Conversion Factors

Mass

1 gram = 10^{-3} kg
1 kg = 1000 g (equivalent weight = 2.2 lb)
1 u = 1.66 x 10^{-24} g = 1.66 x 10^{-27} kg

Length

1 cm = 10^{-2} m = 0.394 in
1 m = 10^{-3} km = 1.09 yd = 3.28 ft
= 39.4 in = 6.215 x 10^{-4} mi
1 km = 1000 m = 0.62 mi = 3280 ft
= 1093.33 yd
1 in = 2.54 cm = 2.54 x 10^{-2} m
1 ft = 12 in = 30.48 cm = 0.3048 m
= 0.3333 yd = 1.894 x 10^{-4} mi
1 yd = 3 ft = 0.914 m = 5.682 x 10^{-4} mi
= 9.146 x 10^{-4} km
1 mi = 5280 ft = 1609 m = 1.609 km
= 1760 yd
1 pc = 3.26 ly = 2.05 x 10^{5} AU
1 AU = 1.499 x 10^{11} m
1 ly = 9.461 x 10^{15} m
1 pc = 3.086 x 10^{16} m

Volume

1 m^3 = 1000 L = 264 gal
1 L = 10^{-3} m^3 = 1.06 qt = 0.264 gal
1 ft^3 = 7.48 gal = 0.0283 m^3 = 28.3 L
1 qt = 2 pt = 0.946 L = 946 mL
1 gal = 4 qt = 3.785 L

Energy

1 joule = 0.738 ft-lb = 0.239 cal
= 9.48 x 10^{-4} Btu = 6.24 x 10^{18} eV
1 kcal = 4186 J = 3.97 Btu
= 0.00116 kWh
1 Btu = 1055 J = 778 ft-lb = 0.252 kcal
1 cal = 4.186 J = 3.97 x 10^{-3} Btu
= 3.09 ft-lb
1 ft-lb = 1.36 J = 1.29 x 10^{-3} Btu
1 eV = 1.60 x 10^{-19} J
1 kWh = 3.60 x 10^{6} J = 3413 Btu
= 860 kcal

Speed

1 m/s = 3.6 km/h = 3.28 ft/s
= 2.24 mi/h
1 km/h = 0.278 m/s = 0.621 mi/h
= 0.911 ft/s
1 ft/s = 0.682 mi/h = 0.305 m/s
= 1.10 km/h
1 mi/h = 1.467 ft/s = 1.609 km/h
= 0.447 m/s

Force

1 Newton = 0.225 lb
1 lb = 4.45 N
[Equivalent weight of 1 kg mass = 2.20 lb
or 9.80 N]

Pressure

1 atm = 14.7 lb/in^2 = 1.031 x 10^{5} N/m^2
= 30 in Hg = 76 cm Hg
1 bar = 100,000 Pa
1 millibar = 100 Pa
1 Pa = 1 N/m^2 = 10^{-2} millibar

Power

1 watt = 0.738 ft-lb/s = 1.34 x 10^{-3} hp
= 3.41 Btu/h
1 ft-lb/s = 1.36 W = 1.82 x 10^{-3} hp
1 hp = 550 ft-lb = 745.7 watts
= 2545 Btu/h

Time

1 h = 60 min = 3600 s
1 day = 24 hr = 1440 min = 8.64 x 10^{4}s
1 year = 365 days = 8.76 x 10^{3} hr
= 5.26 x 10^{5} min = 3.16 x 10^{7} s