

Units of Measurement

Weight/Mass

Da	dalton	1 Da	= 1.65×10^{-24} g
g	gram	1 g	= 0.3035 oz (avoirdupois)
kg	kilogram	1 kg	= 2.2 lb
Mg	megagram, metric ton	1 Mg	= 10^6 g or 2,205 lb
μg	microgram	1 μg	= 10^{-6} g
mg	milligram	1 mg	= 1/1,000 g; 10^{-3} g
mol	mole	1 mol	= molecular weight in grams
ng	nanogram	1 ng	= 10^{-9} g
oz	ounce (avoirdupois)	1 oz	= 28.3 g
pg	picogram	1 pg	= 10^{-12} g
lb	pound	1 lb	= 0.45 kg

Length

cm	centimeter	100 cm	= 1 m
dm	decimeter	1 dm	= 1/10 m
ft	foot	1 ft	= 0.3 m
in.	inch	1 in.	= 2.54 cm
km	kilometer	1 km	= 0.6 mi
m	meter	1 m	= 3.3 ft
μm	micrometer, micron	1 μm	= 10^{-6} m
mi	mile	1 mi	= 1.6 km
mm	millimeter	1 mm	= 1/1,000 m; 10^{-3} m

Area

A	acre	1 A	= 4047 m ²
Ha	hectare	1 Ha	= 2.47 A
m ²	square meter	1 m ²	= 10.8 ft ²

Volume

ft ³	cubic foot	1 ft ³	= 0.028 m ³
m ³	cubic meter	1 m ³	= 35 cubic feet
cm ³ or cc	cubic centimeter	1 cc	= approximately 1 mL
gal	gallon (U.S.)	1 gal	= 3.8 L
L	liter	1 L	= 1.05 liquid quarts
mL	milliliter	1 mL	= 10^{-3} L

Concentration

mM	millimolar	1 mM	= 1 M/1,000
mppcf	millions of particles per cubic foot	mppcf × 35.3	= millions of particles/m ³
M	molar; moles of solute per liter of solution		
N	normal; 1 gram equivalent of solute per liter of solution		
ppm	parts per million	1 ppm	= 1 mg/kg = (mg/m ³)(24.45)/(mol wt)
ppb	parts per billion	1 ppb	= 1 μg/kg
ppt	parts per trillion	1 ppt	= 1 ng/kg

Pressure

kPa	kilopascal	1 kPa	= 0.145 lb/in ²
MPa	megapascal	1 MPa	= 1 Pa × 10 ⁶
mm Hg	millimeter of mercury	1 mm Hg	= 0.0193 lb/in ²
Pa	pascal	1 Pa	= 1 newton per square meter

Temperature

°C	degrees Celsius	= (°F - 32) × 5/9
°F	degrees Fahrenheit	= (°C × 9/5) + 32

Energy/Power

A	ampere	1 A	= 1 C per second
C	coulomb	1 C	= 1 A × s
eV	electronvolt	1 eV	= 1.6×10^{-12} erg
	erg	1 erg	= 10^{-7} J
J	joule	1 J	= 10^7 erg
keV	kiloelectronvolt	1 keV	= 1,000 eV
MeV	megaelectronvolt	1 MeV	= 1×10^6 eV
mW	milliwatt	1 mW	= 10^4 erg/s

Radiation

Bq	becquerel	1 Bq	= 1 disintegration per second
Ci	curie	1 Ci	= 3.7×10^{10} disintegrations per second
Gy	gray	1 Gy	= 1 J per kg
mCi	millicurie	1 mCi	= 10^{-3} Ci
pCi	picocurie	1 pCi	= 10^{-12} Ci
	rad	1 rad	= 0.01 Gy
R	roentgen	1 R	= 2.58×10^{-4} C per kg
rem	roentgen equivalent man	1 rem	= 0.01 Sv
Sv	sievert	1 Sv	= 1 J per kg

DNA or RNA (length of nucleic acid chain)

kb	kilobase	1 kb	= 1,000 nucleotides of RNA = 2,000 nucleotides of DNA (1,000 pairs of nucleotides)
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Exponentials (Scientific Notation)

10^2 , 10^3 , 10^6 , etc.: superscripts refer to the number of times 10 is multiplied by itself, e.g., $10^2 = 10 \times 10 = 100$; $10^3 = 10 \times 10 \times 10 = 1,000$, etc.