

The Periodic Table of the Elements

		Element name → Mercury ←										Atomic #					
		80															
		Hg															
		200.59															
		← Avg. Mass															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Hydrogen H 1.01																	Helium He 4.00
Lithium Li 6.94	Beryllium Be 9.01											Boron B 10.81	Carbon C 12.01	Nitrogen N 14.01	Oxygen O 16.00	Fluorine F 19.00	Neon Ne 20.18
Sodium Na 22.99	Magnesium Mg 24.31											Aluminum Al 26.98	Silicon Si 28.09	Phosphorus P 30.97	Sulfur S 32.07	Chlorine Cl 35.45	Argon Ar 39.95
Potassium K 39.10	Calcium Ca 40.08	Scandium Sc 44.96	Titanium Ti 47.88	Vanadium V 50.94	Chromium Cr 52.00	Manganese Mn 54.94	Iron Fe 55.85	Cobalt Co 58.93	Nickel Ni 58.69	Copper Cu 63.55	Zinc Zn 65.39	Gallium Ga 69.72	Germanium Ge 72.61	Arsenic As 74.92	Selenium Se 78.96	Bromine Br 79.90	Krypton Kr 83.80
Rubidium Rb 85.47	Strontium Sr 87.62	Yttrium Y 88.91	Zirconium Zr 91.22	Niobium Nb 92.91	Molybdenum Mo 95.94	Technetium Tc (98)	Ruthenium Ru 101.07	Rhodium Rh 102.91	Palladium Pd 106.42	Silver Ag 107.87	Cadmium Cd 112.41	Indium In 114.82	Tin Sn 118.71	Antimony Sb 121.76	Tellurium Te 127.60	Iodine I 126.90	Xenon Xe 131.29
Cesium Cs 132.91	Barium Ba 137.33	Lutetium Lu 174.97	Hafnium Hf 178.49	Tantalum Ta 180.95	Tungsten W 183.84	Rhenium Re 186.21	Osmium Os 190.23	Iridium Ir 192.22	Platinum Pt 195.08	Gold Au 196.97	Mercury Hg 200.59	Thallium Tl 204.38	Lead Pb 207.20	Bismuth Bi 208.98	Polonium Po (209)	Astatine At (210)	Radon Rn (222)
Francium Fr (223)	Radium Ra (226)	Lawrencium Lr (262)	Rutherfordium Rf (267)	Dubnium Db (268)	Seaborgium Sg (271)	Bohrium Bh (272)	Hassium Hs (270)	Melchiorium Mt (276)	Darmstadtium Ds (281)	Roentgenium Rg (280)	Copernicium Cn (285)	Ununfium Uut (284)	Ununquadium Uuq (289)	Ununpentium Uup (288)	Ununhexium Uuh (293)	Ununseptium Uus (294?)	Ununoctium Uuo (294)

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

Lanthanum La 138.91	Cerium Ce 140.12	Praseodymium Pr 140.91	Neodymium Nd 144.24	Promethium Pm (145)	Samarium Sm 150.36	Europium Eu 151.97	Gadolinium Gd 157.25	Terbium Tb 158.93	Dysprosium Dy 162.50	Ytterbium Yb 173.04
Actinium Ac (227)	Thorium Th 232.04	Protactinium Pa 231.04	Uranium U 238.03	Neptunium Np (237)	Plutonium Pu (244)	Americium Am (243)	Curium Cm (247)	Berkelium Bk (247)	Californium Cf (251)	Nobelium No (259)

*lanthanides
**actinides

Table A-7

Charges of Common Polyatomic Ions	
1+	2+
ammonium, NH_4^+	mercury(I), Hg_2^{2+}
1-	2-
acetate $\text{C}_2\text{H}_3\text{O}_2^-$	carbonate, CO_3^{2-}
-or-	chromate, CrO_4^{2-}
acetate CH_3COO^-	dichromate, $\text{Cr}_2\text{O}_7^{2-}$
amide NH_2^-	hexachloroplatinate(IV), PtCl_6^{2-}
azide N_3^-	hexafluorosilicate, SiF_6^{2-}
benzoate $\text{C}_6\text{H}_5\text{COO}^-$	molybdate, MoO_4^{2-}
bicarbonate HCO_3^-	oxalate, $\text{C}_2\text{O}_4^{2-}$
bisulfate HSO_4^-	peroxide, O_2^{2-}
bromate BrO_3^-	peroxydisulfate, $\text{S}_2\text{O}_8^{2-}$
chlorate ClO_3^-	selenate, SeO_4^{2-}
chlorite ClO_2^-	silicate, SiO_3^{2-}
cyanate CNO^-	sulfate, SO_4^{2-}
cyanide CN^-	sulfite, SO_3^{2-}
formate HCOO^-	tartrate, $\text{C}_4\text{H}_4\text{O}_6^{2-}$
hydroxide OH^-	tellurate, TeO_4^{2-}
hypochlorite ClO^-	tetraborate, $\text{B}_4\text{O}_7^{2-}$
hypophosphite H_2PO_2^-	thiosulfate, $\text{S}_2\text{O}_3^{2-}$
iodate IO_3^-	tungstate, WO_4^{2-}
metaphosphate PO_3^-	3-
nitrate NO_3^-	arsenate, AsO_4^{3-}
nitrite NO_2^-	citrate, $\text{C}_6\text{H}_5\text{O}_7^{3-}$
perchlorate ClO_4^-	hexacyanoferrate(III), $\text{Fe}(\text{CN})_6^{3-}$
periodate IO_4^-	phosphate, PO_4^{3-}
permanganate MnO_4^-	phosphite PO_3^{3-}
peroxyborate BO_3^-	4-
thiocyanate SCN^-	hexacyanoferrate(II), $\text{Fe}(\text{CN})_6^{4-}$
vanadate VO_3^-	diphosphate, $\text{P}_2\text{O}_7^{4-}$

Table A-6

Oxidation Numbers of Monatomic Ions		
1+	2+	3+
cesium, Cs^+	barium, Ba^{2+}	aluminum, Al^{3+}
copper(I), Cu^+	beryllium, Be^{2+}	antimony(III), Sb^{3+}
hydrogen, H^+	cadmium, Cd^{2+}	bismuth(III), Bi^{3+}
indium(I), In^+	calcium, Ca^{2+}	boron, B^{3+}
lithium, Li^+	chromium(II), Cr^{2+}	cerium(III), Ce^{3+}
potassium, K^+	cobalt(II), Co^{2+}	cobalt(III), Co^{3+}
rubidium, Rb^+	copper(I), Cu^+	chromium(III), Cr^{3+}
silver, Ag^+	iridium(II), Ir^{2+}	gallium(III), Ga^{3+}
sodium, Na^+	iron(II), Fe^{2+}	indium(III), In^{3+}
thallium(I), Tl^+	lead(II), Pb^{2+}	iridium(III), Ir^{3+}
	magnesium, Mg^{2+}	iron(III), Fe^{3+}
	manganese(II), Mn^{2+}	phosphorus(III), P^{3+}
	mercury(II), Hg^{2+}	rhodium(III), Rh^{3+}
	nickel(II), Ni^{2+}	thallium(III), Tl^{3+}
	platinum(II), Pt^{2+}	titanium(III), Ti^{3+}
	strontium, Sr^{2+}	uranium(III), U^{3+}
	tin(II), Sn^{2+}	vanadium(III), V^{3+}
	titanium(II), Ti^{2+}	
	tungsten(II), W^{2+}	
	vanadium(II), V^{2+}	
	zinc, Zn^{2+}	
	zirconium(II), Zr^{2+}	
4+		5+
cerium(IV), Ce^{4+}	titanium(IV), Ti^{4+}	antimony(V), Sb^{5+}
germanium(IV), Ge^{4+}	tin(IV), Sn^{4+}	bismuth(V), Bi^{5+}
iridium(IV), Ir^{4+}	tungsten(IV), W^{4+}	phosphorus(V), P^{5+}
lead(IV), Pb^{4+}	uranium(IV), U^{4+}	tungsten(V), W^{5+}
platinum(IV), Pt^{4+}	vanadium(IV), V^{4+}	uranium(V), U^{5+}
thorium(IV), Th^{4+}	zirconium(IV), Zr^{4+}	vanadium(V), V^{5+}
1-	2-	3-
bromide, Br^-	oxide, O^{2-}	nitride, N^{3-}
chloride, Cl^-	selenide, Se^{2-}	phosphide, P^{3-}
fluoride, F^-	sulfide, S^{2-}	4-
hydride, H^-		carbide, C^{4-}
iodide, I^-		