

Unit Switchers

Change larger units into smaller units.

GRADE 4 • 4.MD.A.1

CCSS.Math.Content.4.MD.A.1 "Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit..."

NAME _____

DATE _____

MAKE UNITS SMALLER

When you change a larger unit into a smaller unit, multiply by the number of smaller units in one larger unit. A two-column table can help you match each larger-unit amount with its equal smaller-unit amount.

WORKED EXAMPLE

Express 7 ft in inches.

1. $1 \text{ ft} = 12 \text{ in}$

2. Multiply 7×12 .

3. $7 \times 12 = 84$

Answer: 7 ft = 84 in

PRACTICE 6 problems

1 Express 5 m in centimeters.

ANSWER _____

2 Complete the table. L | ml 1 | ___ 3 | ___

ANSWER _____

3 Express 4 hr in minutes.

ANSWER _____

4 Express 6 lb in ounces.

ANSWER _____

5 Complete the table. ft | in 2 | ___ 5 | ___

ANSWER _____

6 Express 9 km in meters.

ANSWER _____

APPLY IT Show your work

- 1** A hiking club walks 3 km on a nature trail. How many meters does the club walk?

WORK SPACE

ANSWER _____

- 2** Noah fills a science-project bottle with 2 L of water and then adds 350 ml. How many milliliters of water are in the bottle?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A video game tournament lasts 3 hr 25 min. How many minutes does it last? Explain how you found the total.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Express 5 m in centimeters.	500 cm
2	Complete the table. L ml 1 ___ 3 ___	1 L = 1,000 ml; 3 L = 3,000 ml
3	Express 4 hr in minutes.	240 min
4	Express 6 lb in ounces.	96 oz
5	Complete the table. ft in 2 ___ 5 ___	2 ft = 24 in; 5 ft = 60 in
6	Express 9 km in meters.	9,000 m

PART 2 • APPLY IT

- 3,000 m** Since 1 km = 1,000 m, multiply $3 \times 1,000$. The club walks 3,000 m.
- 2,350 ml** Change 2 L to 2,000 ml. Then add $2,000 \text{ ml} + 350 \text{ ml} = 2,350 \text{ ml}$.

CHALLENGE

205 min. 3 hr = 180 min, and $180 \text{ min} + 25 \text{ min} = 205 \text{ min}$.

Accept equivalent unit notation, such as cm for centimeters and mL for milliliters. For the challenge, accept a correct explanation that converts hours to minutes before adding the extra minutes.