

Conversion Factors:**Length:**

$$12 \text{ in} = 1 \text{ ft}$$

$$3 \text{ ft} = 1 \text{ yd}$$

$$1 \text{ mile} = 5280 \text{ ft}$$

$$1.00 \text{ km} = 0.621 \text{ mile}$$

$$1.00 \text{ m} = 39.4 \text{ in}$$

$$1.00 \text{ m} = 3.28 \text{ ft}$$

$$1.00 \text{ inch} = 2.54 \text{ cm}$$

Mass:

$$1 \text{ pound} = 16 \text{ ounces}$$

$$1.00 \text{ kg} = 2.20 \text{ pounds}$$

$$1.00 \text{ ounce} = 28.3 \text{ grams}$$

Volume:

$$1 \text{ quart} = 4 \text{ cups}$$

$$1 \text{ gallon} = 4 \text{ quarts}$$

$$1.00 \text{ L} = 0.264 \text{ gallon}$$

$$1.00 \text{ quart} = 0.946 \text{ liter}$$

$$1.00 \text{ mL} = 0.0338 \text{ fluid ounce}$$

Temperature conversion equations:

$$^{\circ}\text{F} = 1.8(^{\circ}\text{C}) + 32$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32)/1.8$$

$$\text{K} = ^{\circ}\text{C} + 273$$

$$^{\circ}\text{C} = \text{K} - 273$$

Nutritional energy relationships:

$$1 \text{ g of fat} = 9 \text{ Calories}$$

$$1 \text{ g of protein} = 4 \text{ Calories}$$

$$1 \text{ g of carbohydrate} = 4 \text{ Calories}$$

Avogadro's number:

$$1 \text{ mole} = 6.02 \times 10^{23} \text{ molecules}$$

Common Polyatomic Ions:

Ion	Name	Ion	Name
NH_4^+	ammonium	CO_3^{2-}	carbonate
NO_2^-	nitrite	HCO_3^-	bicarbonate
NO_3^-	nitrate	ClO^-	hypochlorite
SO_3^{2-}	sulfite	ClO_2^-	chlorite
SO_4^{2-}	sulfate	ClO_3^-	chlorate
HSO_4^-	hydrogen sulfate	ClO_4^-	perchlorate
OH^-	hydroxide	$\text{C}_2\text{H}_3\text{O}_2^-$	acetate
CN^-	cyanide	MnO_4^-	permanganate
PO_4^{3-}	phosphate	$\text{Cr}_2\text{O}_7^{2-}$	dichromate
HPO_4^{2-}	hydrogen phosphate	CrO_4^{2-}	chromate
H_2PO_4^-	dihydrogen phosphate	O_2^{2-}	peroxide

Table of Electronegativities:

H 2.1																	He				
Li 1.0	Be 1.5															B 2.0	C 2.5	N 3.0	O 3.5	F 4.0	Ne
Na 0.9	Mg 1.2															Al 1.5	Si 1.8	P 2.1	S 2.5	Cl 3.0	Ar
K 0.8	Ca 1.0	Sc 1.3	Ti 1.5	V 1.6	Cr 1.6	Mn 1.5	Fe 1.8	Co 1.8	Ni 1.8	Cu 1.9	Zn 1.6	Ga 1.6	Ge 1.8	As 2.0	Se 2.4	Br 2.8	Kr 3.0				
Rb 0.8	Sr 1.0	Y 1.2	Zr 1.4	Nb 1.6	Mo 1.8	Tc 1.9	Ru 2.2	Rh 2.2	Pd 2.2	Ag 1.9	Cd 1.7	In 1.7	Sn 1.8	Sb 1.9	Te 2.1	I 2.5	Xe 2.6				
Cs 0.7	Ba 0.9	La 1.1	Hf 1.3	Ta 1.5	W 1.7	Re 1.9	Os 2.2	Ir 2.2	Pt 2.2	Au 2.4	Hg 1.9	Tl 1.8	Pb 1.8	Bi 1.9	Po 2.0	At 2.2	Rn 2.4				
Fr 0.7	Ra 0.7	Ac 1.1	Unq	Unp	Unh	Uns	Uno	Une													

Ce 1.1	Pr 1.1	Nd 1.1	Pm 1.1	Sm 1.1	Eu 1.1	Gd 1.1	Tb 1.1	Dy 1.1	Ho 1.1	Er 1.1	Tm 1.1	Yb 1.1	Lu 1.2
Th 1.3	Pa 1.5	U 1.7	Np 1.3	Pu 1.3	Am 1.3	Cm 1.3	Bk 1.3	Cf 1.3	Es 1.3	Fm 1.3	Md 1.3	No 1.3	Lr

The Periodic Table of the Elements

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1A																	8A
1																	2
H Hydrogen 1.00794																	He Helium 4.003