

Lesson 5-4 : Converting measurements

SWBAT: Use ratios to convert from one unit of measure to another.

Common Measurement conversions-

4 quarts = gallon, 16 cups = gallon, 4 cups = quart, 2 cups = pint,

16 ounces = pound, 12 inches = foot, 3 feet = yard, 5280 feet = mile,

1760 yards = mile

Converting meters, grams and liters

Kilo- Hecto- Dekka- Base units- Deci- Centi- Milli-

- Move the decimal over however many times you move from one unit to the other!
- 300 centiliters to liters
 - If we start on Centi and move to base units (liters) we are moving _____, so move the decimal twice to the left.
 - 300 centiliters = _____
- 1.5 kilometers to meters
 - We need to move _____
 - 1.5 kilometers = _____

Converting Measurements:

To convert one unit of measure to another, you can write a ratio where the different units are equal.

- $\frac{100 \text{ centimeters}}{1 \text{ meter}}, \frac{1 \text{ gallon}}{16 \text{ cups}}$

Julia needs 80 cups of orange juice for a punch recipe. How many gallons of orange juice does she need?

- First, write the ratio of gallons to cups $\frac{1 \text{ gallon}}{16 \text{ cups}} = \frac{1}{16}$
- Then write the equivalent ratio next to it and solve
 $\frac{1}{16} = \frac{\quad}{80}$
- To get from 16 to 80, you have to multiply by 5, so multiply 1 by 5.
- She needs 5 gallons of orange juice.

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SWBAT: Use ratios to convert from one unit of measure to another.

A piece of ribbon is 72 inches long. How many feet is it?

Convert 2,500 grams to kilograms.

Sometimes we have to do 2 conversions to find the answers

Thomas walks 400 yards in 5 minutes. At this rate, how many minutes does it take Thomas to walk 3 miles?

- Write the first ratio $\frac{\text{yards}}{\text{minutes}} = \frac{400}{5}$
- Now since the problem uses miles, we need to find how many yards are in 3 miles. $\frac{1760 \text{ yards}}{3 \text{ miles}} = \frac{\quad}{\quad}$, cross multiply to get your answer.
- $\frac{\text{yards}}{\text{minutes}} = \frac{400}{5} = \frac{5280}{\quad}$, cross multiply and solve

Art drinks 2 quarts of milk every 3 days. How many days will it take him to drink 3 gallons of milk?

- Write the ratio
- Convert gallons into quarts
- Cross multiply and solve

A dog needs 2 teaspoons of medicine for every 10 pounds of weight. How many teaspoons of medicine are needed for a 240 ounce dog?