

Astronomy

Useful Conversion Factors

Length

1 angstrom (Å)	= 10^{-10} m
1 nanometer (nm)	= 10^{-9} m
1 micron (µm)	= 10^{-6} m
1 centimeter (cm)	= 0.01 m
1 meter (m)	= 100 cm
1 kilometer (km)	= 1000 m = 10^3 m
1 astronomical unit (AU)	= 1.496×10^{11} m
1 light-year (ly)	= 9.46×10^{14} m = 63200 AU
1 parsec (pc)	= 3.09×10^{16} m = 206000 AU = 3.26 ly
1 kiloparsec (kpc)	= 1000 pc
1 megaparsec (Mpc)	= 1000 kpc

Mass

1 gram (g)	= 10^{-3} kg
1 kilogram (kg)	= 1000 g

Time

1 second (s)	
1 minute (min)	= 60 s
1 hour (h)	= 3600 s
1 day (d)	= 86400 s
1 year (yr)	= 3.16×10^7 s

Angular Measure

1 Full Circle	= 360°
1 degree (°)	= 60'
1 arc minute (')	= 60"
1 arc second (")	

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Conversions between English and Metric Units

1 inch (in)	= 2.54 centimeters (cm)
1 foot (ft)	= 0.3048 meters (m)
1 mile (mi)	= 1.609 kilometers (km)
1 pound (lb)	= 453.6 gram (g) [on Earth]
1 pound (lb)	= 0.4536 kilogram (kg) [on Earth]

Useful Constants

speed of light (c)	= 299792.458 km/s
Stefan-Boltzmann Constant (a)	= $5.67 \times 10^{-8} \text{ W/m}^2 \cdot \text{K}^4$
Planck's constant (h)	= $6.63 \times 10^{-34} \text{ J s}$
gravitational constant (G)	= $6.67 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$
mass of Earth	= $5.98 \times 10^{24} \text{ kg}$
radius of Earth	= 6378 km
mass of the Sun	= $1.99 \times 10^{30} \text{ kg}$
radius of the Sun	= $6.96 \times 10^5 \text{ km}$
luminosity of the Sun	= $3.90 \times 10^{26} \text{ W}$
effective temperature of the Sun	= 5778 K
Hubble's constant (H_0)	= 70 km/s/Mpc
mass of an electron (m_e)	= $9.11 \times 10^{-31} \text{ kg}$
mass of a proton (m_p)	= $1.67 \times 10^{-27} \text{ kg}$