

Conversion Factors

NOTE: All equalities are EXACT (i.e. ∞ number of SF), except those marked with an asterisk (*)

ENGLISH/US SYSTEM *Be familiar with each unit, abbreviation and equality below.*

Mass

1 ton = 2000 lb (pounds)
1 lb = 16 oz (ounces)

Length

1 mi (mile) = 5,280 ft (feet)
1 yd (yard) = 3 ft
1 ft = 12 in (inch)

Volume

1 gal (gallon) = 4 qt (quart)
1 qt = 2 pt (pint)
1 pint = 2 cups
1 qt = 32 fl oz (fluid ounces)

COMMON METRIC SYSTEM BASE UNITS

Length: meter (m)
Mass: gram (g)
Volume: liter (L)

SI SYSTEM UNITS

Length: meter (m)
Mass: kilogram (kg)
Time: second (s)
Temperature: kelvin (K)

Any unit can be modified by adding a prefix to a base unit. The value of the prefixed unit is the numerical equivalent of the base unit (e.g. 1 μ L = .000001 L)

| PREFIX | ABBR | NUMERICAL EQUIVALENT |
|--------|-------|---------------------------|
| mega | M | 10^6 or 1,000,000 |
| kilo | k | 10^3 or 1,000 |
| - | - | 10^0 or 1 |
| deci | d | 10^{-1} or .1 |
| centi | c | 10^{-2} or .01 |
| milli | m | 10^{-3} or .001 |
| micro | μ | 10^{-6} or .000,001 |
| nano | n | 10^{-9} or .000,000,001 |

TEMPERATURE CONVERSIONS

$$T_F = 1.8T_C + 32 \qquad T_C = \frac{T_F - 32}{1.8} \qquad T_K = T_C + 273^* \qquad T_C = T_K - 273^*$$

OTHER IMPORTANT METRIC EQUALITIES

1 cubic centimeter (cm^3) = 1 mL

1 angstrom (\AA) = 10^{-10} m

ENGLISH - METRIC BRIDGE EXAMPLES

Mass

1 lb = 453.6 g *
1 kg = 2.205 lb *

Length

1 in = 2.54 cm
1 m = 1.094 yd *
1 mi = 1.609 km *

Volume

1 L = 1.0567 qt*
1 ft^3 = 28.32 L *