

Conversion Factors for Chem 30

Length: meter (m)

1 inch = 2.54 centimeters
 1 foot = 0.3048 meters
 1 yard = 0.9144 meters
 1 mile = 1.61 kilometers
 1 mile = 5280 ft

Mass: grams (g)

16 ounces = 1 pound
 1 ounce = 28.35 grams
 1 pound = 453.6 grams
 2.20 pounds = 1 kilogram

Energy: Joule (J)

1 calorie = 4.184 Joules
 1 BTU = 1050 J

Volume: liter (L)

1 gallon = 4 quarts
 1 quart = 2 pints
 1.06 quarts = 1 Liter
 1 gallon = 3.785 Liters
 1 milliliter = 1 cm³
 1 in³ = 16.39 cm³
 1 ft³ = 2.832 x 10⁴ cm³
 16 tablespoons = 1 cup
 3 teaspoons = 1 tablespoons
 1 pinch = 0.125 teaspoons
 1 pint = 2 cups
 1 mL = 15 drops
 1 teaspoon = 5 mL

Temperature: Kelvin (K)

$$^{\circ}\text{C} = \frac{(^{\circ}\text{F} - 32)}{1.8} \quad ^{\circ}\text{F} = 1.8(^{\circ}\text{C}) + 32$$

$$\text{K} = ^{\circ}\text{C} + 273$$

Metric Conversion Factors- What do the prefixes mean?

Prefix	<i>with meters</i>	<i>with grams</i>	<i>with Liters</i>
Mega(M) means 1000000 or 10^6	1Mm= 10^6 m		
kilo(k) means 1000 or 10^3	1km= 1000 m	1kg= 1000 g	
deci(d) means 0.1 or 10^{-1}	1dm= 0.1 m		1dL= 0.1 L
centi (c) means 0.01 or 10^{-2}	1cm= 0.01m		1cL= 0.01L
milli(m) means .0001 or 10^{-3}	1mm= 0.001 m	1mg= 0.001 g	1mL= 0.001 L
micro(μ) means 0.000001 or 10^{-6}	1μm= 0.000001 m	1μg= 0.000001g	1μL= 0.000001L

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Metric Conversion Factors- How do most people commonly use them?

Prefix	<i>with meters</i>	<i>with grams</i>	<i>with Liters</i>
Mega(M)	1Mm= 10 ⁶ m		
kilo(k)	1km= 1000 m	1kg= 1000 g	
deci(d)	10 dm= 1 m		10 dL= 1 L
centi (c)	100 cm = 1 m		100 cL= 1 L
milli(m)	1000 mm= 1 m	10000mg= 1 g	1000 mL= 1 L
micro(μ)	10 ⁶ μm= 1 m 10 ⁶ mcL= 1 m	10 ⁶ μg= 1 g 10 ⁶ mcg= 1 g	10 ⁶ μL= 1 L 10 ⁶ mcL= 1 L

Note: There are many more metric prefixes. They are listed in Table 1.8 on pg 21 of your book (Timberlake 11th ed).

