The Periodic Table

	IA	IIA	IIIB	IVB	VB	VIB	VIIB	VIIIB			IB	IIB	IIIA	IVA	VA	VIA	VIIA	VIIIA
1	1 H 1.01																	2 He 4.00
2	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
3	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
4	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 65.39	31 Ga 69.72	32 Ge 72.61	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
5	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 (99)	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.75	52 Te 127.60	53 I 126.90	54 Xe 131.29
6	55 Cs 132.91	56 Ba 137.33	57 La 138.91	72 Hf 178.49	73 Ta 180.95	74 W 183.85	75 Re 186.21	76 Os 190.2	77 Ir 192.22	78 Pt 195.09	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po (209)	85 At (210)	86 Rn (222)
7	87 Fr (223)	88 Ra (226)	89 Ac (227)	104 Unq (261)	105 Unp (262)	106 Unh (263)	107 Uns (262)	108 Uno (265)	109 Une (266)									

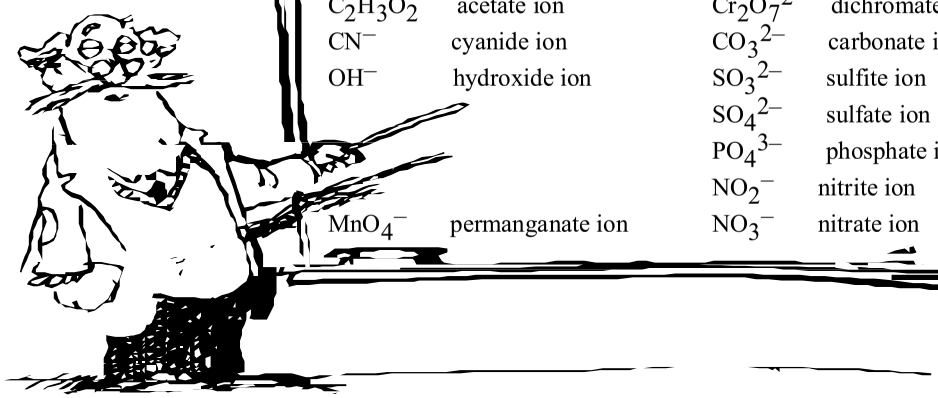
58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm (145)	62 Sm 150.4	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97
90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np (237)	94 Pu (244)	95 Am (243)	96 Cm (247)	97 Bk (247)	98 Cf (251)	99 Es (252)	100 Fm (257)	101 Md (258)	102 No (259)	103 Lr (260)

Active Metals

Li > K > Ba > Sr > Ca > Na

POLYATOMIC IONS

NH_4^+	ammonium ion	CrO_4^{2-}	chromate ion
$C_2H_3O_2^-$	acetate ion	$Cr_2O_7^{2-}$	dichromate ion
CN^-	cyanide ion	CO_3^{2-}	carbonate ion
OH^-	hydroxide ion	SO_3^{2-}	sulfite ion
		SO_4^{2-}	sulfate ion
		PO_4^{3-}	phosphate ion
		NO_2^-	nitrite ion
MnO_4^-	permanganate ion	NO_3^-	nitrate ion



Activity Series

Li > K > Ba > Sr > Ca > Na > Mg > Al > Mn > Zn > Fe > Cd > Co > Ni > Sn > Pb > (H) > Cu > Ag > Hg > Au

Solubility Rules

Generally **soluble** compounds with:

1. Li^+, Na^+, K^+, NH_4^+ **(ALWAYS!)**
2. acetate ion, $C_2H_3O_2^-$
3. nitrate ion, NO_3^-
4. halide ions (X), Cl^-, Br^-, I^-
   — BUT AgX, Hg_2X_2, PbX_2 **insoluble**
5. sulfate ion, SO_4^{2-}
   — BUT $SrSO_4$, $BaSO_4$, $PbSO_4$ **insoluble**

Generally **insoluble** compounds with:

6. carbonate ion, CO_3^{2-}
7. chromate ion, CrO_4^{2-}
8. phosphate ion, PO_4^{3-}
9. sulfide ion, S^{2-}
   — BUT CaS, SrS, BaS **soluble**
10. hydroxide ion, OH^-
    — BUT $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$ **soluble**