

Unit Switchers

Convert measurements and solve real-world problems.

GRADE 5 • NY-5.MD.1

NY-5.MD.1 "Convert among different-sized standard measurement units within a given measurement system when the conversion factor is given. Use these conversions in solving multi-step, real world problems."

NAME _____

DATE _____

CHOOSE MULTIPLY OR DIVIDE

When you change to a smaller unit, multiply because you need more of the smaller units. When you change to a larger unit, divide. Use the conversion fact to decide what number to multiply or divide by.

WORKED EXAMPLE

Convert 7 kilograms to grams. Use 1 kilogram = 1,000 grams.

1. Start with 7 kilograms.
2. Multiply by 1,000 grams for each kilogram.
3. $7 \times 1,000 = 7,000$.

Answer: 7,000 grams

PRACTICE 6 problems

- 1** Convert 6 feet to inches. Use 1 foot = 12 inches.

ANSWER _____

- 2** Convert 96 inches to feet. Use 1 foot = 12 inches.

ANSWER _____

- 3** Convert 5 pounds to ounces. Use 1 pound = 16 ounces.

ANSWER _____

- 4** Convert 3 quarts to cups. Use 1 quart = 4 cups.

ANSWER _____

- 5** Convert 450 centimeters to meters and centimeters. Use 1 meter = 100 centimeters.

ANSWER _____

- 6** Convert 9 cups to pints. Use 1 pint = 2 cups.

ANSWER _____

APPLY IT Show your work

- 1** At a charity fun run, Maya runs 2 miles and then runs 880 more yards. How many yards does she run altogether? Use 1 mile = 1,760 yards.

WORK SPACE

ANSWER _____

- 2** A robotics team has 5 meters of wire. They use 175 centimeters for one project and 2 meters for another project. How many centimeters of wire are left? Use 1 meter = 100 centimeters.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A craft club has 5 yards of ribbon. The club cuts the ribbon into 8 equal pieces. How many inches long is each piece? Show your conversion and division. Use 1 yard = 3 feet and 1 foot = 12 inches.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Convert 6 feet to inches. Use 1 foot = 12 inches.	72 inches
2	Convert 96 inches to feet. Use 1 foot = 12 inches.	8 feet
3	Convert 5 pounds to ounces. Use 1 pound = 16 ounces.	80 ounces
4	Convert 3 quarts to cups. Use 1 quart = 4 cups.	12 cups
5	Convert 450 centimeters to meters and centimeters. Use 1 meter = 100 centimeters.	4 meters 50 centimeters
6	Convert 9 cups to pints. Use 1 pint = 2 cups.	4 1/2 pints

PART 2 • APPLY IT

- 4,400 yards** Convert 2 miles to 3,520 yards. Then add 880 yards: $3,520 + 880 = 4,400$ yards.
- 125 centimeters** Convert 5 meters to 500 centimeters and 2 meters to 200 centimeters. Subtract the wire used: $500 - 175 - 200 = 125$ centimeters.

CHALLENGE

22 1/2 inches. 5 yards = $5 \times 3 \times 12 = 180$ inches, and $180 \div 8 = 22 \frac{1}{2}$ inches.

Accept equivalent forms for 4 meters 50 centimeters, such as 4.5 meters, if the student shows the conversion correctly. For the challenge, accept 22.5 inches as an equivalent decimal form.