

Solve Word Problems Involving Conversions



Dear Family,

This week your child is learning how to solve word problems that involve converting units of measurement.

Your child might see a problem like the one below.

Kimaya is making vegetable juice for a party. The recipe calls for $3\frac{1}{2}$ cups of tomato juice for each batch. Kimaya wants to make 10 batches of vegetable juice. How many gallons of tomato juice does she need to buy?

The picture shows how cups and gallons are related. You can see that gallons are larger units of measurement than cups.

The first step in solving the problem is to find how many cups are needed to make 10 batches of vegetable juice. Then you can convert cups to gallons.

- Multiply the number of cups needed for one batch by 10.

$$\begin{aligned} 10 \times 3\frac{1}{2} &= 10 \times \left(3 + \frac{1}{2}\right) \\ &= 10 \times 3 + 10 \times \frac{1}{2} \\ &= 30 + 5 \\ &= 35 \end{aligned}$$

35 cups are needed for 10 batches.

- Convert 35 cups to gallons.
Divide the number of cups by 16.

$$35 \div 16 = 2 \text{ R } 3$$

35 cups is 2 gallons with 3 cups left over

The 3 cups left over means that Kimaya needs to buy another gallon of tomato juice in addition to the 2 gallons. She will need to buy 3 gallons of tomato juice in order to have enough to make 10 batches of vegetable juice.

Invite your child to share what they know about solving word problems that involve converting units of measurement by doing the following activity together.



1 cup

1 gallon

1 gallon = 16 cups

ACTIVITY USING CONVERSIONS IN WORD PROBLEMS

Do this activity with your child to solve word problems involving converting measurements.

Work with your child to make up and solve real-life problems involving converting units of measurement.

- Use the example below or use your own ideas.
To convert units, you can use the equivalent units of measurement that are shown at the bottom of the page.
- Work together to create and solve problems about real-life situations.

Example: Davis is bringing water to a team party. The coach asks him to bring $2\frac{1}{2}$ gallons of water. How many of the water bottles shown above does Davis need to bring?

A water bottle holds 1 pint.



1 gallon = 16 cups
1 gallon = 4 quarts
1 gallon = 8 pints
1 quart = 4 cups
1 pint = 2 cups
1 quart = 2 pints

1 liter = 1,000 milliliters

1 kilometer = 1,000 meters
1 meter = 100 centimeters
1 centimeter = 10 millimeters

1 mile = 1,760 yards
1 mile = 5,280 feet
1 yard = 3 feet
1 foot = 12 inches

Answer to Example:

1 gallon = 8 pints; $8 \times 2\frac{1}{2} = 20$; Davis needs to bring 20 pints of water.

Since each bottle is 1 pint, he needs to bring 20 bottles.