

KEY CONCEPT OVERVIEW

Module 2 focuses on length, mass, and capacity in the metric system. In Lessons 1 through 3, students express larger **metric units** in terms of smaller metric units (e.g., 1 km = 1,000 m).

You can expect to see homework that asks your child to do the following:

- **Convert** from larger units to smaller units (find equivalent measures).
- Add and subtract amounts expressed in **mixed units** (for example, **kilometers** and **meters**) using a **simplifying strategy** or **algorithm** (an example of each is shown in the sample problem below).
- Solve word problems using **tape diagrams** as models.

SAMPLE PROBLEM (From Lesson 1)

Solve using an algorithm or a simplifying strategy.

$$54 \text{ m } 18 \text{ cm} - 9 \text{ m } 63 \text{ cm}$$

Sample Response (Algorithm):

$$54 \text{ m } 18 \text{ cm} = 53 \text{ m } 118 \text{ cm}$$

$$\begin{array}{r}
 \begin{array}{cccc}
 4 & 13 & 0 & 11 \\
 \cancel{5} & \cancel{3} & \text{m} & \cancel{1} & \cancel{1} & 8 & \text{cm} \\
 - & & 9 & \text{m} & 6 & 3 & \text{cm} \\
 \hline
 4 & 4 & \text{m} & & 5 & 5 & \text{cm}
 \end{array}
 \end{array}$$

Sample Response (Simplifying Strategy):

$$\begin{array}{l}
 \begin{array}{ccc}
 \textcircled{+ 37 \text{ cm}} & \textcircled{+ 44 \text{ m}} & \textcircled{+ 18 \text{ cm}} \\
 9 \text{ m } 63 \text{ cm} & \rightarrow 10 \text{ m} & \rightarrow 54 \text{ m} & \rightarrow 54 \text{ m } 18 \text{ cm} \\
 37 \text{ cm} + 44 \text{ m} + 18 \text{ cm} & = & 44 \text{ m } 55 \text{ cm}
 \end{array}
 \end{array}$$

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Pose questions such as, “Would we measure the distance from here to the store with centimeters, meters, or kilometers?” or “Would we measure a person’s mass in grams or kilograms?” Ask your child to justify her answers.
- Practice metric conversions from a larger unit to a smaller unit. Use the units of kilometer, meter, centimeter, kilogram, gram, liter, and milliliter (e.g., 3 m = ___ cm). Make a game with index cards. Write one measurement on each card (e.g., write “3 m” on one card and “300 cm” on another card). Use the cards to play a variation of a memory game or Go Fish. The objective is to make matches of equivalent measures.
- Continue to encourage your child to practice skip-counting, forward and backward, by threes, fours, sixes, sevens, eights, and nines (e.g., 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 27, 24, 21, 18, 15, 12, 9, 6, 3, 0). As your child is successful, raise the level of difficulty. Challenge him to start at a number other than 0 (e.g., 18, 21, 24, 27, 30, 27, 24, ...).

TERMS

Algorithm: A step-by-step procedure to solve a particular type of problem (e.g., the process of subtracting vertically with regrouping).

Convert: To express a measurement in a different unit (e.g., liters expressed as milliliters).

Metric units: Units used in the metric system (e.g., centimeter, meter, kilometer, gram, kilogram, milliliter, and liter).

Centimeter (cm): Unit of measure for length.

Meter (m): Unit of measure for length.

Kilometer (km): Unit of measure for length.

Gram (g): Unit of measure for mass.

Kilogram (kg): Unit of measure for mass.

Milliliter (mL): Unit of measure for liquid volume.

Liter (L): Unit of measure for liquid volume.

Mixed units: Expressing a number in terms of more than one unit (e.g., 2 tens 4 ones or 2 meters 34 centimeters).

Simplifying strategy: A mental math or recorded method for making a problem easier to solve (e.g., adding to the next unit or using a number bond).

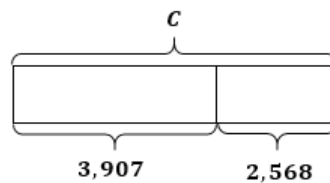
Metric Conversions	
1 kg	1,000 g
1 L	1,000 mL
1 km	1,000 m
1 m	100 cm

MODELS

Conversion Table

Mass	
kg	g
3	
5	
	7,000

Tape Diagram



Tape Diagram

