

Periodic Table of the Elements

1 (IA) (Alkali Metals)												18 (VIIIA) (Noble Gases)						
1 1.008 -259 -252 2.20 H Hydrogen											2 4.003 -272 -268 He Helium							
2 (IIA) (Alkaline Earth Metals)		<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Important Formulas</p> <p>Density (ρ): density = mass / Volume (or $\rho = m/V$) Planck's Equation: $E = hv$</p> <p>Percent Error: %error = [(experimental value - accepted value) / accepted value] x 100</p> <p>Temperature Conversions: $K = ^\circ C + 273$ $^\circ C = K - 273$ Calorimetry: $q = \text{mass} \times C \times \Delta T$</p> <p>Gas Laws: Boyle's: $P_1 V_1 = P_2 V_2$ Charles's: $V_1 T_2 = V_2 T_1$ Ideal Gas Law: $PV = nRT$</p> <p>Molarity (M): molarity = moles solute / liters solution Molality (m): molality = moles solute / kilograms solvent</p> <p>Mole Fraction: mole fraction = moles of solute (or solvent) / total moles of solution</p> </div>										13 (IIIA)	14 (IVA)	15 (VA)	16 (VIA)	17 (VIIA) (Halogens)		
3 6.941 180 1347 0.98 Li Lithium	4 9.012 1278 2970 1.57 Be Beryllium											5 10.811 2300 2550 2.04 B Boron	6 12.011 3550 4827 2.55 C Carbon	7 14.007 -209 -195 3.04 N Nitrogen	8 15.999 -218 -182 3.44 O Oxygen	9 18.998 -219 -188 3.98 F Fluorine	10 20.180 -248 -246 1.57 Ne Neon	
11 22.990 97 882 0.93 Na Sodium	12 24.305 648 1090 1.31 Mg Magnesium	3 (IIIB)	4 (IVB)	5 (VB)	6 (VIB)	7 (VIIB)	8 (VIIIB)	9 (VIIIB)	10 (VIIIB)	11 (IB)	12 (IIB)	13 26.982 660 2467 1.61 Al Aluminum	14 28.086 1410 2355 1.90 Si Silicon	15 30.974 44 280 2.19 P Phosphorus	16 32.065 112 444 2.58 S Sulfur	17 35.453 -100 -185 3.16 Cl Chlorine	18 39.948 -189 -185 1.57 Ar Argon	
19 39.098 63 774 0.82 K Potassium	20 40.078 839 1484 1.00 Ca Calcium	21 44.956 1541 2831 1.36 Sc Scandium	22 47.867 3287 1.54 Ti Titanium	23 50.942 3380 1.63 V Vanadium	24 51.996 2672 1.66 Cr Chromium	25 54.938 2672 1.55 Mn Manganese	26 55.845 2750 1.83 Fe Iron	27 58.933 2870 1.88 Co Cobalt	28 58.693 2732 1.91 Ni Nickel	29 63.546 2567 1.90 Cu Copper	30 65.409 907 1.65 Zn Zinc	31 69.723 29 2403 1.81 Ga Gallium	32 72.61 937 2830 2.01 Ge Germanium	33 74.922 817 613 2.18 As Arsenic	34 78.96 217 684 2.55 Se Selenium	35 79.904 -7 58 2.96 Br Bromine	36 83.798 -156 -152 1.57 Kr Krypton	
37 85.468 38 688 0.82 Rb Rubidium	38 87.62 769 1384 0.95 Sr Strontium	39 88.906 1522 3338 1.22 Y Yttrium	40 91.224 1852 4377 1.33 Zr Zirconium	41 92.906 2468 1.60 Nb Niobium	42 95.94 2617 4612 2.16 Mo Molybdenum	43 98 2172 4877 2.10 Tc Technetium	44 101.07 2310 3900 2.20 Ru Ruthenium	45 102.91 1966 3727 2.28 Rh Rhodium	46 106.42 1552 3140 2.20 Pd Palladium	47 107.87 961 2212 1.93 Ag Silver	48 112.41 320 765 1.69 Cd Cadmium	49 114.82 156 2080 1.78 In Indium	50 118.71 231 2270 1.96 Sn Tin	51 121.76 630 1750 2.05 Sb Antimony	52 127.60 449 989 2.10 Te Tellurium	53 126.90 113 184 2.66 I Iodine	54 131.29 -111 -107 2.60 Xe Xenon	
55 132.91 28 678 0.79 Cs Cesium	56 137.33 725 1640 0.89 Ba Barium	57 138.91 921 3457 1.10 La Lanthanum	72 178.49 2227 4602 1.3 Hf Hafnium	73 180.95 2996 5425 1.5 Ta Tantalum	74 183.84 3410 5660 2.36 W Tungsten	75 186.21 3180 5627 1.9 Re Rhenium	76 190.23 3045 5027 2.2 Os Osmium	77 192.22 2410 4130 2.2 Ir Iridium	78 195.08 1772 3827 2.28 Pt Platinum	79 196.97 1064 2807 2.54 Au Gold	80 200.59 -38 356 2 Hg Mercury	81 204.38 303 1457 2.04 Tl Thallium	82 207.2 327 1740 2.33 Pb Lead	83 208.98 271 1560 2.02 Bi Bismuth	84 (209) 254 962 2.2 Po Polonium	85 (210) 302 337 2.2 At Astatine	86 (222) 0.2 -61 Rn Radon	
87 (223) 27 677 0.7 Fr Francium	88 (226) 700 1140 0.89 Ra Radium	89 (227) 1050 3200 1.1 Ac Actinium	104 (261) - - - Rf Rutherfordium	105 (262) - - - Db Dubnium	106 (263) - - - Sg Seaborgium	107 (264) - - - Bh Bohrium	108 (265) - - - Hs Hassium	109 (268) - - - Mt Meitnerium	110 (271) - - - Ds Darmstadtium	111 (280) - - - Rg Roentgenium	112 (285) - - - Cn Copernicium	113 (284) - - - Nh Nihonium	114 (289) - - - Fl Flerovium	115 (288) - - - Mc Moscovium	116 (293) - - - Lv Livermorium	117 (294) - - - Ts Tennessine	118 (294) - - - Og Oganesson	

Key																				
Atomic Number	90	232.038	Oxidation States																	
Melting Point (°C)	5060	4	Atomic Symbol																	
Boiling Point (°C)	2028																			
Electronegativity	1.3																			
Name	[Rn]7s ² 6d ²	Electron Configuration																		
Th Thorium																				

58 140.12 799 3426 1.12 Ce Cerium	59 140.91 931 3512 1.13 Pr Praseodymium	60 144.24 1021 3068 1.14 Nd Neodymium	61 (145) 1080 2460 1.13 Pm Promethium	62 150.36 1077 1791 1.17 Sm Samarium	63 151.96 822 1597 1.2 Eu Europium	64 157.25 1313 3266 1.2 Gd Gadolinium	65 158.93 1356 3123 1.1 Tb Terbium	66 162.50 1412 2562 1.22 Dy Dysprosium	67 164.93 1474 2695 1.23 Ho Holmium	68 167.26 1529 2863 1.24 Er Erbium	69 168.93 1545 1947 1.25 Tm Thulium	70 173.05 819 1194 1.1 Yb Ytterbium	71 174.97 1663 3395 1.27 Lu Lutetium
90 232.04 1750 4790 1.3 Th Thorium	91 231.04 1600 N/A 1.5 Pa Protactinium	92 238.03 1132 3818 1.38 U Uranium	93 (237) 640 3902 1.36 Np Neptunium	94 (244) 641 3232 1.28 Pu Plutonium	95 (243) 994 2607 1.3 Am Americium	96 (247) 1340 N/A 1.3 Cm Curium	97 (247) N/A N/A 1.3 Bk Berkelium	98 (251) N/A N/A 1.3 Cf Californium	99 (252) N/A N/A 1.3 Es Einsteinium	100 (257) N/A N/A 1.3 Fm Fermium	101 (258) N/A N/A 1.3 Md Mendelevium	102 (259) N/A N/A 1.3 No Nobelium	103 (262) N/A N/A 1.3 Lr Lawrencium