

Week 2 Lesson 5: Represent subtraction story problems using objects, drawings, expressions, and equations.

Standard(s) Covered:

K.OA.A.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds, acting out situations, verbal explanations, expressions, or equations.

K.OA.A.2 Add and subtract within 10 to solve contextual problems using objects or drawings to represent the problem.

K.OA.A.3 Decompose numbers less than or equal to 10 into addend pairs in more than one way (e.g., $5 = 2 + 3$ and $5 = 4 + 1$) by using objects or drawings. Record each decomposition using a drawing or writing an equation.

Lesson Structure

Activity 1 Morning Foundational Math Talks	30 minutes
Video Play Time	29 minutes
Activity 1 Application Problem	5 minutes
Activity 2 Concept Development	25 minutes
Student Debrief	10 minutes
Exit Ticket	3 minutes
Additional Practice	10 minutes

Activity #1 Morning Foundational Math Talks

We will continue developing a routine for you to begin each math lesson with. The Foundational Math Talks will focus on the following Kindergarten standards from the Counting and Cardinality and Operations and Algebraic Thinking Domains.

K.CC.A.1 Count to 100 by ones, fives, and tens. Count backward from 10.

K.CC.A.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20.

K.OA.A.4 Find the number that makes 10, when added to any given number, from 1 to 9 using objects or drawings. Record the answer using a drawing or writing an equation.

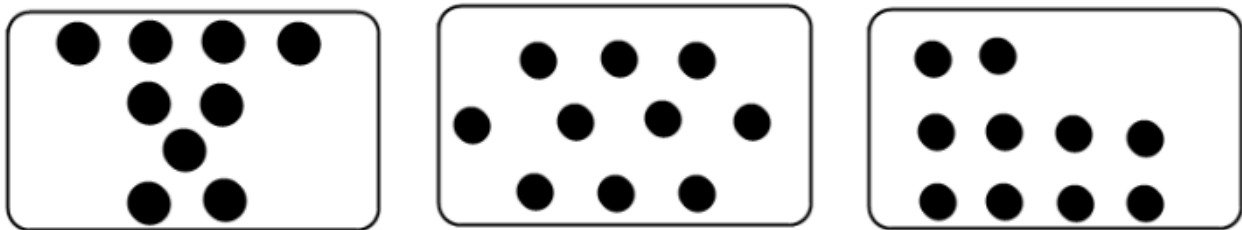
We will begin with the number game! This is great for listening and counting in various ways. Everyone stands up around a meeting rug, or in a circle. Today, we will count to 50. We start counting and each person counts on as we go around the circle. If you say the designated number of the day (50), then you sit down. The counting starts all over again with the students that are still standing, and is continued until 1 person is left standing. Be sure that you are involved in playing the game too!

Another game that we can play during our morning activity is "I Have Who Has" The teacher passes out cards in random order with a number written on it. The first student says "I have _____ who has _____(the number

that comes after their number),” The student that has that card goes next and the game continues until each student and teacher has read his/her card. Today, you will need cards numbered 1-20 or at least one card for each player.

After playing the “I Have Who Has” game, students should then form a human number line by ordering themselves with their cards from 1-20. Once they are done, practice counting again and have each student take one step forward as you say the number they are holding.

The next activity for Morning Math Talks is using number dots. Students need to see each of the dot patterns below, one at a time. Then the teacher calls on different students to explain how many dots they saw, and how they saw them. The teacher can use a white board, or a piece of paper that has dots pre-drawn on it. This is also a time where teachers can model equations as students explain their thinking.



The final activity for Morning Foundational Math Talks is a great transitional game once you are ready for students to go to their desk for the next activity. Teachers can use a large foam die, number cards, ten frame cards, etc. to show one addend and have each student tell you the number needed to make a sum of 10. This is a great transitional game once you are ready for students to go to their desk for the next activity.

Lesson Video https://www.youtube.com/watch?v=0Gv_e-BkK6Y

Activity #1 Application Problem

Materials: (S) Personal white board or pencil and paper

5 little green frogs were sitting on the side of the pond. Draw the frogs.

It was so hot that 2 of the frogs decided to go for a swim! Cross out the frogs in your picture to show the ones who hopped into the pond. How many frogs were still by the side of the pond?

Talk to your partner about the story. How can you write about your story in a number sentence?

Note: Again, circulate to see which students might benefit from more extensive work with manipulatives during this topic.

Teacher Notes:

- Again, circulate to see which students might benefit from more extensive work with manipulatives during this topic.

- Provide independent practice time using interactive technology to students who are working below grade level and still having difficulty solving take away problems.

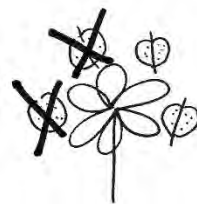
Activity #2 Concept Development

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

- T: Take out your linking cubes. Let's pretend that your cubes are all little frogs sitting by the edge of a pond, just like you did in your picture earlier. Show 5 frogs. Now, take 2 of the cubes away to show the frogs that decided to take a swim. How many frogs are left?
- S: 3.
- T: Let's write our story as a take away number sentence like we did yesterday. Which number should I write first?
- S: 5. → You need to tell first about how many frogs you started with.
- T: So, I will write 5. I will write the (–) sign to show that we are taking something away. (Demonstrate.) What should I write next?
- S: 2. You need to show how many went away!
- T: Okay. $5 - 2$. Now what do I do?
- S: Now you write how many are left at the end.
→ You need to show the 3 that are left.
→ Don't forget the *equals!*
- T: (Demonstrate.) $5 - 2 = 3$. Read the number sentence with me.
- S: 5 take away 2 equals 3.

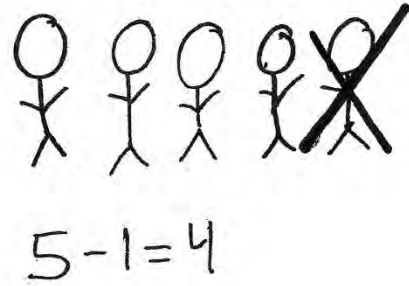
Repeat the exercise and translation into an equation several times using the cubes and different subtrahends.

- T: Put your cubes away now. It is time to draw. Listen to my story, and make a picture.
- T: There were 4 butterflies on a flower. 2 of the butterflies left to go to another flower. How many butterflies were left? Draw the 4 butterflies. (Allow time for drawing.) How should we show that 2 butterflies went away?
- S: Cross them out.
- T: How many butterflies are still on the flower? Count the butterflies that are left in your picture.
- S: There are still 2.
- T: Tell me how to write the number sentence about our story. Let's write it together.
- S: 4 butterflies take away 2 butterflies leaves 2 butterflies. $4 - 2 = 2$.
- T: Hold up your board, so I can see your number sentence. (Check for understanding.)



$$4 - 2 = 2$$

- T: Erase your board. Listen to my next story.
- T: 5 children were playing in the park. 1 child had to go home for dinner. How many children were still playing in the park?
- T: This time, I want you to draw the children and show what happened on your own. Write the number sentence. (Allow time for drawing.) Talk to your partner about your picture and your number sentence.



Allow time for discussion. Circulate to check for understanding, and encourage use of the cubes as a concrete aid for those students who might need additional support to model the story.

- T: Would anyone like to share her number sentence with the class so that I may write it on the board?
- S: $5 - 1 = 4$. (Write the sentence on the board.)
- T: Did anyone do it in a different way?

Allow time for discussion to ensure that students understand the correct placements of the minuend, subtrahend, and difference. Guide them to see that, unlike with the addition number sentences, there is less flexibility with subtraction. If a student should write $4 = 5 - 1$, acknowledge the correct equation.

T: Great job! Let's do some more of this in our Problem Set.

Teacher Notes:

- Support English language learners by providing a visual for the math they need to learn and use. Post a visual that combines the "5 take away 2 is 3" with " $5 - 2 = 3$ " right under it with a picture of 5 cubes with 2 crossed out. Point to the visual while teaching. This helps students bridge the language gap and follow the lesson.

Problem Set (10 minutes)

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

Teacher Notes:

- The adults should read each problem aloud to their groups and watch to ensure understanding during the completion of the exercise.
- Allow students to use concrete objects if needed.

Name _____ Date _____

Tyler bought a cone with 4 scoops. He ate 1 scoop. Cross out 1 scoop.
How many scoops were left?



$$4 - 1 = \square$$

Eva ate ice cream, too. She ate 2 scoops. How many scoops were left?



$$4 - 2 = \square$$

There were 4 bottles. 3 of them broke. How many bottles were left?



$$4 - 3 = \square$$

Anthony had 5 erasers in his pencil box. He dropped his pencil box, and 4 erasers fell on the floor. How many erasers are in Anthony's pencil box now? Draw the erasers, and fill in the number sentence.

$$5 - 4 = \square$$

Tanisha had 5 grapes. She gave 3 grapes to a friend. How many grapes does Tanisha have now? Draw the grapes, and fill in the number sentence.

$$\square - \square = \square$$

Student Debrief




Lesson Objective: Represent subtraction story problems using objects, drawings, expressions, and equations.



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 you know which number to write first in your number sentences today?
- How did you know what to write next?
- How did you find the last number in your number sentence?
- How did your pictures help you to write your number sentences?
- Were there different ways to write the number sentences about your stories?

<p>Tyler bought a cone with 4 scoops. He ate 1 scoop. Cross out 1 scoop. How many scoops were left?</p>  $4 - 1 = 3$	
<p>Eva ate ice cream too. She ate 2 scoops. How many scoops were left?</p>  $4 - 2 = 2$	<p>There were 4 bottles. 3 of them broke. How many were left?</p>  $4 - 3 = 1$

<p>Anthony had 5 erasers in his pencil box. He dropped his pencil box and 4 erasers fell on the floor. How many erasers are in Anthony's pencil box now? Draw the erasers and fill in the number sentence.</p>  $5 - 4 = 1$
<p>Tanisha had 5 grapes. She gave 3 grapes to a friend. How many grapes does Tanisha have now? Draw the grapes and fill in the number sentence.</p>  $5 - 3 = 2$

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Exit Ticket

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.

Additional Practice

Name _____ Date _____

There were 5 apples. Bill ate 1. Cross out the apple he ate. How many apples were left? Fill in the boxes.



5 take away 1 is

$$5 - 1 =$$

There were 5 oranges. Pat took 2. Draw the oranges. Cross out the 2 she took. How many oranges were left? Fill in the boxes.

5 take away 2 is

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