

Hydrogen 1 H 1.01 2.1		2																				Helium 2 He 4.00 ---					
Lithium 3 Li 6.94 1.0		Beryllium 4 Be 9.01 1.5																				Boron 5 B 10.81 2.0	Carbon 6 C 12.01 2.5	Nitrogen 7 N 14.01 3.0	Oxygen 8 O 16.00 3.5	Fluorine 9 F 19.00 4.0	Neon 10 Ne 20.18 ---
Sodium 11 Na 22.99 0.9		Magnesium 12 Mg 24.31 1.2																				Aluminum 13 Al 26.98 1.5	Silicon 14 Si 28.09 1.8	Phosphorus 15 P 30.97 2.1	Sulfur 16 S 32.07 2.5	Chlorine 17 Cl 35.45 3.0	Argon 18 Ar 39.95 ---
Potassium 19 K 39.10 0.8		Calcium 20 Ca 40.08 1.0																				Gallium 31 Ga 69.72 1.6	Germanium 32 Ge 72.61 1.8	Arsenic 33 As 74.92 2.0	Selenium 34 Se 78.96 2.4	Bromine 35 Br 79.90 2.8	Krypton 36 Kr 83.80 3.0
Rubidium 37 Rb 85.47 0.8		Strontium 38 Sr 87.62 1.0		Yttrium 39 Y 88.91 1.2	Zirconium 40 Zr 91.22 1.4	Niobium 41 Nb 92.91 1.6	Molybdenum 42 Mo 95.94 1.8	Technetium 43 Tc (98) 1.9	Ruthenium 44 Ru 101.07 2.2	Rhodium 45 Rh 102.91 2.2	Palladium 46 Pd 106.42 2.2	Silver 47 Ag 107.87 1.9	Cadmium 48 Cd 112.41 1.7	Indium 49 In 114.82 1.7	Tin 50 Sn 118.71 1.8	Antimony 51 Sb 121.76 1.9	Tellurium 52 Te 127.60 2.1	Iodine 53 I 126.90 2.5	Xenon 54 Xe 131.29 2.6								
Cesium 55 Cs 132.91 0.7		Barium 56 Ba 137.33 0.9		57-70 *		Lutetium 71 Lu 174.97 1.1	Hafnium 72 Hf 178.49 1.3	Tantalum 73 Ta 180.95 1.5	Tungsten 74 W 183.84 1.7	Rhenium 75 Re 186.21 1.9	Osmium 76 Os 190.23 2.2	Iridium 77 Ir 192.22 2.2	Platinum 78 Pt 195.08 2.2	Gold 79 Au 196.97 2.4	Mercury 80 Hg 200.59 1.9	Thallium 81 Tl 204.38 1.8	Lead 82 Pb 207.20 1.8	Bismuth 83 Bi 208.98 1.9	Polonium 84 Po (209) 2.0	Astatine 85 At (210) 2.2	Radon 86 Rn (222) 2.4						

Alkali metals

Alkaline earth metals

Transition metals

Lanthanides

Actinides

Other metals

Metalloids (semi-metal)

Nonmetals

Halogens

Noble gases

Element name

Symbol

Electronegativity

Mercury

80

200.59

1.9

Atomic #

Avg. Mass

Alkali metals
Alkaline earth metals
Transition metals
Lanthanides
Actinides
Other metals
Metalloids (semi-metal)
Nonmetals
Halogens
Noble gases

Element name	Mercury	Atomic #
Symbol	Hg	
	80	
	200.59	Avg. Mass
Electronegativity	1.9	

There are 6.02×10^{23} items (of any kind) in 1 mole

1000 g = 1 kg

16 ounces = 1 pound

12 inches = 1 foot

2.54 cm = 1 inch

1 kg = 2.2 pounds

Density of water is 1.00 g/cm^3

1000 J = 1 kJ

1 MJ = 1000 kJ

3.7 L = 1 gallon

1000 mL = 1 L

$1 \text{ cm}^3 = 1 \text{ mL}$

1 Watt = 1 Joule/sec

1 Joule = $1 \text{ kg} \cdot \text{m}^2 / \text{sec}^2$

$\Delta U = q + w$

$w = -P\Delta V$

$q = mC\Delta T$

$\Delta H_{\text{rxn}} = \Sigma(\Delta H_{\text{f products}}) - \Sigma(\Delta H_{\text{f reactants}})$

Specific heat of water is $4.184 \text{ J/g}^\circ\text{C}$

Heat of fusion of water is 333 J/g

Heat of evaporation of water 2256 J/g

Boiling point of water at 1 atm is 100°C

Speed of light = $2.998 \times 10^8 \text{ m/sec}$

$E = h\nu$

$1 \text{ nm} = 1 \times 10^{-9} \text{ m}$

$c = v\lambda$

$R(\text{the rydberg constant}) = 1.0974 \times 10^7 \text{ m}^{-1}$

$E_n = -Rhc/n^2$ for H atom only

$\lambda = h/mv$

$h = 6.626 \times 10^{-34} \text{ J} \cdot \text{sec}$

Temp in K = Temp in $^\circ\text{C} + 273.15$

$A = \epsilon LC$

$\text{pH} = -\log_{10}[\text{H}_3\text{O}^+]$

1 minute = 60 seconds

1 hour = 60 minutes

$R(\text{gas constant}) = 8.314 \text{ J/mol} \cdot \text{K} = 0.08206 \text{ L} \cdot \text{atm} \cdot \text{mol}^{-1} \cdot \text{K}^{-1}$

$PV = nRT$

$\ln(P_2/P_1) = (-\Delta H_{\text{vap}}/R)(1/T_2 - 1/T_1)$

1 atm = $760 \text{ mmHg} = 101325 \text{ Pa}$