PERIODIC TABLE OF THE ELEMENTS

	1 IA	2 IIA	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8 VIIIB	9 VIIIB	10 VIIIB	11 IB	12 IIB	13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 VIIIA
1	1 **H** Hydrogen 1.0079 (1) +1 -1																	2 **He** Helium 4.0026 (2) 0
2	3 **Li** Lithium 6.941 (2-1) +1	4 **Be** Beryllium 9.0122 (2-2) +2											5 **B** Boron 10.811 (2-3) +3	6 **C** Carbon 12.011 (2-4) -4 +2 +4	7 **N** Nitrogen 14.007 (2-5) -3 -2 -1 +1 +2 +3 +4 +5	8 **O** Oxygen 15.999 (2-6) -2	9 **F** Fluorine 18.998 (2-7) -1	10 **Ne** Neon 20.179 (2-8) 0
3	11 **Na** Sodium 22.990 (2-8-1) +1	12 **Mg** Magnesium 24.305 (2-8-2) +2											13 **Al** Aluminium 26.982 (2-8-3) +3	14 **Si** Silicon 28.086 (2-8-4) -4 +2 +4	15 **P** Phosphorus 30.974 (2-8-5) -3 +3 +5	16 **S** Sulphur 32.065 (2-8-6) -2 +4 +6	17 **Cl** Chlorine 35.453 (2-8-7) -1 +1 +3 +5 +7	18 **Ar** Argon 39.948 (2-8-8) 0
4	19 **K** Potassium 39.098 (2-8-8-1) +1	20 **Ca** Calcium 40.078 (2-8-8-2) +2	21 **Sc** Scandium 44.956 (2-8-9-2) +3	22 **Ti** Titanium 47.867 (2-8-10-2) +2 +3 +4	23 **V** Vanadium 50.942 (2-8-11-2) +2 +3 +4 +5	24 **Cr** Chromium 51.996 (2-8-13-1) +2 +3 +6	25 **Mn** Manganese 54.938 (2-8-13-2) +2 +3 +4 +7	26 **Fe** Iron 55.845 (2-8-14-2) +2 +3	27 **Co** Cobalt 58.933 (2-8-15-2) +2 +3	28 **Ni** Nickel 58.693 (2-8-16-2) +2 +3	29 **Cu** Copper 63.546 (2-8-18-1) +1 +2	30 **Zn** Zinc 65.39 (2-8-18-2) +2	31 **Ga** Gallium 69.723 (2-8-18-3) +3	32 **Ge** Germanium 72.64 (2-8-18-4) -4 +2 +4	33 **As** Arsenic 74.922 (2-8-18-5) -3 +3 +5	34 **Se** Selenium 78.96 (2-8-18-6) -2 +2 +6	35 **Br** Bromine 79.904 (2-8-18-7) -1 +1 +5	36 **Kr** Krypton 83.80 (2-8-18-8) 0 +2
5	37 **Rb** Rubidium 85.468 (2-8-18-8-1) +1	38 **Sr** Strontium 87.62 (2-8-18-8-2) +2	39 **Y** Yttrium 88.906 (2-8-18-9-2) +3	40 **Zr** Zirconium 91.224 (2-8-18-10-2) +4	41 **Nb** Niobium 92.906 (2-8-18-12-1) +3 +5	42 **Mo** Molybdenum 95.94 (2-8-18-13-1) +3 +6	43 **Tc** Technetium (98) (2-8-18-14-1) +4 +6 +7	44 **Ru** Ruthenium 101.07 (2-8-18-15-1) +3	45 **Rh** Rhodium 102.91 (2-8-18-16-1) +3	46 **Pd** Palladium 106.42 (2-8-18-18) +2 +4	47 **Ag** Silver 107.87 (2-8-18-18-1) +1	48 **Cd** Cadmium 112.41 (2-8-18-18-2) +2	49 **In** Indium 114.82 (2-8-18-18-3) +3	50 **Sn** Tin 118.71 (2-8-18-18-4) +2 +4	51 **Sb** Antimony 121.76 (2-8-18-18-5) -3 +3 +5	52 **Te** Tellurium 127.60 (2-8-18-18-6) -2 +4 +6	53 **I** Iodine 126.90 (2-8-18-18-7) -1 +1 +5 +7	54 **Xe** Xenon 131.29 (2-8-18-18-8) 0 +2 +4 +6
6	55 **Cs** Cesium 132.91 (2-8-18-18-8-1) +1	56 **Ba** Barium 137.33 (2-8-18-18-8-2) +2	57-71 **La** Lanthanide	72 **Hf** Hafnium 178.49 (2-8-18-32-10-2) +4	73 **Ta** Tantalum 180.95 (2-8-18-32-11-2) +5	74 **W** Tungsten 183.84 (2-8-18-32-12-2) +6	75 **Re** Rhenium 186.21 (2-8-18-32-13-2) +4 +6 +7	76 **Os** Osmium 190.23 (2-8-18-32-14-2) +3 +4	77 **Ir** Iridium 192.22 (2-8-18-32-15-2) +3 +4	78 **Pt** Platinum 195.08 (2-8-18-32-17-1) +2 +4	79 **Au** Gold 196.97 (2-8-18-32-18-1) +1 +3	80 **Hg** Mercury 200.59 (2-8-18-32-18-2) +1 +2	81 **Tl** Thallium 204.38 (2-8-18-32-18-3) +1 +3	82 **Pb** Lead 207.2 (2-8-18-32-18-4) +2 +4	83 **Bi** Bismuth 208.98 (2-8-18-32-18-5) +3 +5	84 **Po** Polonium (209) (2-8-18-32-18-6) +2 +4	85 **At** Astatine (210) (2-8-18-32-18-7)	86 **Rn** Radon (222) (2-8-18-32-18-8) 0
7	87 **Fr** Francium (223) (-18-32-18-8-1) +1	88 **Ra** Radium (226) (-18-32-18-8-2) +2	89-103 **Ac** Actinide	104 **Rf** Rutherfordium (261) (-18-32-32-10-2)	105 **Db** Dubnium (262) (-18-32-32-11-2)	106 **Sg** Seaborgium (266) (-18-32-32-12-2)	107 **Bh** Bohrium (264) (-18-32-32-13-2)	108 **Hs** Hassium (277) (-18-32-32-14-2)	109 **Mt** Meitnerium (268) (-18-32-32-15-2)	110 **Uun** Ununnilium (281) (-18-32-32-17-1) +2 +4	111 **Uuu** Unununium (272) (-18-32-32-18-1)	112 **Uub** Ununbium (285) (-18-32-32-18-2)	113 **Uut** Ununtrium (284)	114 **Uuq** Ununquadium (289)	115 **Uup** Ununpentium (288)	116 **Uuh** Ununhexium (291)	117 **Uus** Ununseptium	118 **Uuo** Ununoctium (294)

1 Atomic Number
H Symbol
Hydrogen Name
1.0079 Atomic Mass
1 Electron Configuration
+1 -1 Selected Oxidation States
1 Group IUPAC
IA Group CAS

- Alkali Metals
- Alkaline Earth Metals
- Transition Metals
- Metals
- Metaloides
- Nonmetals
- Halogens
- Noble Gases

Gas Liquid Solid at 25C Synthetic

Electron Shells

			S	P	D	F
1	K	2	2			
2	L	8	2	6		
3	M	18	2	6	10	
4	N	32	2	6	10	14
5	O	32	2	6	10	14
6	P	18	2	6	10	
7	Q	8	2	6		
8	R	2	2			

Lanthanide

57 **La** Lanthanium 138.91 (2-8-18-18-9-2) +3	58 **Ce** Cerium 140.12 (2-8-18-20-8-2) +3 +4	59 **Pr** Praseodymium 140.91 (2-8-18-21-8-2) +3	60 **Nd** Neodymium 144.24 (2-8-18-22-8-2) +3	61 **Pm** Promethium (145) (2-8-18-23-8-2) +3	62 **Sm** Samarium 150.36 (2-8-18-24-8-2) +2 +3	63 **Eu** Europium 151.96 (2-8-18-25-8-2) +2 +3	64 **Gd** Gadolinium 157.25 (2-8-18-25-9-2) +3	65 **Tb** Terbium 158.93 (2-8-18-27-8-2) +3	66 **Dy** Dysprosium 162.50 (2-8-18-28-8-2) +3	67 **Ho** Holmium 164.93 (2-8-18-29-8-2) +3	68 **Er** Erbium 167.26 (2-8-18-30-8-2) +3	69 **Tm** Thulium 168.93 (2-8-18-31-8-2) +3	70 **Yb** Ytterbium 173.04 (2-8-18-32-8-2) +2 +3	71 **Lu** Lutetium 174.97 (2-8-18-32-9-2) +3

Actinide

89 **Ac** Actinium (227) (-18-32-18-9-2) +3	90 **Th** Thorium 232.04 (-18-32-18-10-2) +4	91 **Pa** Protactinium 231.04 (-18-32-20-9-2) +4 +5	92 **U** Uranium 238.03 (-18-32-21-9-2) +3 +4 +5 +6	93 **Np** Neptunium (237) (-18-32-23-8-2) +3 +4 +5 +6	94 **Pu** Plutonium (244) (-18-32-24-8-2) +3 +4 +5 +6	95 **Am** Americium (243) (-18-32-25-8-2) +3 +4 +5 +6	96 **Cm** Curium (247) (-18-32-25-9-2) +3	97 **Bk** Berkelium (247) (-18-32-27-8-2) +3 +4	98 **Cf** Californium (251) (-18-32-28-8-2) +3	99 **Es** Einsteinium (252) (-18-32-29-8-2)	100 **Fm** Fermium (257) (-18-32-30-8-2)	101 **Md** Mendelevium (258) (-18-32-31-8-2)	102 **No** Nobelium (259) (-18-32-32-8-2)	103 **Lr** Lawrencium (262) (-18-32-32-9-2)