The periodic table

www.webelements.com

1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Hydrogen 1 **H** 1.008																		Helium 2 **He** 4.002602(2)
Lithium 3 **Li** 6.94	Beryllium 4 **Be** 9.012182(3)												Boron 5 **B** 10.81	Carbon 6 **C** 12.011	Nitrogen 7 **N** 14.007	Oxygen 8 **O** 15.999	Fluorine 9 **F** 18.9984032(5)	Neon 10 **Ne** 20.1797(6)
Sodium 11 **Na** 22.98976928(2)	Magnesium 12 **Mg** 24.3050(6)												Aluminium 13 **Al** 26.9815386(2)	Silicon 14 **Si** 28.085	Phosphorus 15 **P** 30.973762(2)	Sulfur 16 **S** 32.06	Chlorine 17 **Cl** 35.45	Argon 18 **Ar** 39.948(1)
Potassium 19 **K** 39.0983(1)	Calcium 20 **Ca** 40.078(4)		Scandium 21 **Sc** 44.955912(6)	Titanium 22 **Ti** 47.867(1)	Vanadium 23 **V** 50.9415(1)	Chromium 24 **Cr** 51.9961(6)	Manganese 25 **Mn** 54.938045(5)	Iron 26 **Fe** 55.845(2)	Cobalt 27 **Co** 58.933195(5)	Nickel 28 **Ni** 58.6934(4)	Copper 29 **Cu** 63.546(3)	Zinc 30 **Zn** 65.38(2)	Gallium 31 **Ga** 69.723(1)	Germanium 32 **Ge** 72.63(1)	Arsenic 33 **As** 74.92160(2)	Selenium 34 **Se** 78.96(3)	Bromine 35 **Br** 79.904(1)	Krypton 36 **Kr** 83.798(2)
Rubidium 37 **Rb** 85.4678(3)	Strontium 38 **Sr** 87.62(1)		Yttrium 39 **Y** 88.90585(2)	Zirconium 40 **Zr** 91.224(2)	Niobium 41 **Nb** 92.90638(2)	Molybdenum 42 **Mo** 95.96(2)	Technetium 43 **Tc** [97.91]	Ruthenium 44 **Ru** 101.07(2)	Rhodium 45 **Rh** 102.90550(2)	Palladium 46 **Pd** 106.42(1)	Silver 47 **Ag** 107.8682(2)	Cadmium 48 **Cd** 112.411(8)	Indium 49 **In** 114.818(3)	Tin 50 **Sn** 118.710(7)	Antimony 51 **Sb** 121.760(1)	Tellurium 52 **Te** 127.60(3)	Iodine 53 **I** 126.90447(3)	Xenon 54 **Xe** 131.293(6)
Caesium 55 **Cs** 132.9054519(2)	Barium 56 **Ba** 137.327(7)	57-70 *	Lutetium 71 **Lu** 174.9668(1)	Hafnium 72 **Hf** 178.49(2)	Tantalum 73 **Ta** 180.94788(2)	Tungsten 74 **W** 183.84(1)	Rhenium 75 **Re** 186.207(1)	Osmium 76 **Os** 190.23(3)	Iridium 77 **Ir** 192.217(3)	Platinum 78 **Pt** 195.084(9)	Gold 79 **Au** 196.966569(4)	Mercury 80 **Hg** 200.59(2)	Thallium 81 **Tl** 204.38	Lead 82 **Pb** 207.2(1)	Bismuth 83 **Bi** 208.98040(1)	Polonium 84 **Po** [209]	Astatine 85 **At** [210]	Radon 86 **Rn** [222]
Francium 87 **Fr** [223.02]	Radium 88 **Ra** [226.03]	89-102 **	Lawrencium 103 **Lr** [262.11]	Rutherfordium 104 **Rf** [265.12]	Dubnium 105 **Db** [268.13]	Seaborgium 106 **Sg** [271.13]	Bohrium 107 **Bh** [270]	Hassium 108 **Hs** [277.15]	Meitnerium 109 **Mt** [276.15]	Darmstadtium 110 **Ds** [281.16]	Roentgenium 111 **Rg** [280.16]	Copernicium 112 **Cn** [285.17]	Ununtrium 113 **Uut** [284.18]	Ununquadium 114 **Uuq** [289.19]	Ununpentium 115 **Uup** [288.19]	Ununhexium 116 **Uuh** [293]	Ununseptium 117 **Uus** [294]	Ununoctium 118 **Uuo** [294]

Key:

Element Name
Atomic number
Symbol
Atomic weight (mean relative mass)

*lanthanoids	Lanthanum 57 **La** 138.90547(7)	Cerium 58 **Ce** 140.116(1)	Praseodymium 59 **Pr** 140.90765(2)	Neodymium 60 **Nd** 144.242(3)	Promethium 61 **Pm** [144.91]	Samarium 62 **Sm** 150.36(2)	Europium 63 **Eu** 151.964(1)	Gadolinium 64 **Gd** 157.25(3)	Terbium 65 **Tb** 158.92535(2)	Dysprosium 66 **Dy** 162.500(1)	Holmium 67 **Ho** 164.93032(2)	Erbium 68 **Er** 167.259(3)	Thulium 69 **Tm** 168.93421(2)	Ytterbium 70 **Yb** 173.054(5)
**actinoids	Actinium 89 **Ac** [227.03]	Thorium 90 **Th** 232.03806(2)	Protactinium 91 **Pa** 231.03588(2)	Uranium 92 **U** 238.02891(3)	Neptunium 93 **Np** [237.05]	Plutonium 94 **Pu** [244.06]	Americium 95 **Am** [243.06]	Curium 96 **Cm** [247.07]	Berkelium 97 **Bk** [247.07]	Californium 98 **Cf** [251.08]	Einsteinium 99 **Es** [252.08]	Fermium 100 **Fm** [257.10]	Mendelevium 101 **Md** [258.10]	Nobelium 102 **No** [259.10]

Element symbols and names: symbols, names, and spellings are recommended by IUPAC (www.iupac.org). Names have yet to be proposed for elements 113, 115, 117, and 118 and so those used here are IUPAC's temporary systematic names (*Pure & Appl. Chem.*, 1979, **51**, 381–384). In some countries, the spellings **aluminum**, **cesium**, and **sulphur** are usual.

Atomic weights (mean relative masses): these are IUPAC 2009 values (M.E. Wieser and T.B. Coplen, *Pure & Appl. Chem.*, 2011, **83**, 359). The last significant figure of each value is considered reliable to ±1 except where a larger uncertainty is given in parentheses. Representative values for those elements having an atomic weight interval are given (H, Li, B, C, N, O, Si, S, Cl, Tl). Elements with values given in [brackets] have no stable nuclides and are represented by 5 s.f. values for the longest-lived isotope given in theIUPAC 2009 values.

Periodic table organisation: for a justification of the positions of the elements La, Ac, Lu, and Lr in the WebElements periodic table see W.B. Jensen, "The positions of lanthanum (actinium) and lutetium (lawrencium) in the periodic table", *J. Chem. Ed.*, 1982, **59**, 634–636.

Group labels: the numeric system (1–18) used here is the current IUPAC convention. For a discussion of this and other common systems see: W.C. Fernelius and W.H. Powell, "Confusion in the periodic table of the elements", *J. Chem. Ed.*, 1982, **59**, 504–508.