

The Periodic Table

1	IA 1 H 1.01															VIIIA 2 He 4.00		
2	3 Li 6.94	IIA 4 Be 9.01											III A 5 B 10.81	IV A 6 C 12.01	V A 7 N 14.01	VIA 8 O 16.00	VII A 9 F 19.00	10 Ne 20.18
3	11 Na 22.99	12 Mg 24.31	IIIB	IVB	VB	VIB	VIIB	VIII B		IB	IIB	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 ₂ H ₃ O ₂ ⁻	acetate ion	Cr ₂ O 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
		NO ₃ ⁻	nitrate ion
MnO ₄ ⁻	permanganate 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:

- Li⁺, Na⁺, K⁺, NH₄⁺ (ALWAYS!)
- acetate ion, C₂H₃O₂⁻
- nitrate ion, NO₃⁻
- halide ions (X), Cl⁻, Br⁻, I⁻
— BUT AgX, Hg₂X₂, PbX₂ **insoluble**
- sulfate ion, SO₄²⁻
— BUT SrSO₄, BaSO₄, PbSO₄ **insoluble**

Generally **insoluble** compounds with:

- carbonate ion, CO₃²⁻
- chromate ion, CrO₄²⁻
- phosphate ion, PO₄³⁻
- sulfide ion, S²⁻
— BUT CaS, SrS, BaS **soluble**
- hydroxide ion, OH⁻
— BUT Ca(OH)₂, Sr(OH)₂,
Ba(OH)₂ **soluble**

