

Periodic Table of the Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1A																	8A
1 H hydrogen 1.008	2A											3A	4A	5A	6A	7A	2 He helium 4.003
3 Li lithium 6.941	4 Be beryllium 9.012											5 B boron 10.81	6 C carbon 12.01	7 N nitrogen 14.01	8 O oxygen 16.00	9 F fluorine 19.00	10 Ne neon 20.18
11 Na sodium 22.99	12 Mg magnesium 24.31											13 Al aluminum 26.98	14 Si silicon 28.09	15 P phosphorus 30.97	16 S sulfur 32.07	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.10	20 Ca calcium 40.08	21 Sc scandium 44.96	22 Ti titanium 47.88	23 V vanadium 50.94	24 Cr chromium 52.00	25 Mn manganese 54.94	26 Fe iron 55.85	27 Co cobalt 58.93	28 Ni nickel 58.69	29 Cu copper 63.55	30 Zn zinc 65.38	31 Ga gallium 69.72	32 Ge germanium 72.59	33 As arsenic 74.92	34 Se selenium 78.96	35 Br bromine 79.90	36 Kr krypton 83.80
37 Rb rubidium 85.47	38 Sr strontium 87.62	39 Y yttrium 88.91	40 Zr zirconium 91.22	41 Nb niobium 92.91	42 Mo molybdenum 95.94	43 Tc technetium 98	44 Ru ruthenium 101.1	45 Rh rhodium 102.9	46 Pd palladium 106.4	47 Ag silver 107.9	48 Cd cadmium 112.4	49 In indium 114.8	50 Sn tin 118.7	51 Sb antimony 121.8	52 Te tellurium 127.6	53 I iodine 126.9	54 Xe xenon 131.3
55 Cs cesium 132.9	56 Ba barium 137.3	57 La lanthanum 138.9	72 Hf hafnium 178.5	73 Ta tantalum 180.9	74 W tungsten 183.9	75 Re rhenium 186.2	76 Os osmium 190.2	77 Ir iridium 192.2	78 Pt platinum 195.1	79 Au gold 197.0	80 Hg mercury 200.6	81 Tl thallium 204.4	82 Pb lead 207.2	83 Bi bismuth 209.0	84 Po polonium 209	85 At astatine 210	86 Rn radon 222
87 Fr francium 223	88 Ra radium 226	89 Ac actinium 227	104 Rf rutherfordium 261	105 Db dubnium 262	106 Sg seaborgium 263	107 Bh bohrium 262	108 Hs hassium 265	109 Mt meitnerium 266	110 Ds darmstadtium 271	111 Rg roentgenium 272	112 Cn copernicium 277	113 Nh nihonium 282	114 Fl flerovium 289	115 Mc moscovium 288	116 Lv livermorium 292	117 Ts tennessine 294	118 Og oganesson 294

58 Ce cerium 140.1	59 Pr praseodymium 140.9	60 Nd neodymium 144.2	61 Pm promethium 145	62 Sm samarium 150.4	63 Eu europium 152.0	64 Gd gadolinium 157.3	65 Tb terbium 158.9	66 Dy dysprosium 162.5	67 Ho holmium 164.9	68 Er erbium 167.3	69 Tm thulium 168.9	70 Yb ytterbium 173.0	71 Lu lutetium 175.0
90 Th thorium 232.0	91 Pa protactinium 231	92 U uranium 238.0	93 Np neptunium 238	94 Pu plutonium 244	95 Am americium 243	96 Cm curium 247	97 Bk berkelium 247	98 Cf californium 251	99 Es einsteinium 252	100 Fm fermium 257	101 Md mendelevium 258	102 No nobelium 259	103 Lr lawrencium 260

Solubility Table

IONS	acetate	arsenate	bromide	carbonate	chloride	chromate	hydroxide	iodide	nitrate	dichromate	oxide	phosphate	sulfate	sulfide	sulfite
Al	S	I	S		S		I	S	S		I	I	S		
NH ₄ ⁺	S	S	S	S	S	S	S	S	S	S		S	S	S	S
Ba	S	I	S	I	S	I	s	S	S	I	s	I	I	d	I
Bi ³⁺		s	d	I	d		I	I	d	I	I	s	d	I	
Ca	S	I	S	I	S		I(s)	S	S	I	I	I	I	d	I
Co ²⁺	S	I	S	I	S	I	I	S	S	I	I	I	S	I	I
Cu ²⁺	S	I	S	I	S	I	I		S	I	I	I	S	I	
Fe ²⁺	S	I	S	s	S		I	S	S	I	I	I	S	I	s
Fe ³⁺	I	I	S	I	S		I		S	S	I	I	S	I	
Pb ²⁺	S	I	I	I	I	I	I	I	S	I	I	I	I	I	I
Mg	S	d	S	I	S	S	I	S	S	I	I	I	S		s
Hg ²⁺	S	I	I	I	S	s		I	S	I	I	I	d	I	
K	S	s	S	S	S	S	S	S	S	S	S	S	S	S	S
Ag	I	I	I	I	I	I	d	I	S	I	I	I	I(s)	I	I
Na	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Zn	S	I	S	I	S	I	I	S	S	I	I	I	S	I	I

S = soluble in water

s = slightly soluble in water

I = insoluble in water

d = decomposes

blank = does not exist in water

ammonium, NH ₄ ⁺	chlorite, ClO ₂ ⁻	hypochlorite, ClO ⁻	perchlorate, ClO ₄ ⁻	sulfate, SO ₄ ⁻²
arsenate, AsO ₄ ⁻³	chromate, CrO ₄ ⁻²	iodate, IO ₃ ⁻	permanganate, MnO ₄ ⁻	sulfite, SO ₃ ⁻²
bromate, BrO ₃ ⁻	cyanide, CN ⁻	nitrate, NO ₃ ⁻	peroxide, O ₂ ⁻²	thiocyanate, SCN ⁻
carbonate, CO ₃ ⁻²	dichromate, Cr ₂ O ₇ ⁻²	nitrite, NO ₂ ⁻	phosphate, PO ₄ ⁻³	
chlorate, ClO ₃ ⁻	hydroxide, OH ⁻	oxalate, C ₂ O ₄ ⁻²	phosphite, PO ₃ ⁻³	
acetate, C ₂ H ₃ O ₂ ⁻ , or CH ₃ COO ⁻	hydrogen carbonate, HCO ₃ ⁻ (also called bicarbonate)			