speed of light	c	$2.99 \times 10^{8} \frac{m}{s}$
elementary charge	e	$1.60 \times 10^{-19} C$
gravitational constant	G	$6.67 \times 10^{-11} \frac{m^3}{kg \cdot s^2}$
universal gas constant	R	$8.31 \frac{J}{mol \cdot K}$
Avogadro's number	N_A	$6.022 \times 10^{23} \frac{atoms}{mol}$
Boltzman constant	k	$1.38 \times 10^{-23} \frac{J}{K}$ $8.62 \times 10^{-5} \frac{eV}{K}$
Stefan-Boltzman constant	σ	$5.67 \times 10^{-8} \frac{W}{m^2 \cdot K^4}$
permittivity constant	ε_0	$8.85 \times 10^{-12} \frac{F}{m}$
permeability constant	μ_0	$1.26 \times 10^{-6} \frac{H}{m}$
fine structure constant	α	7.297×10^{-3}
Bohr radius	a_0	$5.29 \times 10^{-11} m$
Ryberg constant	R_∞	$1.10 \times 10^{7} \frac{1}{m}$
Bohr magneton	μ_B	$9.27 \times 10^{-24} \frac{J}{T}$ $5.788 \times 10^{-5} \frac{eV}{T}$
nuclear magneton	μ_N	$5.05 \times 10^{-27} \frac{J}{T}$ $3.152 \times 10^{-8} \frac{eV}{T}$
Planck constant	h	$6.626 \times 10^{-34} J \cdot s$ $4.136 \times 10^{-15} eV \cdot s$
	$\hbar = \frac{h}{2\pi}$	$1.055 \times 10^{-34} J \cdot s$ $6.582 \times 10^{-16} eV \cdot s$
Faraday constant	F	$9.65 \times 10^{4} \frac{C}{mol}$

Electron

mass	m_e	$9.109 \times 10^{-31} kg$ $5.486 \times 10^{-4} amu$ $0.511\ MeV$
Compton wavelength	λ_C	$1.321 \times 10^{-12} m$
classical radius	$\alpha^2 a_0 = r_e$	$2.818 \times 10^{-15} m$
Thomson cross section	$(8\pi/3){r_e}^2 = \sigma_e$	$0.665 \times 10^{-28} m^2$
magnetic moment	μ_e	$-928.48 \times 10^{-26} J/T$
g factor	g_e	-2.002

Proton

mass	m_p	$1.673 \times 10^{-27} kg$ $1.007\ amu$ $938.27\ MeV$
Compton wavelength	$\lambda_{C,p}$	$1.321 \times 10^{-15} m$
magnetic moment	μ_p	$1.411 \times 10^{-26} J/T$

Neutron

mass	m_N	$1.675 \times 10^{-27} kg$ $1.009\ amu$ $939.57\ MeV$
Compton wavelength	$\lambda_{C,N}$	$1.320 \times 10^{-15} m$

Deuteron

mass	m_d	$3.344 \times 10^{-27} kg$ $2.014\ amu$ $1875.6\ MeV$
magnetic moment	μ_d	$0.433 \times 10^{-26} J/T$

Alpha particle

mass	m_α	$6.645 \times 10^{-27} kg$ $3727.38\ MeV$

Muon

mass	m_μ	$1.884 \times 10^{-28} kg$ $0.113\ amu$ $105.66\ MeV$
magnetic moment	μ_μ	$-4.49 \times 10^{-26} J/T$
g factor	g_μ	-2.002

Tau

mass	m_τ	$3.168 \times 10^{-27} kg$ $1.908\ amu$ $1776.99\ MeV$

Length	
1 km	0.6215 miles
1 m	1.0936 yds 3.281 ft 39.37 in
1 in	2.54 cm
1 mile	5280 ft
1 rod	16.5 ft
1 fathom	6 ft
1 nautical mile	6076.1 ft
1 angstrom	0.1 nm
1 light year	$9.467 \times 10^{15} m$
1 par − sec	$3.084 \times 10^{13} km$

Area	
1 km^2	0.3861 mi^2 247.1 $acres$
1 $hectare$	10^4 m^2
1 $acre$	43560 ft^2
1 $barn$	$10^{-28} m^2$

Volume	
1 L	1000 cm^3
1 $gallon$	3.786 L 4 qt 8 pt 128 oz 231 in^2
1 ft^3	28.32 L 2.832×10^4 cm^3

Speed	
1 $knot$	1 $nautical\ mile/hour$

Angle	
1 rad	57.30°
1 rad/sec	9.549 rev/min

Mass	
1 $metric\ ton$	1000 kg
1 amu	1.6606×10^{-27} kg 931.50 MeV/c^2
1 $slug$	14.59 kg

Density	
1 g/cm^3	1000 kg/m^3 1 kg/L
(1 g/cm^3)g	62.4 lb/ft^3

Force	
1 N	0.2248 lb 10^5 dyn
(1 kg)g	2.2046 lb
1 lb	32.17 $poundal$

Pressure	
1 Pa	1 N/m^2
1 atm	101.325 kPa 1.01325 $bars$ 1.013×10^6 dyn/cm^2 14.7 lb/in^2 760 $mm\ Hg$ 29.9 $in\ Hg$ 33.8 $ft\ H_2O$
1 lb/in^2	6.895 kPa
1 $torr$	1 $mmHg$ 133.32 Pa
1 bar	100 kPa

Energy	
$1\ kW \cdot hr$	$3.6\ MJ$
$1\ cal$	$4.184\ J$
$1\ ft \cdot lb$	$1.356\ J$ $1.286 \times 10^{-3} btu$
$1\ L \cdot atm$	$101.325\ J$ $24.217\ cal$
$1\ btu$	$252\ cal$
$1\ eV$	$1.602 \times 10^{-19}\ J$
$1\ u \cdot c^2$	$931.50\ MeV$
$1\ erg$	$1\ dyne \cdot cm$ $10^{-7}\ J$
$1\ J$	3.725×10^{-7} $horsepower \cdot hr$

Power	
$1\ horsepower$	$550\ ft \cdot lb/s$ $745.7\ W$
$1\ btu/min$	$17.58\ W$
$1\ W$	$1\ J/s$ 1.341×10^{-3} $horsepower$ $0.7376\ ft \cdot lb/s$

Magnetic vector H	
$1\ amp \cdot turn/m$	$1.257 \times 10^{-2}\ oersted$

Magnetic field B	
$1\ T$	$10^4\ Gauss$ $64.52\ kiloline/in^2$

Magnetic flux	
$1\ Wb$	$10^8 maxwell$ $10^5 kiloline$
$1\ esu$	$2.998\ Wb$

Magnetomotive force	
$1\ amp \cdot turn$	$1.257\ gilbert$
$1\ paragilbert$	$4\pi\ amp \cdot turn$
$1\ esu$	2.665×10^{-11} $amp \cdot turn$

Electric charge	
$1\ C$	$0.10\ abcoulomb$ $2.778 \times 10^{-4} amp \cdot hr$ $1.036 \times 10^{-5} faraday$

Length	Meter	m
Mass	Kilogram	kg
Time	Second	s
Electric current	Ampere	A
Thermodynamic temperature	Kelvin	K
Amount of substance	Mole	mol
Luminous intensity	Candela	cd

SI prefixes								
prefix	factor	symbol	prefix	factor	symbol	prefix	factor	symbol
yotta-	10^{24}	Y	Kilo-	10^{3}	k	nano-	10^{-9}	n
zetta-	10^{21}	Z	hecto-	10^{2}	h	pico-	10^{-12}	p
exa-	10^{18}	E	deka-	10^{1}	da	femto-	10^{-15}	f
peta-	10^{15}	P	deci-	10^{-1}	d	atto-	10^{-18}	a
tera-	10^{12}	T	centi-	10^{-2}	c	zepto-	10^{-21}	z
giga-	10^{9}	G	milli-	10^{-3}	m	yocto-	10^{-24}	y
mega-	10^{6}	M	micro-	10^{-6}	μ			

Area	Square meter	m^2
Volume	Cubic meter	m^3
Velocity	Meter per second	$m \cdot s^{-1}$
Acceleration	Meter per second squared	$m \cdot s^{-2}$
Wave number	Reciprocal meter	m^{-1}
Mass density	Kilogram per cubic meter	$kg \cdot m^{-3}$
Specific volume	Cubic meter per kilogram	$m^3 \cdot kg^{-1}$
Current density	Ampere per square meter	$A \cdot m^{-2}$
Magnetic field strength	Ampere per meter	$A \cdot m^{-1}$
Amount of substance concentration	Mole per cubic meter	$mol \cdot m^{-3}$
Luminance	Candela per square meter	$cd \cdot m^{-2}$

Plane angle	Radian	Rad		
Solid angle	Steradian	Sr		
Frequency	Hertz	Hz		s^{-1}
Force	Newton	N		$m \cdot kg \cdot s^{-1}$
Pressure	Pascal	Pa	$N \cdot m^{-2}$	$m^{-1} \cdot kg \cdot s^{-2}$
Energy	Joule	J	$N \cdot m$	$m^2 \cdot kg \cdot s^{-2}$
Power	Watt	W	$J \cdot s^{-1}$	$m^2 \cdot kg \cdot s^{-3}$
Electric charge	Coulomb	C		$A \cdot s$
Electric potential difference	Volt	V	$W \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-1}$
Capacitance	Farad	F	$C \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^4 \cdot A^2$
Electric resistance	Ohm	Ω	$V \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-3} \cdot A^{-2}$
Electric conductance	Siemens	S	$A \cdot V^{-1}$	$m^{-2} \cdot kg^{-1} \cdot s^3 \cdot A^2$
Magnetic flux	Weber	Wb	$V \cdot s$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-1}$
Magnetic flux density	Tesla	T	$Wb \cdot m^2$	$kg \cdot s^{-2} \cdot A^{-1}$
Inductance	Henry	H	$Wb \cdot A^{-1}$	$m^2 \cdot kg \cdot s^{-2} \cdot A^{-2}$
Luminous flux	Lumen	Lm	$cd \cdot sr$	cd
Illuminance	Lux	Lx	$lm \cdot m^{-2}$	$cd \cdot m^{-2}$
Activity of a radionuclide	Becquerel	Bq		s^{-1}
Absorbed dose	Gray	Gy	$J \cdot kg^{-1}$	$m^2 \cdot s^{-2}$
Dose equivalent	Sievert	Sv	$J \cdot kg^{-1}$	$m^2 \cdot s^{-2}$
Catalytic activity	Katal	Kat		$mol \cdot s^{-1}$

Dynamic viscosity	Pascal second	$Pa \cdot s$
Moment of force	Newton meter	$N \cdot m$
Surface tension	Newton per meter	$N \cdot m^{-1}$
Angular velocity	Radian per second	$rad \cdot s^{-1}$
Angular acceleration	Radian per second squared	$rad \cdot s^{-2}$
Heat flux density, irradiance	Watt per square meter	$W \cdot m^{-2}$
Heat capacity, entropy	Joule per Kelvin	$J \cdot K^{-1}$
Specific heat capacity	Joule per kilogram Kelvin	$J \cdot kg^{-1} \cdot K^{-1}$
Specific energy	Joule per kilogram	$J \cdot kg^{-1}$
Thermal conductivity	Watt per meter Kelvin	$W \cdot m^{-1} \cdot K^{-1}$
Energy density	Joule per cubic meter	$J \cdot m^{-3}$
Electric field strength	Volt per meter	$V \cdot m^{-1}$
Electric charge density	Coulomb per cubic meter	$C \cdot m^{-3}$
Electric flux density	Coulomb per square meter	$C \cdot m^{-2}$
Permittivity	Farad per meter	$F \cdot m^{-1}$
Permeability	Henry per meter	$H \cdot m^{-1}$
Molar energy	Joule per mole	$J \cdot mol^{-1}$
Molar entropy, molar heat capacity	Joule per mole Kelvin	$J \cdot mol^{-1} \cdot K^{-1}$
Exposure (x and ɣ rays)	Coulomb per kilogram	$C \cdot kg^{-1}$
Absorbed dose rate	Gray per second	$Gy \cdot s^{-1}$
Radiant intensity	Watt per steradian	$W \cdot sr^{-1}$
Radiance	Watt per square meter steradian	$W \cdot m^{-2} \cdot sr^{-1}$
Catalytic concentration	Katal per cubic meter	$kat \cdot m^{-3}$