Ordering and Comparing Length Measurements as Numbers

In this 13-day module, students will use non-standard units to measure objects, and will compare and order objects by length. They will build conceptual understanding of the need for standard measurement units, beginning with centimeters.

Measuring Musts: Always line up your cubes at the endpoint!

No!

Yes!

Measuring Musts: Make sure your cubes do not overlap.

No!
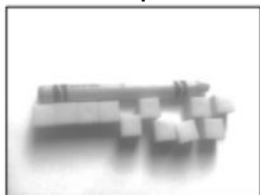
Yes!
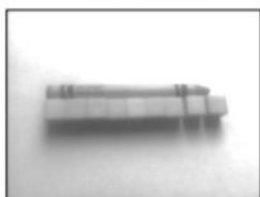
What Came Before this Module:
We extended our work with addition and subtraction to the numbers 1-20, and learned some new strategies to use.

What Comes After this Module:
We will extend our place value and addition and subtraction work to numbers up to 40, and will begin to use the symbols <, >, and = to compare numbers.

Key Words to Know

Centimeter: standard length unit within the metric measurement system

Centimeter Cube: pictured here:

Students will use centimeter cubes laid end to end to measure various objects.

**Length Unit**: the smaller units or objects used to measure a longer object

Familiar Terms from past Modules:

- less than
- more than
- longer than
- shorter than

Students will use these phrases to compare up to three objects or amounts.

➕ How you can help at home:

- Give your student many opportunities to measure objects using other, smaller objects, e.g., "How many Lego pieces long is your book? How many blueberries long is this notebook?" etc.

- Continue to practice adding and subtracting within 20.

Key Common Core Standards:

- Represent and solve problems using addition and subtraction

- Measure lengths indirectly and by iterating (repeating) length units
  - Order three objects by length
  - Express the length of an object as a number of small length units, by laying multiple copies of a shorter object end to end

- Represent and interpret data
  - Organize, represent, and interpret data with up to three categories, ask and answer questions about the total number of data points

Sample from a Sprint in Lesson 1

A

Name _____   Date _____

Number correct:

Write the missing number.

1	3 − 3 = ☐		16	13 − 1 = ☐	
2	13 − 3 = ☐		17	13 − 2 = ☐	
3	3 − 2 = ☐		18	14 − 3 = ☐	
4	13 − 2 = ☐		19	14 − 4 = ☐	
5	4 − 2 = ☐		20	14 − 10 = ☐	

Spotlight on Math Strategies:

Sprints

Sprints are a fluency tool used throughout the grades in *A Story of Units*.

A Story of Units has several key mathematical tools that will be used throughout a student's elementary years.

Sprints are high-energy classroom activities in which students complete as many math facts as they are able in a set amount of time. Care is taken during a sprint to make sure that all students are working as hard as they can to recall facts, notice patterns within the sprint page, and do their personal best. To this end, sprints are designed to come in pairs, so that students can try the first sprint (Sprint A), assess their correct and incorrect answers, and then try to improve their score on Sprint B, given immediately after assessing Sprint A.

Sprints are one of the primary ways in *A Story of Units* in which students gain fluency and competency with math facts, a key building block skill for computation and comprehension throughout elementary school.

Sample Problem from Module 3:
(*Example taken from Module 1, Lesson 6*)

Julia's lollipop is 15 centimeters long. She measured the lollipop with 9 red centimeter cubes and some blue centimeter cubes. How many blue centimeter cubes did she use?

$9 + \boxed{6} = 15$

She had 6 blue cubes.
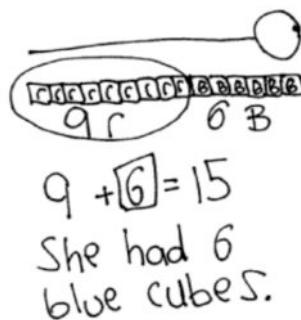
This sample solution is an excellent example of a centimeter cube diagram, a math sentence (equation), and a complete sentence in words that all show the solution to the problem.