

Conversions in Volume: SI vs Metric

Ex #1: Convert 89 250 cm³ to m³.

$$89\,250\text{ cm}^3 \times \left(\frac{1\text{ m}}{100\text{ cm}}\right)^3 = 0.09\text{ m}^3$$

Ex #2: Convert 12 m³ to yd³.

$$12\text{ m}^3 \times \left(\frac{1.0936\text{ yd}}{1\text{ m}}\right)^3 = 15.7\text{ yd}^3$$

Ex #3: Convert 2000 ft³ to m³.

$$2000\text{ ft}^3 \times \left(\frac{1\text{ yd}}{3\text{ ft}}\right)^3 \times \left(\frac{1\text{ m}}{1.0936\text{ yd}}\right)^3 = 56.6\text{ m}^3$$

Conversions in Capacity: SI vs Metric

CONVERTING COMMON COOKING UNITS	
<i>Imperial</i>	<i>SI</i>
¼ teaspoon	1.25 mL
½ teaspoon	2.5 mL
1 teaspoon	5 mL
1 tablespoon (3 teaspoons)	15 mL
1 cup	250 mL
1 pint	568.2614 mL
1 quart (2 pt)	1.1365 L
1 gallon (4 qt)	4.5461 L

CONVERTING US IMPERIAL TO SI UNITS	
<i>US Imperial</i>	<i>SI</i>
1 fl oz	29.5735 mL
1 pt = 16 fl oz	473.176 mL or 0.473 L
1 qt = 2 pt	946.352 mL or 0.946 L
1 gal = 4 qt	3785.4 mL or 3.785 L

NOTE: 1 L = 1000 mL
1 kL = 1000 L
1 cm³ = 1 mL

EXERCISE: Fill in the blanks...

- a) 16 cups = 4 liters
- b) 8 tablespoons = _____ milliliters
- c) 6 quarts = _____ liters
- d) 16 tsp = _____ tbsp
- e) _____ cups = 12 pints
- f) 10 fl oz = _____ cup

$$4\text{ l} \times \frac{1000\text{ mL}}{\text{l}} \times \frac{1\text{ C}}{250\text{ mL}} = 16\text{ C}$$

EXERCISE: Fill in the blanks...

a) _____ cups = 4 liters

b) 8 tablespoons = 120 milliliters

c) 6 quarts = _____ liters

d) 16 tsp = _____ tbsp

e) _____ cups = 12 pints

f) 10 fl oz = _____ cup

$$8 T \times \frac{15 \text{ ml}}{1 T} = 120 \text{ ml}$$

$$6 \text{ qt} \times \frac{0.946 \text{ L}}{1 \text{ qt}} = 5.68 \text{ L}$$

$$16 \text{ tsp} \times \frac{1 T}{3 t} = 5.3 T$$

$$12 \text{ pints} \times \frac{473.146 \text{ ml}}{1 \text{ pint}} \times \frac{1 \text{ C}}{250 \text{ ml}}$$

$$10 \text{ fl oz} \times \frac{473.176 \text{ ml}}{16 \text{ fl oz}} \times \frac{1 \text{ cup}}{250 \text{ ml}} = 1.18 \text{ cup}$$

$$= 22.71 \text{ cups}$$

Homework

Worksheet on Volume