

Conversions in Volume: SI vs Metric

Ex #1: Convert 89 250 cm³ to m³.

$$89250 \text{ cm}^3 \times \left(\frac{1 \text{ m}}{100 \text{ cm}} \right)^3 = 0.08925 \text{ m}^3$$

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

Imperial	SI
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

US Imperial	SI
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...

- 16 cups = 4 liters
- 8 tablespoons = _____ milliliters
- 6 quarts = _____ liters
- 16 tsp = _____ tbsp
- _____ cups = 12 pints
- 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

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

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

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

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

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

$$= 22.71 \text{ cups}$$

$$10 \text{ fl oz} \times \frac{29.5735 \text{ ml}}{1 \text{ fl oz}} \times \frac{1 \text{ cup}}{250 \text{ ml}} = 1.18 \text{ cup}$$

Homework

Worksheet on Volume