

# Periodic Table of the Elements

hydrogen 1 <b>H</b> 1.00794																	helium 2 <b>He</b> 4.002602
lithium 3 <b>Li</b> 6.941	beryllium 4 <b>Be</b> 9.012182											boron 5 <b>B</b> 10.811	carbon 6 <b>C</b> 12.0107	nitrogen 7 <b>N</b> 14.00674	oxygen 8 <b>O</b> 15.9994	fluorine 9 <b>F</b> 18.9984	neon 10 <b>Ne</b> 20.1797
sodium 11 <b>Na</b> 22.98977	magnesium 12 <b>Mg</b> 24.3050											aluminium 13 <b>Al</b> 26.981538	silicon 14 <b>Si</b> 28.0855	phosphorus 15 <b>P</b> 30.97376	sulphur 16 <b>S</b> 32.065	chlorine 17 <b>Cl</b> 35.453	argon 18 <b>Ar</b> 39.984
potassium 19 <b>K</b> 39.0983	calcium 20 <b>Ca</b> 40.078	scandium 21 <b>Sc</b> 44.95591	titanium 22 <b>Ti</b> 47.867	vanadium 23 <b>V</b> 50.9415	chromium 24 <b>Cr</b> 51.9961	manganese 25 <b>Mn</b> 54.93805	iron 26 <b>Fe</b> 55.845	cobalt 27 <b>Co</b> 58.9332	nickel 28 <b>Ni</b> 58.6934	copper 29 <b>Cu</b> 63.546	zinc 30 <b>Zn</b> 65.409	gallium 31 <b>Ga</b> 69.723	germanium 32 <b>Ge</b> 72.64	arsenic 33 <b>As</b> 74.9216	selenium 34 <b>Se</b> 78.96	bromine 35 <b>Br</b> 79.904	krypton 36 <b>Kr</b> 83.798
rubidium 37 <b>Rb</b> 85.4678	strontium 38 <b>Sr</b> 87.62	yttrium 39 <b>Y</b> 88.90585	zirconium 40 <b>Zr</b> 91.225	niobium 41 <b>Nb</b> 92.90638	molybdenum 42 <b>Mo</b> 95.94	technetium 43 <b>Tc</b> [98]	ruthenium 44 <b>Ru</b> 101.07	rhodium 45 <b>Rh</b> 102.9055	palladium 46 <b>Pd</b> 106.42	silver 47 <b>Ag</b> 107.8682	cadmium 48 <b>Cd</b> 112.411	indium 49 <b>In</b> 114.818	tin 50 <b>Sn</b> 118.710	antimony 51 <b>Sb</b> 121.760	tellurium 52 <b>Te</b> 127.60	iodine 53 <b>I</b> 126.9045	xenon 54 <b>Xe</b> 131.293
caesium 55 <b>Cs</b> 132.90545	barium 56 <b>Ba</b> 137.327	lutetium 71 <b>Lu</b> 174.967	hafnium 72 <b>Hf</b> 178.49	tantalum 73 <b>Ta</b> 180.9479	tungsten 74 <b>W</b> 183.84	rhenium 75 <b>Re</b> 186.207	osmium 76 <b>Os</b> 190.23	iridium 77 <b>Ir</b> 192.217	platinum 78 <b>Pt</b> 195.078	gold 79 <b>Au</b> 196.96655	mercury 80 <b>Hg</b> 200.59	thallium 81 <b>Tl</b> 204.3833	lead 82 <b>Pb</b> 207.2	bismuth 83 <b>Bi</b> 208.980	polonium 84 <b>Po</b> [209]	astatine 85 <b>At</b> [210]	radon 86 <b>Rn</b> [222]
francium 87 <b>Fr</b> [223]	radium 88 <b>Ra</b> [226]	lawrencium 103 <b>Lr</b> [262]	rutherfordium 104 <b>Rf</b> [261]	dubnium 105 <b>Db</b> [262]	seaborgium 106 <b>Sg</b> [266]	bohrium 107 <b>Bh</b> [264]	hassium 108 <b>Hs</b> [269]	meitnerium 109 <b>Mt</b> [268]	darmstadtium 110 <b>Ds</b> [271]	roentgenium 111 <b>Rg</b> [272]	copernicium 112 <b>Cn</b> [285]	ununtrium 113 <b>Uut</b> unknown	flerovium 114 <b>Fl</b> [289]	ununpentium 115 <b>Uup</b> unknown	livermorium 116 <b>Lv</b> [298]	ununseptium 117 <b>Uus</b> unknown	ununoctium 118 <b>Uuo</b> unknown

lanthanum 57 <b>La</b> 138.9055	cerium 58 <b>Ce</b> 140.116	praseodymium 59 <b>Pr</b> 140.90765	neodymium 60 <b>Nd</b> 144.24	promethium 61 <b>Pm</b> [145]	samarium 62 <b>Sm</b> 150.36	europium 63 <b>Eu</b> 151.964	gadolinium 64 <b>Gd</b> 157.25	terbium 65 <b>Tb</b> 158.9253	dysprosium 66 <b>Dy</b> 162.50	holmium 67 <b>Ho</b> 164.930	erbium 68 <b>Er</b> 167.259	thulium 69 <b>Tm</b> 168.934	ytterbium 70 <b>Yb</b> 173.04
actinium 89 <b>Ac</b> [227]	thorium 90 <b>Th</b> 232.038	protactinium 91 <b>Pa</b> 231.0359	uranium 92 <b>U</b> 238.0289	neptunium 93 <b>Np</b> [237]	plutonium 94 <b>Pu</b> [244]	americium 95 <b>Am</b> [243]	curium 96 <b>Cm</b> [247]	berkelium 97 <b>Bk</b> [247]	californium 98 <b>Cf</b> [251]	einsteinium 99 <b>Es</b> [252]	fermium 100 <b>Fm</b> [257]	mendelevium 101 <b>Md</b> [258]	nobelium 102 <b>No</b> [259]

## Common Ions

Cations	Anions		
Ammonium, NH <sub>4</sub> <sup>+</sup>	Mercury (I), Hg <sub>2</sub> <sup>2+</sup>	Acetate, CH <sub>3</sub> COO <sup>-</sup>	Hexafluorosilicate, SiF <sub>6</sub> <sup>2-</sup>
Cadmium, Cd <sup>2+</sup>	Mercury (II), Hg <sup>2+</sup>	Amide, NH <sub>2</sub> <sup>-</sup>	Hydroxide, OH <sup>-</sup>
Chromium (II), Cr <sup>2+</sup>	Neptunyl(V), NpO <sub>2</sub> <sup>+</sup>	Arsenate, AsO <sub>4</sub> <sup>3-</sup>	Hypobromite, BrO <sup>-</sup>
Chromium (III), Cr <sup>3+</sup>	Neptunyl(VI), NpO <sub>2</sub> <sup>2+</sup>	Arsenite, AsO <sub>3</sub> <sup>3-</sup>	Hypochlorite, ClO <sup>-</sup>
Cobalt (II), Co <sup>2+</sup>	Nickel (II), Ni <sup>2+</sup>	Astataate, AtO <sub>3</sub> <sup>-</sup>	Hypophosphite, H <sub>2</sub> PO <sub>2</sub> <sup>-</sup>
Cobalt (III), Co <sup>3+</sup>	Nickel (III), Ni <sup>3+</sup>	Azide, N <sub>3</sub> <sup>-</sup>	Hydrogen Oxalate, HC <sub>2</sub> O <sub>4</sub> <sup>-</sup>
Copper (I), Cu <sup>+</sup>	Plutonyl(V), PuO <sub>2</sub> <sup>+</sup>	Benzoate, C <sub>6</sub> H <sub>5</sub> COO <sup>-</sup>	Iodate, IO <sub>3</sub> <sup>-</sup>
Copper (II), Cu <sup>2+</sup>	Plutonyl(VI), PuO <sub>2</sub> <sup>2+</sup>	Bismuthate, BiO <sub>3</sub> <sup>-</sup>	Molybdate, MoO <sub>4</sub> <sup>2-</sup>
Hydrogen, H <sup>+</sup>	Scandium, Sc <sup>3+</sup>	Borate, BO <sub>3</sub> <sup>3-</sup>	Nitrate, NO <sub>3</sub> <sup>-</sup>
Hydronium, H <sub>3</sub> O <sup>+</sup>	Silver, Ag <sup>+</sup>	Bromate, BrO <sub>3</sub> <sup>-</sup>	Nitrite, NO <sub>2</sub> <sup>-</sup>
Iron (II), Fe <sup>2+</sup>	Tin(II), Sn <sup>2+</sup>	Carbonate, CO <sub>3</sub> <sup>2-</sup>	Oxalate, C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>
Iron (III), Fe <sup>3+</sup>	Tin(IV), Sn <sup>4+</sup>	Bicarbonate, HCO <sub>3</sub> <sup>-</sup>	Orthosilicate, SiO <sub>4</sub> <sup>4-</sup>
Lead (II), Pb <sup>2+</sup>	Uranyl(V), UO <sub>2</sub> <sup>+</sup>	Citrate, C <sub>6</sub> H <sub>5</sub> O <sub>7</sub> <sup>3-</sup>	Perbromate, BrO <sub>4</sub> <sup>-</sup>
Lead (IV), Pb <sup>4+</sup>	Uranyl(VI), UO <sub>2</sub> <sup>2+</sup>	Chlorate, ClO <sub>3</sub> <sup>-</sup>	Periodate, IO <sub>4</sub> <sup>-</sup>
Manganese (II), Mn <sup>2+</sup>	Vanadyl(IV), VO <sup>2+</sup>	Chlorite, ClO <sub>2</sub> <sup>-</sup>	Perchlorate, ClO <sub>4</sub> <sup>-</sup>
Manganese (III), Mn <sup>3+</sup>	Vanadyl(V), VO <sup>2+</sup>	Chromate, CrO <sub>4</sub> <sup>2-</sup>	Permanganate, MnO <sub>4</sub> <sup>-</sup>
	Zinc, Zn <sup>2+</sup>	Cyanide, CN <sup>-</sup>	Peroxide, O <sub>2</sub> <sup>2-</sup>
		Dichromate, Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>	Peroxydisulfate, S <sub>2</sub> O <sub>8</sub> <sup>2-</sup>
		Formate, HCOO <sup>-</sup>	Perrhenate, ReO <sub>4</sub> <sup>-</sup>
		Hexachloroplatinate, PtCl <sub>6</sub> <sup>2-</sup>	Phosphate, PO <sub>4</sub> <sup>3-</sup>
		Hexacyanoferrate(III), Fe(CN) <sub>6</sub> <sup>3-</sup>	Diphosphate, P <sub>2</sub> O <sub>7</sub> <sup>4-</sup>
		Hexacyanoferrate(II), Fe(CN) <sub>6</sub> <sup>4-</sup>	
			Monohydrogen Phosphate, HPO <sub>4</sub> <sup>2-</sup>
			Phosphite, HPO <sub>3</sub> <sup>2-</sup>
			Dihydrogen Phosphate, H <sub>2</sub> PO <sub>4</sub> <sup>1-</sup>
			Ruthenate, RuO <sub>4</sub> <sup>2-</sup>
			Selenate, SeO <sub>4</sub> <sup>2-</sup>
			Selenite, SeO <sub>3</sub> <sup>2-</sup>
			Silicate, SiO <sub>3</sub> <sup>2-</sup>
			Sulfate, SO <sub>4</sub> <sup>2-</sup>
			Bisulfate, HSO <sub>4</sub> <sup>-</sup>
			Bisulfide, HS <sup>-</sup>
			Sulfite, SO <sub>3</sub> <sup>2-</sup>
			Bisulfite, HSO <sub>3</sub> <sup>-</sup>
			Tartrate, C <sub>4</sub> H <sub>4</sub> O <sub>6</sub> <sup>2-</sup>
			Tellurate, TeO <sub>4</sub> <sup>2-</sup>
			Tellurite, TeO <sub>3</sub> <sup>2-</sup>
			Tetratborate, B <sub>4</sub> O <sub>7</sub> <sup>2-</sup>
			Thiocyanate, SCN <sup>-</sup>
			Thiosulfate, S <sub>2</sub> O <sub>3</sub> <sup>2-</sup>
			Tungstate, WO <sub>4</sub> <sup>2-</sup>
			Vanadate, VO <sub>3</sub> <sup>-</sup>

