### Eureka Math

Kindergarten Module 3 Lesson 20

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### Icons





Read, Draw, Write











Manipulatives Needed







### Lesson 20

### Objective: Relate more and less to length.

### Suggested Lesson Structure

Fluency Practice
Application Problem
Concept Development
Student Debrief

**Total Time** 

(13 minutes) (5 minutes) (26 minutes) (6 minutes) (50 minutes)





### Materials Needed

### Teacher

- (T) Count and Circle How Many Sprint (project for students to view)
- framed portrait of the teacher at 5–6 years old
- Bag of 20 linking cubes
- 10 sided die



### Materials Needed

#### Students

• Bag of 20 linking cubes



#### I can relate more and less to length.

## Building Up to the Sprint Routine: Observing and Noticing-8 min.

1. Tell students to watch the teacher do a math race called a Sprint as if the teacher were a student back in Kindergarten.

Place the portrait on the desk where the teacher is working to remind students of the role. If possible, have an assistant play the role of the teacher delivering the Sprint.



# Building Up to the Sprint Routine

2. At the start signal, turn the paper over, and begin working.

Start at the top left corner with the hearts, and continue working down the hearts column.

At the bottom of the hearts column, start again at the top of the stars column.



# Building Up to the Sprint Routine

3. At the signal, stop and hold the pencil up, just as students have practiced in previous Sprint preparation exercises. Be careful to display a positive demeanor even though the task is not finished. Possibly pretend to wipe away sweat from the brow to emphasize working with intensity, and smile with satisfaction for having made such a strong effort! (Be sure to ask the assistant playing the role of the teacher to limit the timeframe, or set a timer, so that the teacher comes very close to completing the Sprint but does not quite finish.)





# Building Up to the Sprint Routine

4. While reviewing the answers (now projected on the board), students circle correct answers in the airwith their fingers, along with the teacher, energetically shouting "Yes!" for each correct answer.

The entire class counts the number of correct problems chorally and writes the number in the air as the teacher writes it at the top of the page.

## Building Up to the

When did the teacher (playing the role of a Kindergarten student) begin working on the problems?

Which problems did the teacher do first—the hearts or stars? (This question helps studentsrealize that the Sprint is designed to be completed working down the columns, not across therows.)

## Building Up to the

What did the teacher do when the timer sounded (or other stopping signal occurred)?

How did the teacher react at the end? (Emphasize that the goal is maximum effort and efficiency, not completion.

Begin setting expectations for social and emotional behaviors during Sprints.)

### Building 1 More and 1 Less Trains-5 min.

Conduct the activity as described in Lesson 15, but now, have students build and disassemble the cubes horizontally, similar to a train.





Write your first name in the top set of boxes, one letter in each box. Start at the box above the star.

Write your last name in the bottom set of boxes, one letter in each box. Start at the box above the star

Which of your trains has more letter passengers? Which passenger train is longer?

Which of your trains has fewer passengers? Which passenger train is shorter?

Talk about your trains with your partner. Are your partner's trains similar to yours?

Did anyone's train not have enough room for all of the letter passengers?

## Concept Development 26 min

I am going to make a stick of 7 linking cubes.

Student A, could you please make a stick of 3 linking cubes?

Which one of our sticks is longer?

Yes! (Demonstrate.) The 7-stick is longer than the 3stick, and the 3-stick is shorter than the 7-stick.

How did you know?



Let's count the cubes on each side.

(Count chorally, and write the numbers on the board.) What do you notice about the numbers 7 and 3?

Which is more?



7 is more than 3. 3 is less than 7. How can you be sure?

You are right! A 7-stick is longer than a 3-stick.



Now, I'm going to make a 5-stick. Student C is going to make an 8-stick. Let's hold our sticks up.

Which stick is longer? Which is shorter? Which stick has more? Which has less? How did you know?

(Allow time for discussion.)



We are going to play a game. Roll the die with your partner. Make a stick using the same number of cubes as the dots that your die shows.

Roll the die again, and make another stick with that number of cubes.

Compare the length of your sticks. Which is longer?

Finally, take your sticks apart. Put the sets of cubes on the table, and compare them. Which set has more?



Count each set of cubes, and write the number on a small card.

Compare the numbers. Which is more?

Which is less?

Roll the die again, and make two new sticks to compare! (Repeat as long as time allows.)

Problem Set

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### Problem Set-10 min.

Count the dots on the die. Color as many beads as the dots on the die. Circle the longer chain in each pair.



Roll the die. Write the number you roll in the box, and color that many beads. Roll the die again, and do the same on the next set of beads. Circle the chain with fewer beads.



On the back, make more chains by rolling the die. Write the number you rolled, and then make a chain with the same number you rolled.



### Debrief

Lesson Objective: Relate more and less to length.



### Debrief

- What are some of the ways you could tell which set had more cubes in our activity?
- If one stick has more cubes than another, will it be longer than the other?
- How can you compare the number of cubes in one set to another set? How can you tell which number is more?
- Talk to your partner about the chain you made by rolling the die for your Problem Set. What numbers did you roll? How did you know which had fewer beads?
- For the back of the Problem Set, what numbers did you roll? What did you do to make sure you drew the same number of beads as the number you rolled?
- If one stick has fewer cubes than another, will it be heavier or lighter than the other?