

Periodic table of elements

Rows in the table represent the periods and get longer as the atomic numbers increase. The number of electrons increase from left to right across the table. There are eighteen groups represented by columns in the table; these groups have chemical features in common and have the same number of electrons in the outer orbit of the atoms. Most of the elements are metals with the non-metals occurring more frequently in groups thirteen to eighteen. Groups one to twelve are exclusively metals and on the boundary between the two are metalloids which display properties of both metals and non-metals. Some of the groups have collective names: group one are the alkali metals; group two are the alkaline earth metals; group eleven are the coinage metals; group seventeen are the halogens; and group eighteen are the noble gases. The first widely recognised table was published in 1869 by the Russian chemist Dmitri Mendeleev.

Atomic number (number of protons in an atom)
Chemical formula
Atomic weight (of most stable isotope when in brackets)
Number of electrons orbiting in each shell

- Radioactive element
- Liquid element
- Gas element
- Alkali metals
- Alkaline earth metals
- Transition metals
- Other metals
- Other non-metals
- Halogens
- Inert gases
- Lanthanides
- Actinides
- Trans-actinides (Manmade atoms that exist for less than a second)

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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 1 H Hydrogen 1.0079 | 2 4 He Helium 4.0026 | 3 3 Li Lithium 6.9410 | 4 4 Be Beryllium 9.0122 | 5 11 Na Sodium 22.9898 | 6 12 Mg Magnesium 24.3050 | 7 19 K Potassium 39.0980 | 8 20 Ca Calcium 40.0780 | 9 21 Sc Scandium 44.9560 | 10 22 Ti Titanium 47.8670 | 11 23 V Vanadium 50.9420 | 12 24 Cr Chromium 51.9960 | 13 25 Mn Manganese 54.9380 | 14 26 Fe Iron 55.8450 | 15 27 Co Cobalt 58.9330 | 16 28 Ni Nickel 58.6930 | 17 29 Cu Copper 63.5460 | 18 30 Zn Zinc 65.3900 | 19 31 Ga Gallium 69.7230 | 20 32 Ge Germanium 72.6400 | 21 33 As Arsenic 74.9220 | 22 34 Se Selenium 78.9600 | 23 35 Br Bromine 79.9040 | 24 36 Kr Krypton 83.8000 | 25 37 Rb Rubidium 85.4680 | 26 38 Sr Strontium 87.6200 | 27 39 Y Yttrium 88.9060 | 28 40 Zr Zirconium 91.2240 | 29 41 Nb Niobium 92.9060 | 30 42 Mo Molybdenum 95.9400 | 31 43 Tc Technetium (98.0000) | 32 44 Ru Ruthenium 101.0700 | 33 45 Rh Rhodium 102.9100 | 34 46 Pd Palladium 106.4200 | 35 47 Ag Silver 107.8700 | 36 48 Cd Cadmium 112.4100 | 37 49 In Indium 114.8200 | 38 50 Sn Tin 118.7100 | 39 51 Sb Antimony 121.7600 | 40 52 Te Tellurium 127.6000 | 41 53 I Iodine 126.9000 | 42 54 Xe Xenon 131.2900 | 43 55 Cs Cesium 132.9100 | 44 56 Ba Barium 137.3300 | E57 - E71 | 45 72 Hf Hafnium 178.4900 | 46 73 Ta Tantalum 180.9500 | 47 74 W Tungsten 183.8400 | 48 75 Re Rhenium 186.2100 | 49 76 Os Osmium 190.2300 | 50 77 Ir Iridium 192.2200 | 51 78 Pt Platinum 195.0800 | 52 79 Au Gold 196.9700 | 53 80 Hg Mercury 200.5900 | 54 81 Tl Thallium 204.3800 | 55 82 Pb Lead 207.2000 | 56 83 Bi Bismuth 208.9800 | 57 84 Po Polonium (209.0000) | 58 85 At Astatine (210.0000) | 59 86 Rn Radon 222.0000 | 60 87 Fr Francium (223.0000) | 61 88 Ra Radium 226.0300 | E89 - E103 | 62 104 Rf Rutherfordium 261.1100 | 63 105 Db Dubnium 262.1100 | 64 106 Sg Seaborgium 226.0300 | 65 107 Bh Bohrium 262.1200 | 66 108 Hs Hassium 264.1300 | 67 109 Mt Meitnerium 266.1400 | 68 110 Ds Darmstadtium (281.0000) | 69 111 Rg Roentgenium (280.0000) | 70 112 Cn Copernicium (285.0000) | 71 113 Uut Ununtrium (284.0000) | 72 114 Fl Flerovium (289.0000) | 73 115 Uup Ununpentium (288.0000) | 74 116 Lv Livermorium (293.0000) | 75 117 Uus Ununseptium (294.0000) | 76 118 Uuo Ununoctium (294.0000) |

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| 57 La Lanthanum 138.9100 | 58 Ce Cerium 140.1200 | 59 Pr Praseodymium 140.9100 | 60 Nd Neodymium 144.2400 | 61 Pm Promethium (145.0000) | 62 Sm Samarium 150.3600 | 63 Eu Europium 151.9600 | 64 Gd Gadolinium 157.2500 | 65 Tb Terbium 158.9300 | 66 Dy Dysprosium 162.5000 | 67 Ho Holmium 164.9300 | 68 Er Erbium 167.2600 | 69 Tm Thulium 168.9300 | 70 Yb Ytterbium 173.0400 | 71 Lu Lutetium 174.9700 |
| 89 Ac Actinium (227.0000) | 90 Th Thorium 232.0381 | 91 Pa Protactinium 231.0359 | 92 U Uranium 238.0300 | 93 Np Neptunium 237.0500 | 94 Pu Plutonium (244.0000) | 95 Am Americium (243.0000) | 96 Cm Curium (247.0000) | 97 Bk Berkelium (247.0000) | 98 Cf Californium (251.0000) | 99 Es Einsteinium (252.0000) | 100 Fm Fermium (257.0000) | 101 Md Mendelevium (258.0000) | 102 No Nobelium (259.0000) | 103 Lr Lawrencium (262.0000) |