PERIODIC TABLE

1 H 1.01																	2 He 4.00
3 Li 6.94	4 Be 9.01											5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18
11 Na 22.99	12 Mg 24.31											13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.07	17 Cl 35.45	18 Ar 39.95
19 K 39.10	20 Ca 40.08		21 Sc 44.96	22 Ti 47.88	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.38	31 Ga 69.72	32 Ge 72.59	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
37 Rb 85.47	38 Sr 87.62		39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc 98	44 Ru 101.1	45 Rh 102.9	46 Pd 106.4	47 Ag 107.9	48 Cd 112.4	49 In 114.8	50 Sn 118.7	51 Sb 121.8	52 Te 127.6	53 I 126.9	54 Xe 131.3
55 Cs 132.9	56 Ba 137.3	57-70	71 Lu 175.0	72 Hf 178.49	73 Ta 180.9	74 W 183.9	75 Re 186.2	76 Os 190.2	77 Ir 192.2	78 Pt 195.1	79 Au 197.0	80 Hg 200.6	81 Tl 204.4	82 Pb 207.2	83 Bi 209.0	84 Po 209	85 At 210	86 Rn 222
87 Fr 223	88 Ra 226	89-102	103 Lr 260	104 Rf 261	105 Db 262	106 Sg 263	107 Bh 262	108 Hs 265	109 Mt 266	110 Ds 271	111 Rg 272	112 Uub 277	113 Uut 282	114 Uuq 289	115 Uup 288	116 Uuh 292		

57 La 138.9	58 Ce 140.1	59 Pr 140.9	60 Nd 144.2	61 Pm 145	62 Sm 150.4	63 Eu 152.0	64 Gd 157.3	65 Tb 158.9	66 Dy 162.5	67 Ho 164.9	68 Er 167.3	69 Tm 168.9	70 Yb 173.0
89 Ac 227	90 Th 232.0	91 Pa 231	92 U 238.0	93 Np 238	94 Pu 244	95 Am 243	96 Cm 247	97 Bk 247	98 Cf 251	99 Es 252	100 Fm 257	101 Md 258	102 No 259

Solubility Rules for Ionic Compounds

Compounds containing the following ions are generally soluble in water:

1. alkali metal ions
2. ammonium ions
3. acetate ions
4. nitrate ions
5. halide ions Cl^-, Br^-, I^-, (***except*** when paired with silver, mercury I, copper I or lead)
6. sulfate ions (***except*** when paired with strontium, barium, calcium, silver, mercury, or lead)
7. chlorates (ClO_3^-) and perchlorates (ClO_4^-)

The following are also soluble in water:

8. All acids. Strong acids ionize completely. (HCl, HBr, HI, HNO_3, H_2SO_4, $HClO_3$, $HClO_4$)
9. Strong bases (LiOH, NaOH, KOH, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$)

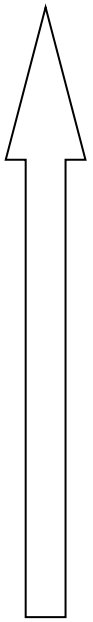
TABLE 4.4

Names of Common Polyatomic Ions

Ion	Name	Ion	Name
NH_4^+	ammonium	CO_3^{2-}	carbonate
NO_2^-	nitrite	HCO_3^-	hydrogen carbonate (bicarbonate is a widely used common name)
NO_3^-	nitrate		
SO_3^{2-}	sulfite		
SO_4^{2-}	sulfate	ClO^-	hypochlorite
HSO_4^-	hydrogen sulfate (bisulfate is a widely used common name)	ClO_2^-	chlorite
		ClO_3^-	chlorate
OH^-	hydroxide	ClO_4^-	perchlorate
CN^-	cyanide	$C_2H_3O_2^-$	acetate
PO_3^{3-}	phosphite	MnO_4^-	permanganate
PO_4^{3-}	phosphate	$Cr_2O_7^{2-}$	dichromate
HPO_4^{2-}	hydrogen phosphate	CrO_4^{2-}	chromate
$H_2PO_4^-$	dihydrogen phosphate	O_2^{2-}	peroxide

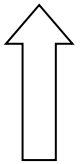
Activity Series

Element Reactivity from most to least



Metals

Li
Rb
K
Ba
Ca
Na
Mg
Al
Zn
Cr
Fe
Ni
Sn
Pb
H_2
Cu
Hg
Ag
Pt
Au



Halogens

F_2
Cl_2
Br_2
I_2