

Conversion Quest

Use unit rates to switch measurement units.

GRADE 6 • TEKS 6.4.H

6.4.H "convert units within a measurement system, including the use of proportions and unit rates."

NAME _____

DATE _____

CONVERT WITH A UNIT RATE

Start with a fact that connects the two units. Multiply by a conversion factor that cancels the unit you have and leaves the unit you need. You can also use equivalent ratios in a proportion.

WORKED EXAMPLE

Convert 7 meters to centimeters.

1. Use the fact 1 meter = 100 centimeters.
2. Multiply: $7 \text{ m} \times 100 \text{ cm}/1 \text{ m} = 700 \text{ cm}$.
3. The meters cancel, so centimeters are left.

Answer: 700 centimeters

PRACTICE 6 problems

1 Convert 8 feet to inches.

ANSWER _____

2 Convert 144 ounces to pounds.

ANSWER _____

3 Convert $\frac{3}{4}$ mile to feet.

ANSWER _____

4 Convert 2.6 kilograms to grams.

ANSWER _____

5 Convert 450 centimeters to meters.

ANSWER _____

6 A bucket holds 5 gallons. How many quarts is that?

ANSWER _____

APPLY IT Show your work

1 Jordan is planning a bike route that is $1\frac{1}{4}$ miles long. How many feet long is the route?

WORK SPACE

ANSWER _____

2 An online dance class lasts 135 minutes. How many hours is that?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A club makes a $2\frac{1}{2}$ -yard banner. The banner is cut into 15-inch strips. How many strips can be cut from one banner?

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Convert 8 feet to inches.	96 inches
2	Convert 144 ounces to pounds.	9 pounds
3	Convert $\frac{3}{4}$ mile to feet.	3960 feet
4	Convert 2.6 kilograms to grams.	2600 grams
5	Convert 450 centimeters to meters.	4.5 meters
6	A bucket holds 5 gallons. How many quarts is that?	20 quarts

PART 2 • APPLY IT

- 6600 feet** Multiply $1\frac{1}{4}$ by 5280 feet per mile. Since $1\frac{1}{4} = \frac{5}{4}$, $5280 \times \frac{5}{4} = 6600$.
- 2 $\frac{1}{4}$ hours** Divide 135 minutes by 60 minutes per hour. The result is 2.25 hours, which is $2\frac{1}{4}$ hours.

CHALLENGE

6 strips

Students may use multiplication, division, conversion factors, or proportions. Accept 2.25 hours as equivalent to $2\frac{1}{4}$ hours.