

Grade 4 Module 2

Tips for Families

Key Concepts Overview

Focus TEKS: **4.5B, 4.8A, 4.8B, 4.8C**

Module 2 focuses on length, mass, and capacity in the metric system, converting units, and applying unit conversions to solve and reason about multi-step word problems. Additionally, students use input–output tables to represent the relationship between the input values and output values with numerical expressions. Your student will:

- ☐ **Convert** from larger units to smaller units (find equivalent measures).
- ☐ Add and subtract amounts expressed in **mixed units** using a simplifying strategy or algorithm.
- ☐ Compare metric units and plot and label measurements on a number line.
- ☐ Solve word problems involving length, **mass**, and capacity using strip diagrams.
- ☐ Identify relationships in number patterns and represent them in input–output tables.
- ☐ Apply their knowledge of input–output tables to solve word problems.

You can use the checklist above to help monitor your student’s progress of the knowledge and skills in this module. Daily sample problems with solutions and thought bubbles are found in the Homework Helper pages in the Succeed Student Edition to help you support your student as they work at home.

Additional Ways to Help at Home

- Pose questions such as, “Would we measure the distance from here to the store with centimeters, meters, or kilometers?”, “Would we measure a person’s mass in grams or kilograms?”, or “Would we measure the capacity of a coffee cup in milliliters or liters?” Ask your student to justify his answers.
- Practice metric conversions from a larger unit to a smaller unit. Use the units kilometer, meter, millimeter, kilogram, gram, milligram, kiloliter, liter, and milliliter (e.g., $2 \text{ kg} = \underline{\hspace{1cm}} \text{ g}$). Make a game with index cards, sticky notes, or small pieces of paper. Write one measurement on each card (e.g., write “2 kg” on one card and “2,000 g” on another card). Use the cards to play a variation of Go Fish or a memory game. The objective is to make matches of equivalent measures.
- Together with your student, look through your kitchen cupboards. Take out several cans of food. Look at the labels to see if you can find any metric units, such as grams, that are comparable. Use the measurements to line the cans up from least to greatest. Draw a number line and then plot and label the measurements.
- Play the “Build an Input–Output Table” activity with your student. The activity allows her to practice applying a rule to an input number to find its corresponding output number, or vice versa. For example, given the input numbers of 0, 1, 4, and 10 and the rule of add 2 to the input, she has to find the output numbers. Use rules involving addition, subtraction, multiplication, or division, and have your student explain how she gets the output numbers. (Be careful not to use subtraction rules resulting in negative numbers or division rules resulting in fractions. Students are not familiar with either concept.)



Terms

Algorithm (*Algoritmo*): a step-by-step procedure to solve a type of problem

$$\begin{array}{r}
 2 \text{ km } 608 \text{ m} \\
 + 3 \text{ km } 412 \text{ m} \\
 \hline
 5 \text{ km } 1020 \text{ m} \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 1 \text{ km } 20 \text{ m} \\
 6 \text{ km } 20 \text{ m} = 6,020 \text{ m}
 \end{array}
 \quad \text{OR} \quad
 \begin{array}{r}
 2,608 \text{ m} \\
 + 3,412 \text{ m} \\
 \hline
 6,020 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}$$

Convert (*Convertir*): to express a measurement in a different unit; to rename units (e.g., 3 m 56 cm = 356 cm)

Input-output table: a two-column or two-row table that shows inputs and their corresponding outputs

Input	Output
1	9
2	10
3	11
4	12
11	19

Input	59	58	57	47	37
Output	44	43	42	32	22

Mixed unit (*Unidades mixtas*): a measurement that has more than one unit (e.g., 6 km 20 m)

Simplifying strategy (*Estrategia simplificadora*): a mental math or recorded method for making a problem more efficient to solve

$$\begin{array}{l}
 2 \text{ km} + 3 \text{ km} = 5 \text{ km} \\
 608 \text{ m} + 412 \text{ m} = 600 \text{ m} + 420 \text{ m} \\
 \quad \quad \quad \swarrow \quad \searrow \\
 \quad \quad \quad 600 \quad 8 \quad \quad \quad = 1,020 \text{ m} \\
 5 \text{ km} + 1 \text{ km } 20 \text{ m} = 6 \text{ km } 20 \text{ m}
 \end{array}
 \quad \text{OR} \quad
 \begin{array}{l}
 2,608 \text{ m} + 3,412 \text{ m} \\
 \quad \quad \quad \swarrow \quad \downarrow \quad \searrow \quad \quad \swarrow \quad \downarrow \quad \searrow \\
 \quad \quad \quad 2,000 \quad 600 \quad 8 \quad \quad \quad 3,000 \quad 400 \quad 12 \\
 5,000 \text{ m} + 1,000 \text{ m} + 20 \text{ m} = 6,020 \text{ m}
 \end{array}$$

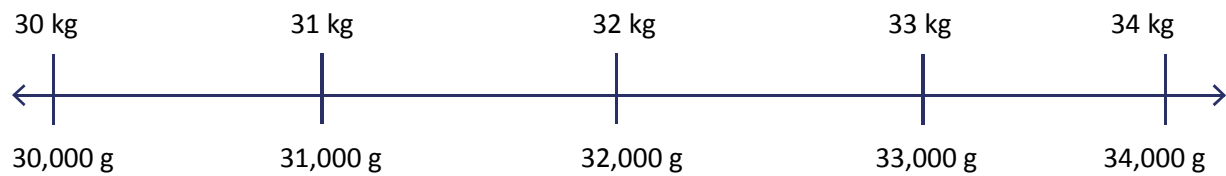


Models

Conversion Table

Mass	
kg	g
3	
5	
	7,000

Number Line



Strip Diagram

