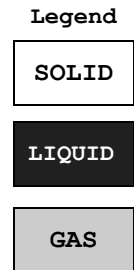
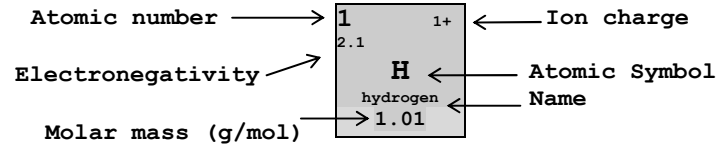


# Periodic Chart of the Elements

1 (IA)												18 (VIII A)						
1 2.1 <b>H</b> hydrogen 1.01											2 -- <b>He</b> helium 4.00							
2 (II A)												13 (III A)	14 (IV A)	15 (V A)	16 (VI A)	17 (VII A)	18 (VIII A)	
3 1.0 <b>Li</b> lithium 6.94	4 1.5 <b>Be</b> beryllium 9.01											5 2.0 <b>B</b> boron 10.81	6 2.5 <b>C</b> carbon 12.01	7 3.0 <b>N</b> nitrogen 14.01	8 3.5 <b>O</b> oxygen 16.00	9 4.0 <b>F</b> fluorine 19.00	10 -- <b>Ne</b> neon 20.18	
11 0.9 <b>Na</b> sodium 22.99	12 1.2 <b>Mg</b> magnesium 24.31											13 1.5 <b>Al</b> aluminum 26.98	14 1.8 <b>Si</b> silicon 28.09	15 2.1 <b>P</b> phosphorus 30.97	16 2.5 <b>S</b> sulfur 32.07	17 3.0 <b>Cl</b> chlorine 35.45	18 -- <b>Ar</b> argon 39.95	
		3 (II B)	4 (IV B)	5 (V B)	6 (VI B)	7 (VII B)	8 (VIII B)		9 (VIII B)	10 (IB)	11 (IB)	12 (IIB)						
19 0.8 <b>K</b> potassium 39.10	20 1.0 <b>Ca</b> calcium 40.08	21 1.3 <b>Sc</b> scandium 44.96	22 1.5 <b>Ti</b> titanium 47.90	23 1.6 <b>V</b> vanadium 50.94	24 1.6 <b>Cr</b> chromium 52.00	25 1.5 <b>Mn</b> manganese 54.94	26 1.8 <b>Fe</b> iron 55.85	27 1.8 <b>Co</b> cobalt 58.93	28 1.8 <b>Ni</b> nickel 58.71	29 1.9 <b>Cu</b> copper 63.55	30 1.6 <b>Zn</b> zinc 65.38	31 1.6 <b>Ga</b> gallium 69.74	32 1.8 <b>Ge</b> germanium 72.59	33 2.0 <b>As</b> arsenic 74.92	34 2.4 <b>Se</b> selenium 78.96	35 2.8 <b>Br</b> bromine 79.90	36 -- <b>Kr</b> krypton 83.80	
37 0.8 <b>Rb</b> rubidium 85.47	38 1.0 <b>Sr</b> strontium 87.62	39 1.3 <b>Y</b> yttrium 88.91	40 1.4 <b>Zr</b> zirconium 91.22	41 1.6 <b>Nb</b> niobium 92.91	42 1.8 <b>Mo</b> molybdenum 95.94	43 1.9 <b>Tc</b> technetium 98.91	44 2.2 <b>Ru</b> ruthenium 101.07	45 2.2 <b>Rh</b> rhodium 102.91	46 2.2 <b>Pd</b> palladium 106.40	47 1.9 <b>Ag</b> silver 107.87	48 1.7 <b>Cd</b> cadmium 112.41	49 1.7 <b>In</b> indium 114.82	50 1.8 <b>Sn</b> tin 118.69	51 1.9 <b>Sb</b> antimony 121.75	52 2.1 <b>Te</b> tellurium 127.60	53 2.5 <b>I</b> iodine 126.90	54 -- <b>Xe</b> xenon 131.30	
55 0.7 <b>Cs</b> cesium 132.91	56 0.9 <b>Ba</b> barium 137.33	57-71 lanthanoids		72 1.3 <b>Hf</b> hafnium 178.49	73 1.5 <b>Ta</b> tantalum 180.95	74 1.7 <b>W</b> tungsten 183.85	75 1.9 <b>Re</b> rhenium 186.21	76 2.2 <b>Os</b> osmium 190.20	77 2.2 <b>Ir</b> iridium 192.22	78 2.2 <b>Pt</b> platinum 195.09	79 2.4 <b>Au</b> gold 196.97	80 1.9 <b>Hg</b> mercury 200.59	81 1.8 <b>Tl</b> thallium 204.37	82 1.8 <b>Pb</b> lead 207.19	83 1.9 <b>Bi</b> bismuth 208.98	84 2.0 <b>Po</b> polonium (209)	85 2.2 <b>At</b> astatine (210)	86 -- <b>Rn</b> radon (222)
87 0.7 <b>Fr</b> francium (223)	88 0.9 <b>Ra</b> radium 226.03	89-103 actinoids		104 - <b>Unq</b> ununilquadium (261)	105 - <b>Unp</b> ununilpentium (262)	106 - <b>Unh</b> ununilhexium (263)	107 - <b>Uns</b> ununilseptium (262)	108 - <b>Uno</b> ununiloctium (265)	109 - <b>Une</b> ununilennium (266)									



57 1.1 <b>La</b> lanthanum 138.91	58 1.1 <b>Ce</b> cerium 140.12	59 1.1 <b>Pr</b> praseodymium 140.91	60 1.2 <b>Nd</b> neodymium 144.24	61 - <b>Pm</b> promethium (145)	62 1.2 <b>Sm</b> samarium 150.35	63 - <b>Eu</b> europium 151.96	64 1.1 <b>Gd</b> gadolinium 157.25	65 1.2 <b>Tb</b> terbium 158.93	66 - <b>Dy</b> dysprosium 162.50	67 1.2 <b>Ho</b> holmium 164.93	68 1.2 <b>Er</b> erbium 167.26	69 1.2 <b>Tm</b> thulium 168.93	70 1.1 <b>Yb</b> ytterbium 173.04	71 1.2 <b>Lu</b> lutetium 174.97
89 1.1 <b>Ac</b> actinium (227)	90 1.3 <b>Th</b> thorium 232.04	91 1.5 <b>Pa</b> protactinium 231.04	92 1.7 <b>U</b> uranium 238.03	93 1.3 <b>Np</b> neptunium 237.05	94 1.3 <b>Pu</b> plutonium (244)	95 1.3 <b>Am</b> americium (243)	96 - <b>Cm</b> curium (247)	97 - <b>Bk</b> berkelium (247)	98 - <b>Cf</b> californium (251)	99 - <b>Es</b> einsteinium (254)	100 - <b>Fm</b> fermium (257)	101 - <b>Md</b> mendelevium (258)	102 - <b>No</b> nobelium (259)	103 - <b>Lr</b> lawrencium (260)