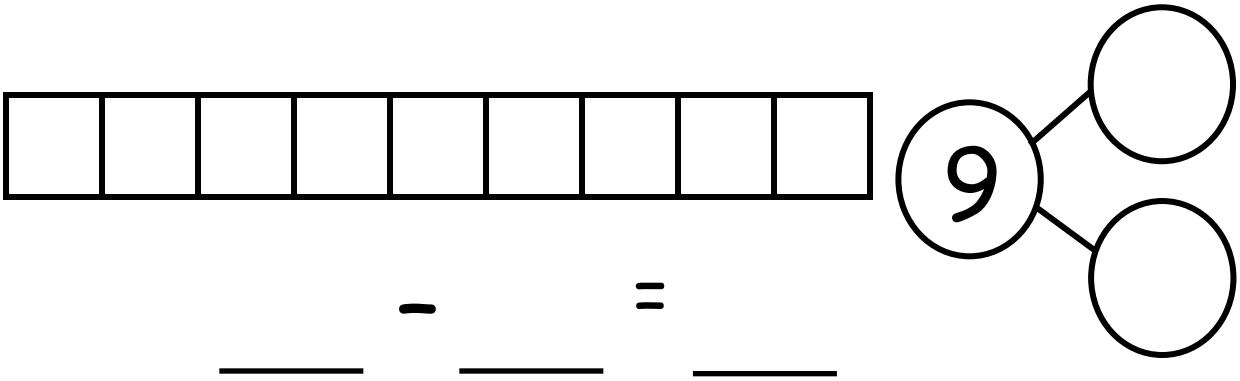
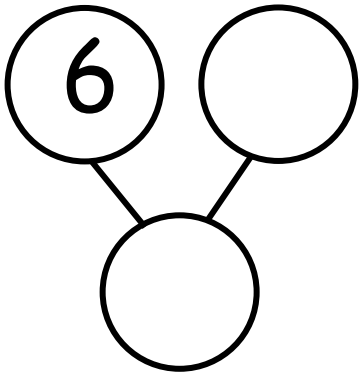
The squares below represent cube sticks.
Carlos had a 9-stick. He broke off 4 cubes to share with his friend.
How many cubes are left? Draw a line to show where he broke his stick.



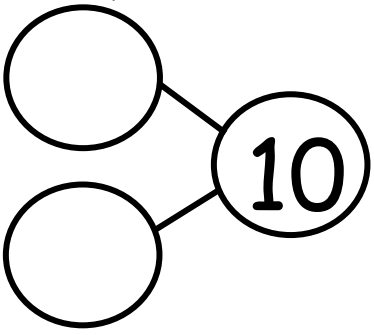
____ − ____ = ____

Sophie had 10 grapes. She ate 6 grapes. How many grapes are left?
Draw her grapes, and cross off the ones she ate.



____ − ____ = ____

Spot had 10 bones. He hid 8 bones in the ground. How many bones does he have now? Draw Spot's bones.



____ − ____ = ____

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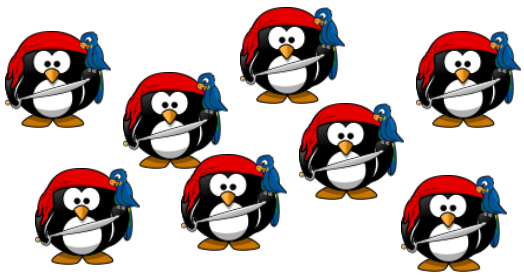
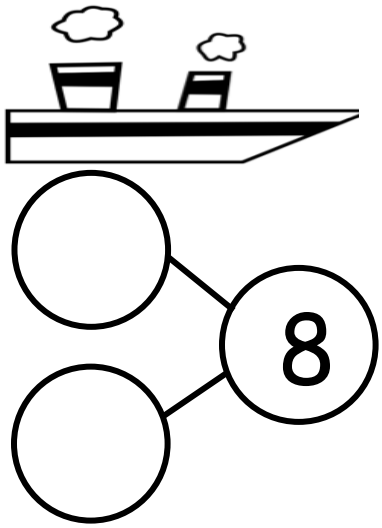
Name _____ Date _____

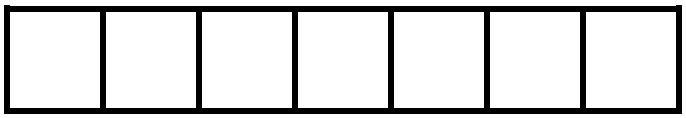
There were 8 penguins. 2 penguins went back to the ship. Cross out 2 penguins. Fill in the number sentence and the number bond.

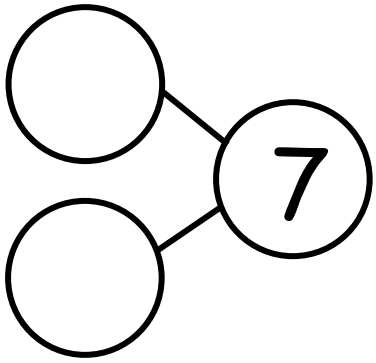




8 - 2 = ____

The squares below represent cubes.
Count the cubes. Draw a line to break 4 cubes off the train. Fill in the number sentence and the number bond.





____ - ____ = ____

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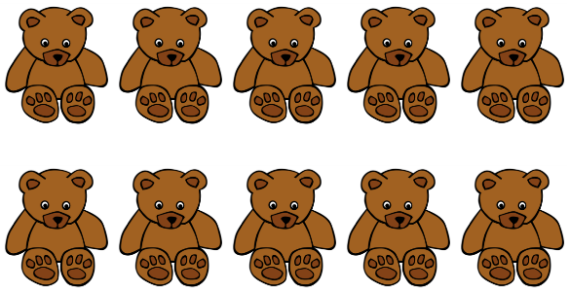
There are 10 bears. Some go inside the cave to hide. Cross them out. Complete the number sentence.



10 – ___ = ___

Complete these number sentences.

5 – 1 = ☐

☐ = 2 + 3

☐ = 5 – 4

2 + 2 = ☐

Complete these number sentences.

3 – 1 = ☐

☐ = 1 + 3

☐ = 4 – 2

1 + 2 = ☐

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