Eureka Math

First Grade Module 3 Lesson 02

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Icons





Read, Draw, Write











Manipulatives Needed







Lesson 2 Objective: Compare length using indirect comparison by finding objects longer than, shorter than, and equal in length to that of a string.

Suggested Lesson Structure

	Total Time	(60 minutes)
E	Student Debrief	(10 minutes)
	Concept Development	(32 minutes)
B	Application Problem	(5 minutes)
E	Fluency Practice	(13 minutes)





Materials Needed

- (S) Hide Zero cards with 0–9 and 10, 20, 30, 40 (Fluency Template 1)
- (S) Numeral cards 0–10 (Fluency Template 2)
- (S) Counters (if needed)
- (T) 2 feet of string
- (T) 9 cm long strip of paper
- (T) Scissors
- (T) Various classroom objects shorter and longer than the teacher's foot (e.g., board eraser, piece of 9" × 12" construction paper, 81/2" × 11" paper on a bulletin board)
- (S) 1 foot of string, scissors
- (S) Various classroom objects for measuring length
- (S) personal white board with indirect comparison statements (Template)
- (S) 9 cm long strips (e.g., paper, pipe cleaners, or twist ties)



I can compare length using indirect comparison by finding objects *longer than, shorter than,* and *equal in length* to that of a string.



Happy Counting

Let's play Happy Counting! We're going to count in a variety of ways from 0 to 40 and possibly 80 or 120 and back the Say Ten way and then the regular way.

When I hold my hand like this (point thumb and motion up I want you to count up.

If I put my hand like this (point thumb and motion down), I want you to count down.

If I do this (thumb to the side) that means stop, but try hard to remember the last number you said.



We are now going to use our Hide Zero cards! Make an addition sentence with 10 as an addend and the number on the card as the whole.

For example, if your card says 15, the number sentence would be 10 + 5 = 15.







10 + = 25.





10 + = 35.





10 + = 14.





10 + = 24.





 $10 + \square = 34.$





10 + = 16.





10 + = 26.





10 + | = 36.

Addition with Cards

Mix your numeral cards. Everybody places their deck of cards face down. Each partner flips over two cards and adds them together. The partner with the greater total keeps the cards from both players in each round!

If the sums are equal, the cards are set aside, and the winner of the next round keeps both sets of cards!



RDW Application Problem

Jordan has 3 stuffed animals: a giraffe, a bear, and a monkey. The giraffe is taller than the monkey. The bear is shorter than the monkey. Sketch the animals from shortest to tallest to show how tall each animal is.



I'm looking to see if I can find any items that are longer than or shorter than my foot.

Oh, I see one! I really want to compare the length of the paper on the bulletin board to my foot.



Wow. I really want to compare, but it's not easy. What should I do? Talk with your partner to come up with a plan for how I can compare the length of my foot to the length of the paper on the bulletin board.





Wow. Those were some great ideas! I wonder if using any of these items might also help me. I'm going to get some string and cut it so that it is equal in length to my foot. A string is much easier to use than trying to put my foot against everything I want to compare it to!



So, this is the same length as...?



So, this is the same length as...?

Yes! Your foot!



Now, I can walk over to the bulletin board and compare to see if the paper is longer or shorter than my foot. What do I need to do to make sure that we have an accurate comparison?



What do I need to do to make sure that we have an accurate comparison?

I like how I heard you say line up the endpoints!



Which is longer, the string or the paper?



Which is longer, the string or the paper?

I heard some of you say the paper is longer.



So, the paper is longer than the string, and the string is the same length as my foot. So, which is longer, my foot or the paper?



Which is longer, my foot or the paper?

Good! The paper is longer than your foot.



I wonder if I can find something that's shorter than my foot. Oh, the white board eraser! Let's check.

This string is the same length as...?



This string is the same length as...?

I heard you say your foot. That's correct!



Can I use the string to see if my foot is longer or shorter than the eraser?



Can I use the string to see if my foot is longer or shorter than the eraser?

Yes, you can use the string!



I need to make sure...?



I need to make sure...?

I like how I heard you say the endpoints line up!



What do you see?



What do you see?

Did you hear anyone say that the string is longer than the eraser? I also heard that means your foot is longer than the eraser or the eraser is shorter than your foot.



Great! The string was such an easy way to compare the length of my foot to the length of the other objects.

Can we figure out which is longer, the paper or the eraser? Turn and talk to your partner, and explain your thinking.





Can we figure out which is longer, the paper or the eraser?

I heard some of you say the paper is longer than the eraser.



We didn't compare the paper and the eraser by lining them up by their endpoints. How did you know which was longer?



How did you know which was longer?

Yes! The paper was longer than your foot, but the eraser was shorter than your foot, so the paper has to be longer than the eraser!



Let's check that the paper is longer than the eraser.



- Let's check that the paper is longer than the eraser.
- That's correct!



- Let's check that the paper is longer than the eraser.
- That's correct!
- Good thinking!



This piece of construction paper is longer than my foot. The paper from the board was longer than my foot, too.

Can I tell which type of paper is longer now that I've compared both with my foot? Talk with your partner.





Can I tell which type of paper is longer now that I've compared both with my foot?

I heard some of you say no, you can't tell. They are both longer, so you don't know which one is the longest. You would have to have something that's in between the two sizes.



Both the pieces of paper are longer than my foot, but I cannot tell if the construction paper is longer than the paper on the board.



Now it's your turn. You'll go on a scavenger hunt to find three items, one that is longer than your foot, one that is shorter than your foot, and lastly, one that is about the same length as your foot. But you won't be able to use your foot to measure! Instead, I will give you a piece of string to use!

Problem Set 12345	Prob	A STORY OF UNITS LESSON 2 Problem Set
A STORY OF UNITS	Lesson 2 Problem Set 1•3	Complete the sentences with longer than, shorter than, or the same length as to make the sentences true.
Name 1. Use the paper strip provided by your words you need to make the sentence	a.	
	2	The tube is the cup.
C The baseball	longer than bat is shorter than the same length as	The iron is the ironing board.
		Use the measurements from Problems 1 and 2. Circle the word that makes the sentences true.
The b	longer than shorter than the same length as	 The baseball bat is (longer/shorter) than the cup. The cup is (longer/shorter) than the ironing board. The ironing board is (longer/shorter) than the book.
		6. Order these objects from shortest to longest:
The baseball bat is	the book.	cup, tube, and paper strip



What did we use to compare the length of different objects? (A string and a paper strip.) How were these tools helpful?



- How were you able to figure out the length of different objects when you didn't compare them side by side?
- The index card is longer than the string.
- The sticky note is shorter than the string. Which is longer, the index card or the sticky note?



The marker is shorter than the string. The string is shorter than the crayon. Which is shorter, the marker or the crayon?



The folder is longer than the string. The book is longer than the string. Which is longer, the folder or the book? Explain how you know this.



How was using the paper strip in the Problem Set similar to or different from using the string? How did using the paper strip help you compare the objects in the pictures? Use an example from the Problem Set to explain your thinking.



Look at the pictures from Page 1. Can we compare the baseball bat and the tube? Why or why not?



Look at Problem 2(a). How did you set up your paper strip when you measured the cup compared to the tube? Are you still measuring the length of each object?



In the Application Problem today, we were comparing the lengths of three stuffed animals, which can also be considered their heights. When we measure length from the ground toward the sky, we usually call that the height. Did any of you compare the length of two objects based on their height? Share your example.



Turn to your partner and share what you learned in today's lesson.

What did you get really good at today?



A STORY OF UNITS

Lesson 2 Problem Set 1-3

Draw a picture to help you complete the measurement statements. Circle the words that make each statement true.

Sammy is taller than Dion.
 Janell is taller than Sammy.
 Dion is (taller than/shorter than) Janell.

Laura's necklace is longer than Mihal's necklace.
 Laura's necklace is shorter than Sarai's necklace.
 Sarai's necklace is (longer than/shorter than) Mihal's necklace.