Grade 3, Module 2: Place Value and Problem Solving with Units of Measure

What is this module about? This module will tie our place value learning to some real world work with measurement using the metric system. Students will also work on telling time and solving problems relating to elapsed time.

What came before this module? We deeply explored the meaning of multiplication and division, working from concrete to abstract examples.

What comes after this module? We will continue our work on multiplication and division, this time working to build our knowledge of units of 6, 7, 8, and 9, as well as multiples of 10.

How can you help at home?

- Ask your student to help with all kinds of measurement around the house.
- Continue to practice telling time, and begin to ask questions about elapsed time, e.g., "How many minutes have passed since we got home from school?"

Thinking mathematicall is had but important work!

Key Words and Ideas in this Module

- **Important metric words**: gram (g), kilogram (kg), liter (L), milliliter (mL), centimeter (cm), meter (m)
- **Analog clock**: a clock that is not digital
- **Capacity**: the amount a container can hold
- **Compose**: change 10 smaller units for 1 of the next unit on the place value chart

- **Interval**: time passed, or a segment on the number line
- **Plot**: locate and label a point on the number line
- **Point**: a specific location on the number line
- **Round**: estimate a number using the nearest 10 or 100 using place value


Key Standards in this Module

- Use place value understanding and properties of operations to perform multi-digit arithmetic
- Solve problems involving measurement and estimation of intervals of time, liquid volumes and masses of objects.

Number Lines

The number line is a powerful, flexible model that students can use in many ways. In this particular module, students make frequent use of both vertical and horizontal number lines, learning to find endpoints and mark exactly halfway in between them, finding elapsed time, and using them on measuring containers. As students move through the grades, number lines can be used to examine the relationships between numbers in ever more detailed ways, including decimals, fractions, and eventually positive and negative numbers. See how many number lines you and your student can spot around you at home!

Spotlight on Math Models

The clock: a circular number line!

Vertical number line

7:00 a.m. / 8:00 a.m.
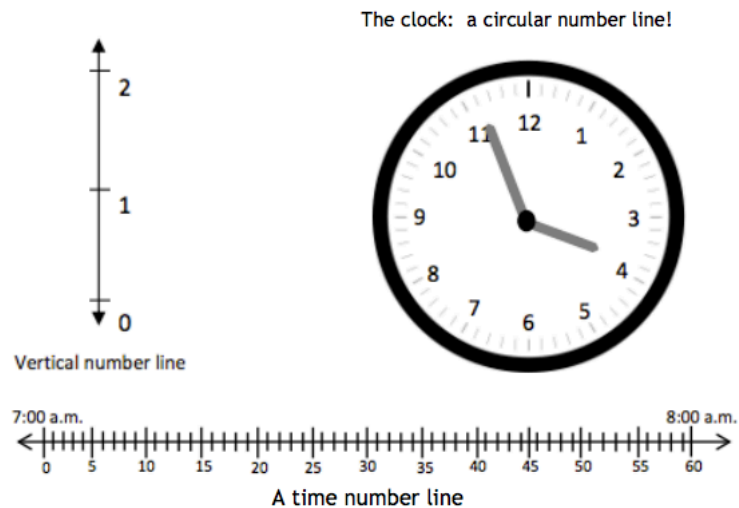
A time number line

Sample problem from Module 2 (Lesson 13)

Here is a sample elapsed time problem that can be solved with a number line:

The school ballet recital begins at 12:17 p.m. and ends at 12:45 p.m. How many minutes long is the ballet recital?

8 minutes

3 minutes   20 minutes   5 minutes

12:00pm   12:17   12:45   1:00pm

20 + 8 = 28 minutes.
The ballet recital took 28 minutes.