THE PERIODIC TABLE OF THE ELEMENTS

All 118 elements · masses and electron configurations

Alkali metal · Alkaline earth metal · Transition metal · Post-transition metal · Metaloid
Nonmetal · Halogen · Noble gas · Lanthanide · Actinide

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 H Hydrogen 1.008 [1s¹]																	2 He Helium 4.0026 [1s²]
2	3 Li Lithium 6.94 [He] 2s¹	4 Be Beryllium 9.0122 [He] 2s²											5 B Boron 10.81 [He] 2s² 2p¹	6 C Carbon 12.011 [He] 2s² 2p²	7 N Nitrogen 14.007 [He] 2s² 2p³	8 O Oxygen 15.999 [He] 2s² 2p⁴	9 F Fluorine 18.998 [He] 2s² 2p⁵	10 Ne Neon 20.18 [He] 2s² 2p⁶
3	11 Na Sodium 22.99 [Ne] 3s¹	12 Mg Magnesium 24.305 [Ne] 3s²											13 Al Aluminum 26.982 [Ne] 3s² 3p¹	14 Si Silicon 28.085 [Ne] 3s² 3p²	15 P Phosphorus 30.974 [Ne] 3s² 3p³	16 S Sulfur 32.06 [Ne] 3s² 3p⁴	17 Cl Chlorine 35.45 [Ne] 3s² 3p⁵	18 Ar Argon 39.95 [Ne] 3s² 3p⁶
4	19 K Potassium 39.098 [Ar] 4s¹	20 Ca Calcium 40.078 [Ar] 4s²	21 Sc Scandium 44.956 [Ar] 3d¹ 4s²	22 Ti Titanium 47.867 [Ar] 3d² 4s²	23 V Vanadium 50.942 [Ar] 3d³ 4s²	24 Cr Chromium 51.996 [Ar] 3d⁵ 4s¹	25 Mn Manganese 54.938 [Ar] 3d⁵ 4s²	26 Fe Iron 55.845 [Ar] 3d⁶ 4s²	27 Co Cobalt 58.933 [Ar] 3d⁷ 4s²	28 Ni Nickel 58.693 [Ar] 3d⁸ 4s²	29 Cu Copper 63.546 [Ar] 3d¹⁰ 4s¹	30 Zn Zinc 65.38 [Ar] 3d¹⁰ 4s²	31 Ga Gallium 69.723 [Ar] 3d¹⁰ 4s² 4p¹	32 Ge Germanium 72.63 [Ar] 3d¹⁰ 4s² 4p²	33 As Arsenic 74.922 [Ar] 3d¹⁰ 4s² 4p³	34 Se Selenium 78.971 [Ar] 3d¹⁰ 4s² 4p⁴	35 Br Bromine 79.904 [Ar] 3d¹⁰ 4s² 4p⁵	36 Kr Krypton 83.798 [Ar] 3d¹⁰ 4s² 4p⁶
5	37 Rb Rubidium 85.468 [Kr] 5s¹	38 Sr Strontium 87.62 [Kr] 5s²	39 Y Yttrium 88.906 [Kr] 4d¹ 5s²	40 Zr Zirconium 91.224 [Kr] 4d² 5s²	41 Nb Niobium 92.906 [Kr] 4d⁴ 5s¹	42 Mo Molybdenum 95.95 [Kr] 4d⁵ 5s¹	43 Tc Technetium [98] [Kr] 4d⁵ 5s²	44 Ru Ruthenium 101.07 [Kr] 4d⁷ 5s¹	45 Rh Rhodium 102.91 [Kr] 4d⁸ 5s¹	46 Pd Palladium 106.42 [Kr] 4d¹⁰	47 Ag Silver 107.87 [Kr] 4d¹⁰ 5s¹	48 Cd Cadmium 112.41 [Kr] 4d¹⁰ 5s²	49 In Indium 114.82 [Kr] 4d¹⁰ 5s² 5p¹	50 Sn Tin 118.71 [Kr] 4d¹⁰ 5s² 5p²	51 Sb Antimony 121.76 [Kr] 4d¹⁰ 5s² 5p³	52 Te Tellurium 127.6 [Kr] 4d¹⁰ 5s² 5p⁴	53 I Iodine 126.9 [Kr] 4d¹⁰ 5s² 5p⁵	54 Xe Xenon 131.29 [Kr] 4d¹⁰ 5s² 5p⁶
6	55 Cs Cesium 132.91 [Xe] 6s¹	56 Ba Barium 137.33 [Xe] 6s²	57–71	72 Hf Hafnium 178.49 [Xe] 4f¹⁴ 5d² 6s²	73 Ta Tantalum 180.95 [Xe] 4f¹⁴ 5d³ 6s²	74 W Tungsten 183.84 [Xe] 4f¹⁴ 5d⁴ 6s²	75 Re Rhenium 186.21 [Xe] 4f¹⁴ 5d⁵ 6s²	76 Os Osmium 190.23 [Xe] 4f¹⁴ 5d⁶ 6s²	77 Ir Iridium 192.22 [Xe] 4f¹⁴ 5d⁷ 6s²	78 Pt Platinum 195.08 [Xe] 4f¹⁴ 5d⁹ 6s¹	79 Au Gold 196.97 [Xe] 4f¹⁴ 5d¹⁰ 6s¹	80 Hg Mercury 200.59 [Xe] 4f¹⁴ 5d¹⁰ 6s²	81 Tl Thallium 204.38 [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p¹	82 Pb Lead 207.2 [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p²	83 Bi Bismuth 208.98 [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p³	84 Po Polonium [209] [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁴	85 At Astatine [210] [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁵	86 Rn Radon [222] [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁶
7	87 Fr Francium [223] [Rn] 7s¹	88 Ra Radium [226] [Rn] 7s²	89–103	104 Rf Rutherfordium [267] [Rn] 5f¹⁴ 6d² 7s²	105 Db Dubnium [268] [Rn] 5f¹⁴ 6d³ 7s²	106 Sg Seaborgium [269] [Rn] 5f¹⁴ 6d⁴ 7s²	107 Bh Bohrium [270] [Rn] 5f¹⁴ 6d⁵ 7s²	108 Hs Hassium [269] [Rn] 5f¹⁴ 6d⁶ 7s²	109 Mt Meitnerium [278] [Rn] 5f¹⁴ 6d⁷ 7s²	110 Ds Darmstadtium [281] [Rn] 5f¹⁴ 6d⁸ 7s²	111 Rg Roentgenium [282] [Rn] 5f¹⁴ 6d⁹ 7s²	112 Cn Copernicium [285] [Rn] 5f¹⁴ 6d¹⁰ 7s²	113 Nh Nihonium [286] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p¹	114 Fl Flerovium [289] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p²	115 Mc Moscovium [290] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p³	116 Lv Livermorium [293] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁴	117 Ts Tennessine [294] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁵	118 Og Oganesson [294] [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁶

Lanthanides 57–71	57 La Lanthanum 138.91 [Xe] 5d¹ 6s²	58 Ce Cerium 140.12 [Xe] 4f¹ 5d¹ 6s²	59 Pr Praseodymium 140.91 [Xe] 4f³ 6s²	60 Nd Neodymium 144.24 [Xe] 4f⁴ 6s²	61 Pm Promethium [145] [Xe] 4f⁵ 6s²	62 Sm Samarium 150.36 [Xe] 4f⁶ 6s²	63 Eu Europium 151.96 [Xe] 4f⁷ 6s²	64 Gd Gadolinium 157.25 [Xe] 4f⁷ 5d¹ 6s²	65 Tb Terbium 158.93 [Xe] 4f⁹ 6s²	66 Dy Dysprosium 162.5 [Xe] 4f¹⁰ 6s²	67 Ho Holmium 164.93 [Xe] 4f¹¹ 6s²	68 Er Erbium 167.26 [Xe] 4f¹² 6s²	69 Tm Thulium 168.93 [Xe] 4f¹³ 6s²	70 Yb Ytterbium 173.05 [Xe] 4f¹⁴ 6s²	71 Lu Lutetium 174.97 [Xe] 4f¹⁴ 5d¹ 6s²
Actinides 89–103	89 Ac Actinium [227] [Rn] 6d¹ 7s²	90 Th Thorium 232.04 [Rn] 6d² 7s²	91 Pa Protactinium 231.04 [Rn] 5f² 6d¹ 7s²	92 U Uranium 238.03 [Rn] 5f³ 6d¹ 7s²	93 Np Neptunium [237] [Rn] 5f⁴ 6d¹ 7s²	94 Pu Plutonium [244] [Rn] 5f⁶ 7s²	95 Am Americium [243] [Rn] 5f⁷ 7s²	96 Cm Curium [247] [Rn] 5f⁷ 6d¹ 7s²	97 Bk Berkelium [247] [Rn] 5f⁹ 7s²	98 Cf Californium [251] [Rn] 5f¹⁰ 7s²	99 Es Einsteinium [252] [Rn] 5f¹¹ 7s²	100 Fm Fermium [257] [Rn] 5f¹² 7s²	101 Md Mendelevium [258] [Rn] 5f¹³ 7s²	102 No Nobelium [259] [Rn] 5f¹⁴ 7s²	103 Lr Lawrencium [266] [Rn] 5f¹⁴ 7s² 7p¹

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Atomic weights: IUPAC 2021 (abridged); [bracketed] values are the mass number of the longest-lived isotope. ·