

Conversion Factors (continued)

Volume	$1 \text{ cm}^3 = 10^{-6} \text{ m}^3 = 3.53 \times 10^{-5} \text{ ft}^3 = 6.10 \times 10^{-2} \text{ in}^3$ $1 \text{ m}^3 = 10^6 \text{ cm}^3 = 10^3 \text{ L} = 35.3 \text{ ft}^3 = 6.10 \times 10^4 \text{ in}^3 = 264 \text{ gal}$ $1 \text{ L} = 10^3 \text{ cm}^3 = 10^{-3} \text{ m}^3 = 1.056 \text{ qt} = 0.264 \text{ gal}$ $1 \text{ in}^3 = 5.79 \times 10^{-4} \text{ ft}^3 = 16.4 \text{ cm}^3 = 1.64 \times 10^{-5} \text{ m}^3$ $1 \text{ ft}^3 = 1728 \text{ in}^3 = 7.48 \text{ gal} = 0.0283 \text{ m}^3 = 28.3 \text{ L}$ $1 \text{ qt} = 2 \text{ pt} = 946.5 \text{ cm}^3 = 0.946 \text{ L}$ $1 \text{ gal} = 4 \text{ qt} = 231 \text{ in}^3 = 3.785 \text{ L} = 0.134 \text{ ft}^3$
Time	$1 \text{ h} = 60 \text{ min} = 3600 \text{ s} = 4.167 \times 10^{-2} \text{ d}$ $1 \text{ d} = 24 \text{ h} = 1440 \text{ min} = 8.64 \times 10^4 \text{ s}$ $1 \text{ y} = 365 \text{ d} = 8.77 \times 10^3 \text{ h} = 5.26 \times 10^5 \text{ min} = 3.16 \times 10^7 \text{ s}$
Angle	$360^\circ = 2\pi \text{ rad}$ $180^\circ = \pi \text{ rad} \quad 1 \text{ rad} = 57.3^\circ$ $90^\circ = \pi/2 \text{ rad}$ $60^\circ = \pi/3 \text{ rad} \quad 1^\circ = 0.0175 \text{ rad}$ $45^\circ = \pi/4 \text{ rad}$ $30^\circ = \pi/6 \text{ rad}$
Speed	$1 \text{ m/s} = 3.6 \text{ km/h} = 3.28 \text{ ft/s} = 2.24 \text{ mi/h}$ $1 \text{ km/h} = 0.278 \text{ m/s} = 0.621 \text{ mi/h} = 0.911 \text{ ft/s}$ $1 \text{ ft/s} = 0.682 \text{ mi/h} = 0.305 \text{ m/s} = 1.10 \text{ km/h}$ $1 \text{ mi/h} = 1.467 \text{ ft/s} = 1.609 \text{ km/h} = 0.447 \text{ m/s}$ $60 \text{ mi/h} = 88 \text{ ft/s}$
Force	$1 \text{ newton} = 10^5 \text{ dyn} = 0.225 \text{ lb}$ $1 \text{ dyne} = 10^{-5} \text{ N} = 2.25 \times 10^{-6} \text{ lb}$ $1 \text{ lb} = 4.45 \times 10^5 \text{ dyn} = 4.45 \text{ N}$ Equivalent weight of 1-kg mass = 2.2 lb = 9.8 N
Pressure	$1 \text{ Pa (N/m}^2) = 1.45 \times 10^{-4} \text{ lb/in}^2 = 7.5 \times 10^{-3} \text{ torr (mm Hg)} = 10 \text{ dyn/cm}^2$ $1 \text{ torr (mm Hg)} = 133 \text{ Pa (N/m}^2) = 0.02 \text{ lb/in}^2 = 1333 \text{ dyn/cm}^2$ $1 \text{ atm} = 14.7 \text{ lb/in}^2 = 1.013 \times 10^5 \text{ N/m}^2 = 1.013 \times 10^6 \text{ dyn/cm}^2$ $= 30 \text{ in. Hg} = 76 \text{ cm Hg}$ $1 \text{ bar} = 10^5 \text{ N/m}^2 = 10^6 \text{ dyn/cm}^2$ $1 \text{ millibar} = 10^2 \text{ N/m}^2 = 10^3 \text{ dyn/cm}^2$
Energy	$1 \text{ J} = 10^7 \text{ ergs} = 0.738 \text{ ft-lb} = 0.239 \text{ cal} = 9.48 \times 10^{-4} \text{ Btu} = 2.78 \times 10^{-7} \text{ kWh}$ $1 \text{ kcal} = 4186 \text{ J} = 3.968 \text{ Btu}$ $1 \text{ Btu} = 1055 \text{ J} = 778 \text{ ft-lb} = 0.252 \text{ kcal}$ $1 \text{ cal} = 4.186 \text{ J} = 3.97 \times 10^{-3} \text{ Btu} = 3.09 \text{ ft-lb}$ $1 \text{ ft-lb} = 1.36 \text{ J} = 1.29 \times 10^{-3} \text{ Btu}$ $1 \text{ eV} = 1.60 \times 10^{-19} \text{ J}$
Power	$1 \text{ W} = 0.738 \text{ ft-lb/s} = 1.34 \times 10^{-3} \text{ hp} = 3.41 \text{ Btu/h}$ $1 \text{ ft-lb/s} = 1.36 \text{ W} = 1.82 \times 10^{-3} \text{ hp}$ $1 \text{ hp} = 550 \text{ ft-lb/s} = 745.7 \text{ W} = 2545 \text{ Btu/h}$
