

Eureka Math

First Grade Module 3 Lesson 05

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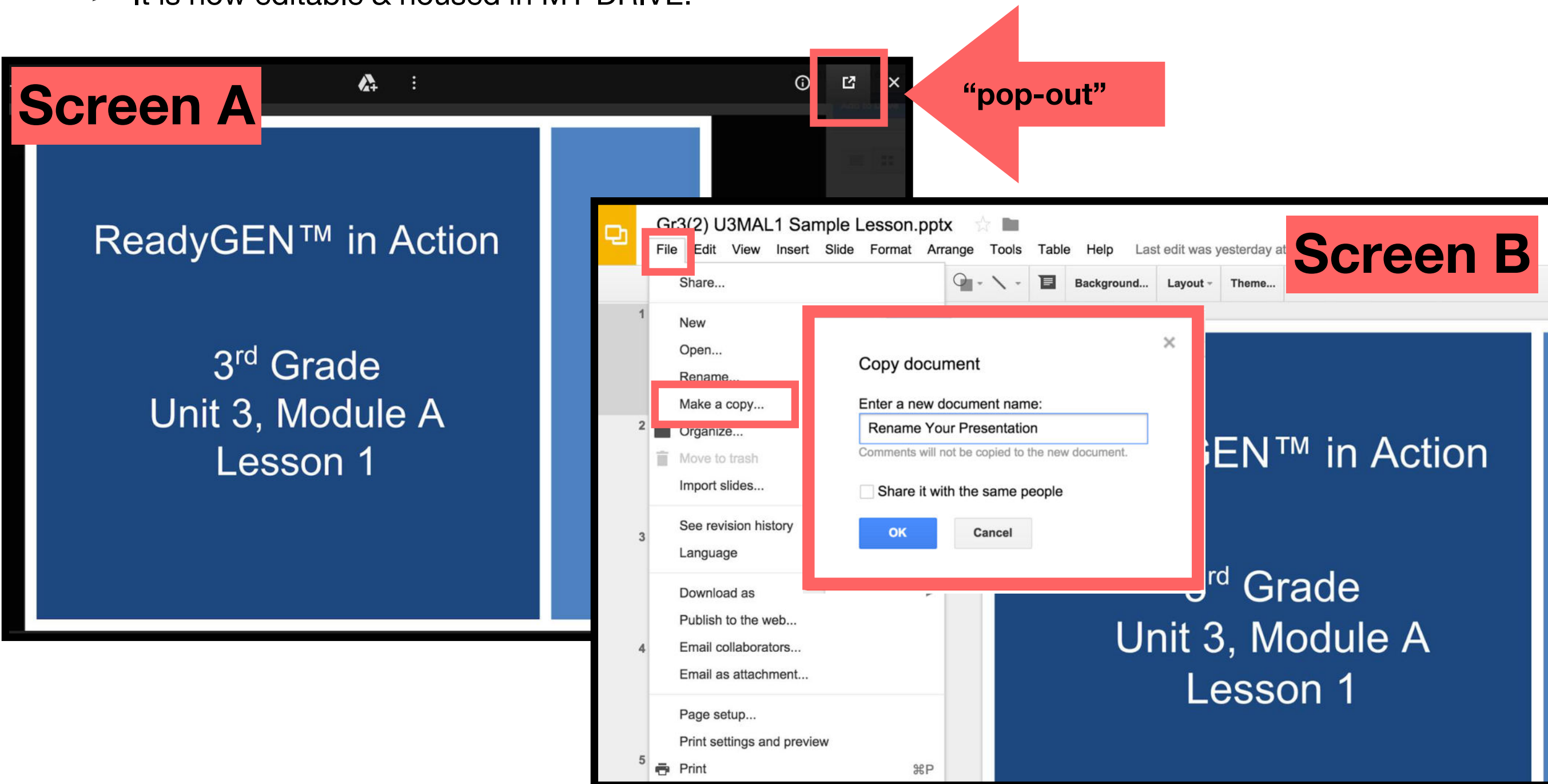


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Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
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- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
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- It is now editable & housed in MY DRIVE.



Icons



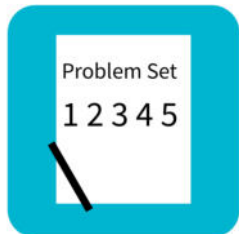
Read, Draw, Write



Learning Target



Personal White Board



Problem Set



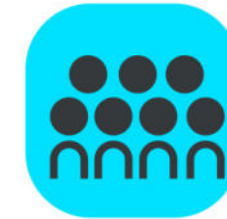
Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



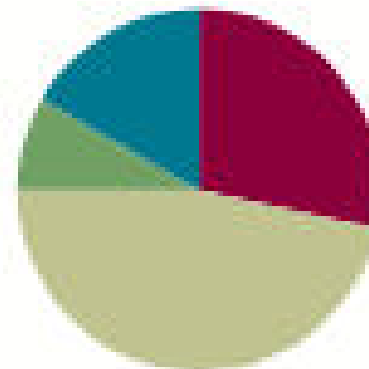
Small Group Time

Lesson 5

Objective: Rename and measure with centimeter cubes, using their standard unit name of centimeters.

Suggested Lesson Structure

■ Fluency Practice	(17 minutes)
■ Application Problem	(5 minutes)
■ Concept Development	(28 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)



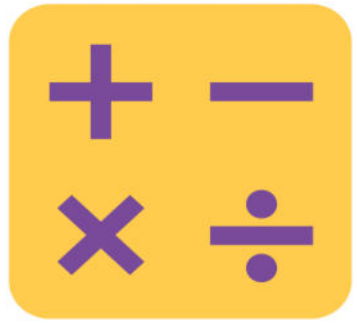


Materials Needed

- (S) 1 die per pair
- (S) Subtraction Within 20 Sprint
- (T) Projector
- (T) Centimeter cubes
- (T) String
- (T) Scissors
- (T) Centimeter ruler
- (S) Per pair: bag with at least 12 centimeter cubes
(used in Lesson 4)
- (S) Centimeter ruler
- (S) Pair of dice



I can rename and measure with
centimeter cubes, using their
standard unit name of centimeters.



Race and Roll Subtraction

Let's play Race and Roll! Start at 20. With your partner, take turns rolling a die and then saying a number sentence to subtract the number rolled from the total.

For example, if you roll a 3 first, your number sentence would be $20 - 3 = 17$. Then if your partner rolls a 2, they would say $17 - 2 = 15$.

Continue rolling quickly and saying number sentences until you reach 0. Stand when you reach 0!



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.

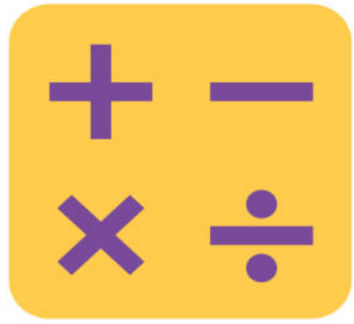


If I put my hand like this (point thumb and motion down), I want you to count down.



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

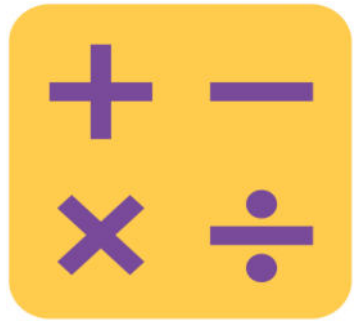




Subtraction Within 20

Let's do a Sprint!

A STORY OF UNITS		Lesson 5 Sprint		1•3
A		Number Correct:		
Name _____		Date _____		
*Write the missing number.				
1.	$17 - 1 = \square$	16.	$19 - 9 = \square$	
2.	$15 - 1 = \square$	17.	$18 - 9 = \square$	
3.	$19 - 1 = \square$	18.	$11 - 9 = \square$	
4.	$15 - 2 = \square$	19.	$16 - 5 = \square$	
5.	$17 - 2 = \square$	20.	$15 - 5 = \square$	
6.	$18 - 2 = \square$	21.	$14 - 5 = \square$	
7.	$18 - 3 = \square$	22.	$12 - 5 = \square$	
8.	$18 - 5 = \square$	23.	$12 - 6 = \square$	
9.	$17 - 5 = \square$	24.	$14 - \square = 11$	
10.	$19 - 5 = \square$	25.	$14 - \square = 10$	
11.	$17 - 7 = \square$	26.	$14 - \square = 9$	
12.	$18 - 7 = \square$	27.	$15 - \square = 9$	
13.	$19 - 7 = \square$	28.	$\square - 7 = 9$	
14.	$19 - 2 = \square$	29.	$19 - 5 = 16 - \square$	
15.	$19 - 7 = \square$	30.	$15 - 8 = \square - 9$	



Subtraction Within 20

Let's do a Sprint!

A STORY OF UNITS

Lesson 5 Sprint 1•3

B

Number Correct:



Name _____

Date _____

*Write the missing number.

1.	$16 - 1 = \square$		16.	$19 - 9 = \square$	
2.	$14 - 1 = \square$		17.	$18 - 9 = \square$	
3.	$18 - 1 = \square$		18.	$12 - 9 = \square$	
4.	$19 - 2 = \square$		19.	$19 - 8 = \square$	
5.	$17 - 2 = \square$		20.	$18 - 8 = \square$	
6.	$15 - 2 = \square$		21.	$17 - 8 = \square$	
7.	$15 - 3 = \square$		22.	$14 - 5 = \square$	
8.	$17 - 5 = \square$		23.	$13 - 5 = \square$	
9.	$19 - 5 = \square$		24.	$12 - \square = 7$	
10.	$16 - 5 = \square$		25.	$16 - \square = 10$	
11.	$16 - 6 = \square$		26.	$16 - \square = 9$	
12.	$19 - 6 = \square$		27.	$17 - \square = 9$	
13.	$17 - 6 = \square$		28.	$\square - 7 = 9$	
14.	$17 - 1 = \square$		29.	$19 - 4 = 17 - \square$	
15.	$17 - 6 = \square$		30.	$16 - 8 = \square - 9$	



Application Problem

Amy used centimeter cubes to measure the length of her book. She used 8 yellow centimeter cubes and 4 red centimeter cubes. How many centimeter cubes long was her book?



Concept Development

I need your help solving a problem. My mom is traveling to different countries. She wants to get me bracelets from Korea, Brazil, and France. The problem is she wants to make sure they fit, but the bracelets are over there and my wrist is here! What can she do? Is there any way we can help her? Talk to your partner.





Concept Development

What can she do? Is there any way we can help her?

I heard some of you say we could measure my wrist with centimeter cubes! That seems hard though; her wrist isn't straight. I like how I also heard you say we could measure my wrist with a string then!



Concept Development

I love all of your ideas about the different tools we can use. I knew I could rely on you for some great problem solving!

Which will be easier to use first, the string or the centimeter cubes?



Concept Development

Which will be easier to use first, the string or the centimeter cubes?

Yes! The string would be easier because it can wrap around your wrist.



Concept Development

I'll pretend that the string is the bracelet. I'm going to leave a little room so it's not so tight.



Concept Development

How can we figure out how long this string is? Turn and talk to your partner about how we can measure accurately.





Concept Development

How can we figure out how long this string is?

Good! We use centimeter cubes. Line up the endpoints. Don't leave any gaps between the cubes. Don't overlap the cubes.



Concept Development

These are important rules for measuring accurately. Let's count and see how many centimeter cubes long the string is as I lay down each cube.



Concept Development

Here's a tool that my mom is able to use to measure the length of the bracelet. She said every store, no matter what country she's in, uses the centimeter ruler to measure their bracelets. In fact, no matter where you live in the world, people use these tools to measure the length of any items. This tool is called a...?



Concept Development

This tool is called a...?

A ruler! Good!



Concept Development

When have you seen a ruler used before?
Turn and talk to your partner.





Concept Development

When have you seen a ruler used before?

I heard some of you say we used it to draw straight lines in kindergarten. I also heard how you used it to learn counting numbers with your aunt. Someone else said their grandpa uses it to measure the picture frames he makes.



Concept Development

What do you notice on the ruler?



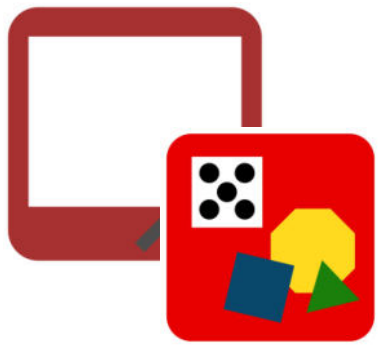
Concept Development

What do you notice on the ruler?

Yes! There are numbers going in order.

There are longer lines next to each number.

There are some shorter lines, too.



Concept Development

Let's see how the ruler compares to our centimeter cubes that we used to measure my wrist.

I'm going to lay these 18 centimeter cubes alongside the ruler. I need to line up the first cube with the endpoint of the ruler. Here's 1 centimeter cube. What do you notice?



Concept Development

What do you notice?

Did anyone hear that the other end of the centimeter cube lines up with the 1 on the ruler? That's correct!



Concept Development

When something reaches this line, we say that it is 1 centimeter long. So, how long is this centimeter cube?



Concept Development

How long is this centimeter cube?

Yes! It is 1 centimeter!



Concept Development

What do you notice now?



Concept Development

What do you notice now?

I like how I heard that the end of the second centimeter cube lines up with the 2 on the ruler!



Concept Development

How many centimeters long are these 2
cubes together?



Concept Development

How many centimeters long are these 2 cubes together?

Yes! These 2 cubes are 2 centimeters long.



Concept Development

If I lay down the next centimeter cube, with what number will it line up?



Concept Development

If I lay down the next centimeter cube, with what number will it line up?

That's right! 5. That's 5 centimeters.



Concept Development

How many centimeters long are all of these
centimeter cubes?



Concept Development

How many centimeters long are all of these
centimeter cubes?

I heard 18 centimeters!



Concept Development

When we are measuring with centimeter cubes, we are using the same length unit as the people who use rulers! With this ruler, we are measuring in centimeters. That's the length unit, so we have a special name for this ruler. We call it the **centimeter ruler**. So, did we solve the problem?

What should I tell my mom about buying the right length bracelet?



Concept Development

Did we solve the problem?

What should I tell my mom about buying the right length bracelet?

Yes, we did solve the problem! I heard you say to tell her to buy bracelets that are 18 centimeters long! She can use the ruler to measure 18 centimeters.



Concept Development

Thank you for helping me solve this problem!
I will write to her and let her know! From now
on, when we measure, we can say that the
length of the item is “centimeters” instead of
saying “_____ centimeter cubes.”



Concept Development

Now, it's your turn to determine for sure that 1 centimeter cube is 1 centimeter long, 3 centimeter cubes are 3 centimeters long, and 6 centimeter cubes are...?



Concept Development

Now, it's your turn to determine for sure that 1 centimeter cube is 1 centimeter long, 3 centimeter cubes are 3 centimeters long, and 6 centimeter cubes are...?

Good! 6 centimeter cubes are 6 centimeters long.



Concept Development

Now we are going to practice renaming centimeter cubes as centimeters. We are going to follow these steps:

1. Roll the dice (e.g., 2 and 5).
2. Partner 1 lays down the centimeter cubes alongside the ruler to show the number from the first die (gets to 2 centimeters on the ruler by laying down centimeter cubes). He says, “I measured to centimeters.”
3. Partner 2 adds more centimeter cubes alongside the ruler based on the second die (gets to 7 centimeters on the ruler by laying down 5 centimeter cubes). She says, “Now, we measured to 7 centimeters.”
4. Say the addition sentence that tells the length of your cubes. (2 centimeters + 5 centimeters = 7 centimeters.)

Problem Set

1 2 3 4 5

Problem Set

A STORY OF UNITS

Lesson 5 Problem Set 1•3

A STORY OF UNITS

Lesson 5 Problem Set 1•3

Name _____ Date _____

1. Circle the object(s) that are measured correctly.

a.



3 centimeters long

b.



5 centimeters long

c.



4 centimeters long

2. Measure the paper clip in 1(b) with your cubes. Then, check the cubes with your centimeter ruler.

The paper clip is _____ centimeter cubes long.

The paper clip is _____ centimeters long.

Be ready to explain why these are the same or different during the Debrief!

3. Use centimeter cubes to measure the length of each picture from left to right. Complete the statement about the length of each picture in centimeters.



a. The hamburger picture is _____ centimeters long.



b. The hot dog picture is _____ centimeters long.



c. The bread picture is _____ centimeters long.

4. Use centimeter cubes to measure the objects below. Fill in the length of each object.

a.



The eraser is about _____ centimeters long.

b.



The hair clip is about _____ centimeters long.

c.



The key is about _____ centimeters long.

d.

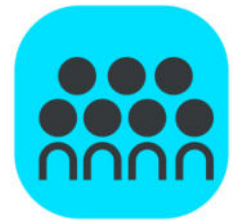


The marker is about _____ centimeters long.

5. The eraser is longer than the _____, but it is shorter than the _____.

6. Circle the word that makes the sentence true.

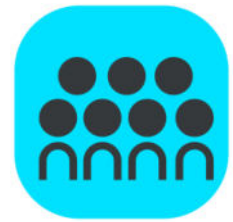
If a paper clip is shorter than the key, then the marker is **longer**/shorter than the paper clip.



Debrief



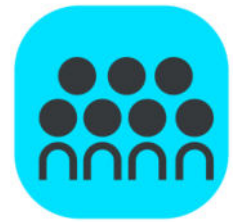
What is the new length unit we used to measure length accurately?



Debrief



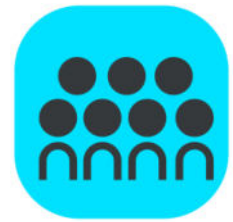
How can you prove to another first grader
that 1 centimeter cube is the same as 1
centimeter?



Debrief



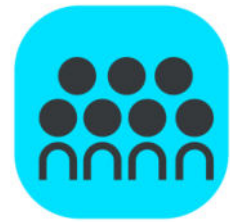
How are centimeter cubes similar to and different from the centimeters on a centimeter ruler?



Debrief



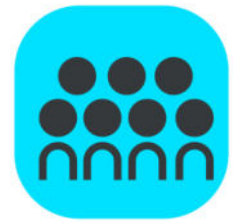
Do you think centimeter rulers in Asia or Europe, or anywhere else, look the same as centimeter rulers here? Explain your thinking.



Debrief



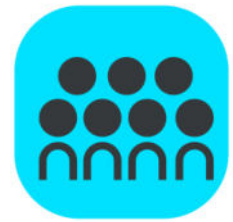
Why do you think people all over the world use centimeters as a length unit? Why is it important that we all use the same length unit, like centimeters?



Debrief



Look at Problem 2. Explain why your measurements are the same or different.



Debrief



How did you solve today's Application Problem? Tell your partner your answer using the new length unit as if we used a ruler to measure the length of Amy's book.



Exit Ticket

A STORY OF UNITS

Lesson 5 Exit Ticket 1•3

Name _____ Date _____

Use the centimeter cubes to measure the items. Complete the sentences.

1. The water bottle is about _____ centimeters tall.



2. The melon is about _____ centimeters long.



3. The screw is about _____ centimeters long.



4. The umbrella is about _____ centimeters tall.

