

Math Connections for Parents

Grade 4 Module 2

Unit Conversion and Problem Solving with Metric Units

Welcome to Module 2 of the EngageNY curriculum, which is aligned with Ohio's New Learning Standards. In this module, students will work with length, mass and capacity in the metric system. They will also strengthen their skills with adding and subtracting multi-digit numbers.

Important Words and Concepts

- Kilometer: km, a unit of measure for length
- Mass: the measure of the amount of matter in an object
- Milliliter: mL, a unit of measure for liquid volume
- Mixed units (i.e. 3 m 43 cm)
- Capacity: the maximum amount that something can hold
- Convert: to express a measurement in a different unit
- Equivalent: equal
- Kilogram: kg, unit of measure for mass
- Liter: L, unit of measure for liquid volume
- Weight: the measurement of how heavy something is

Add and Subtract Multi-Digit Numbers

Students in fourth grade are expected to know, from memory, all products of two one-digit numbers. In this module, as students work on making unit conversions, they will be strengthening their adding and subtracting skills with multi-digit numbers.

KEY STANDARDS

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit (for example, know that 1 ft is 12 times as long as 1 in, or express 4 ft as the same as 48 in)
- Apply the conversion of metric measurements in multi-step word problems



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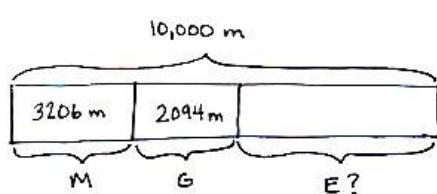
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Graphics and Strategies you may see...

Sample Word Problem A:

Martha, George, and Elizabeth sprinted a combined distance of 10,000 meters. Martha sprinted 3,206 meters. George sprinted 2,094 meters. How far did Elizabeth sprint? Solve using a simplifying strategy or an algorithm.



A

$$\begin{array}{r} 3206 \\ + 2094 \\ \hline 5,300 \end{array}$$

$$\begin{array}{r} 10,000 \\ - 5,300 \\ \hline 4,700 \text{ m} \end{array}$$

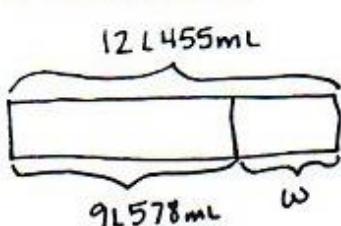
B

$$\begin{array}{r} 3,206 + 2,094 = 5,300 \\ 3,000 \quad 206 \quad 2,000 \quad 94 \\ \hline 10,000 - 5,300 = 4,700 \\ 4,000 \quad 6,000 \quad 700 \end{array}$$

Elizabeth sprinted 4,700 meters.
4 km 700 m

Sample Word Problem B:

Petra's fish tank contains 9 liters 578 milliliters of water. If the tank can hold 12 liters 455 milliliters of water, how many more milliliters of water does she need to fill the tank?



$$\begin{array}{r} 1314 \\ 12,455 \\ \hline 12,455 \\ - 9,578 \\ \hline 2,877 \text{ mL} \end{array}$$



She needs 2,877 more milliliters of water.



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