

1	2											13	14	15	16	17	18
1 Hydrogen H 1s ¹ 1.0079 2.1																	2 Helium He 1s ² 4.0026
2 Lithium Li 1s ² 2s ¹ 6.941 1.0	Beryllium Be 1s ² 2s ² 9.0122 1.5											Boron B 1s ² 2s ² 2p ¹ 10.811 2.0	Carbon C 1s ² 2s ² 2p ² 12.0107 2.5	Nitrogen N 1s ² 2s ² 2p ³ 14.0067 3.0	Oxygen O 1s ² 2s ² 2p ⁴ 15.9994 3.5	Fluorine F 1s ² 2s ² 2p ⁵ 18.9984 4.0	Neon Ne 1s ² 2s ² 2p ⁶ 20.179
3 Sodium Na [Ne]3s ¹ 22.9898 0.9	Magnesium Mg [Ne]3s ² 24.305 1.2											Aluminium Al [Ne]3s ² 3p ¹ 26.9815 1.5	Silicon Si [Ne]3s ² 3p ² 28.0855 1.8	Phosphorus P [Ne]3s ² 3p ³ 30.9738 2.1	Sulfur S [Ne]3s ² 3p ⁴ 32.066 2.5	Chlorine Cl [Ne]3s ² 3p ⁵ 35.453 3.0	Argon Ar [Ne]3s ² 3p ⁶ 39.948
4 Potassium K [Ar]4s ¹ 39.0983 0.8	Calcium Ca [Ar]4s ² 40.078 1.0	Scandium Sc [Ar]3d ¹ 4s ² 44.9559 1.3	Titanium Ti [Ar]3d ² 4s ² 47.867 1.5	Vanadium V [Ar]3d ³ 4s ² 50.9415 1.6	Chromium Cr [Ar]3d ⁵ 4s ¹ 51.996 1.6	Manganese Mn [Ar]3d ⁵ 4s ² 54.938 1.5	Iron Fe [Ar]3d ⁶ 4s ² 55.8457 1.8	Cobalt Co [Ar]3d ⁷ 4s ² 58.9332 1.8	Nickel Ni [Ar]3d ⁸ 4s ² 58.6934 1.8	Copper Cu [Ar]3d ¹⁰ 4s ¹ 63.546 1.9	Zinc Zn [Ar]3d ¹⁰ 4s ² 65.39 1.6	Gallium Ga [Ar]3d ¹⁰ 4s ² 4p ¹ 69.723 1.6	Germanium Ge [Ar]3d ¹⁰ 4s ² 4p ² 72.5961 1.8	Arsenic As [Ar]3d ¹⁰ 4s ² 4p ³ 74.9216 2.0	Selenium Se [Ar]3d ¹⁰ 4s ² 4p ⁴ 78.96 2.4	Bromine Br [Ar]3d ¹⁰ 4s ² 4p ⁵ 79.904 2.8	Krypton Kr [Ar]3d ¹⁰ 4s ² 4p ⁶ 83.80
5 Rubidium Rb [Kr]5s ¹ 85.4678 0.8	Strontium Sr [Kr]5s ² 87.62 1.0	Yttrium Y [Kr]4d ¹ 5s ² 88.9059 1.3	Zirconium Zr [Kr]4d ⁵ 5s ¹ 91.224 1.4	Niobium Nb [Kr]4d ⁴ 5s ¹ 92.9064 1.6	Molybdenum Mo [Kr]4d ⁵ 5s ¹ 95.94 1.8	Technetium Tc [Kr]4d ⁵ 5s ² 98.9062 1.9	Ruthenium Ru [Kr]4d ⁷ 5s ¹ 101.07 2.2	Rhodium Rh [Kr]4d ⁸ 5s ¹ 102.9055 2.2	Palladium Pd [Kr]4d ¹⁰ 106.42 2.2	Silver Ag [Kr]4d ¹⁰ 5s ¹ 107.868 1.9	Cadmium Cd [Kr]4d ¹⁰ 5s ² 112.41 1.7	Indium In [Kr]4d ¹⁰ 5s ² 5p ¹ 114.82 1.7	Tin Sn [Kr]4d ¹⁰ 5s ² 5p ² 118.710 1.8	Antimony Sb [Kr]4d ¹⁰ 5s ² 5p ³ 121.760 1.9	Tellurium Te [Kr]4d ¹⁰ 5s ² 5p ⁴ 127.60 2.1	Iodine I [Kr]4d ¹⁰ 5s ² 5p ⁵ 126.9045 2.5	Xenon Xe [Kr]4d ¹⁰ 5s ² 5p ⁶ 131.29
6 Caesium Cs [Xe]6s ¹ 132.905 0.7	Barium Ba [Xe]6s ² 137.33 0.9	Lanthanum La [Xe]5d ¹ 6s ² 138.9055 1.1	Hafnium Hf [Xe]4f ¹⁴ 5d ² 6s ² 178.49 1.3	Tantalum Ta [Xe]4f ¹⁴ 5d ³ 6s ² 180.9479 1.5	Tungsten W [Xe]4f ¹⁴ 5d ⁴ 6s ² 183.85 1.7	Rhenium Re [Xe]4f ¹⁴ 5d ⁵ 6s ² 186.207 1.9	Osmium Os [Xe]4f ¹⁴ 5d ⁶ 6s ² 190.2 2.2	Iridium Ir [Xe]4f ¹⁴ 5d ⁷ 6s ² 192.217 2.2	Platinum Pt [Xe]4f ¹⁴ 5d ⁹ 6s ¹ 195.08 1.9	Gold Au [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹ 196.9665 2.4	Mercury Hg [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 200.59 2.2	Thallium Tl [Xe]4f ¹⁴ 5d ⁹ 6s ² 6p ¹ 204.383 1.8	Lead Pb [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ² 207.2 1.8	Bismuth Bi [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³ 208.9804 1.9	Polonium Po [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴ (209) 2.0	Astatine At [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵ (210) 2.2	Radon Rn [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶ (222)
7 Francium Fr [Rn]7s ¹ (223) 0.7	Radium Ra [Rn]7s ² 226.0254 0.9	Actinium Ac [Rn]6d ¹ 7s ² (227) 1.1	Rutherfordium Rf [Rn]5f ¹⁴ 6d ² 7s ² 261.11	Dubnium Db [Rn]5f ¹⁴ 6d ³ 7s ² 262.11	Seaborgium Sg [Rn]5f ¹⁴ 6d ⁴ 7s ² 263.12	Bohrium Bh [Rn]5f ¹⁴ 6d ⁵ 7s ² 262.12	Hassium Hs [Rn]5f ¹⁴ 6d ⁶ 7s ² 265	Meitnerium Mt [Rn]5f ¹⁴ 6d ⁷ 7s ² 266	Darmstadtium Ds [Rn]5f ¹⁴ 6d ⁸ 7s ² 269	Roentgenium Rg [Rn]5f ¹⁴ 6d ⁹ 7s ² (272)	Copernicium Cn [Rn]5f ¹⁴ 6d ¹⁰ 7s ² (285)	Ununtrium Uut [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ¹ (286)	Ununquadium Uuq [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ² (289)	Ununpentium Uup [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ³ (289)	Ununhexium Uuh [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁴ (293)	Ununseptium Uus [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁵ (294)	Ununoctium Uuo [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁶ (294)
		lanthanide series															
		58 Cerium Ce [Xe]4f ¹ 5d ¹ 6s ² 140.12 1.1	59 Praseodymium Pr [Xe]4f ³ 6s ² 140.9077 1.1	60 Neodymium Nd [Xe]4f ⁴ 6s ² 144.24 1.20	61 Promethium Pm [Xe]4f ⁵ 6s ² (147)	62 Samarium Sm [Xe]4f ⁶ 6s ² 150.36 1.2	63 Europium Eu [Xe]4f ⁷ 6s ² 151.96	64 Gadolinium Gd [Xe]4f ⁷ 5d ¹ 6s ² 157.25 1.1	65 Terbium Tb [Xe]4f ⁹ 6s ² 158.9254 1.2	66 Dysprosium Dy [Xe]4f ¹⁰ 6s ² 162.50 1.2	67 Holmium Ho [Xe]4f ¹¹ 6s ² 164.9304 1.2	68 Erbium Er [Xe]4f ¹² 6s ² 167.26 1.2	69 Thulium Tm [Xe]4f ¹³ 6s ² 168.9342 1.2	70 Ytterbium Yb [Xe]4f ¹⁴ 6s ² 173.04 1.1	71 Lutetium Lu [Xe]4f ¹⁴ 5d ¹ 6s ² 174.967 1.2		
		actinide series															
		90 Thorium Th [Rn]6d ² 7s ² 232.0381 1.3	91 Protactinium Pa [Rn]5f ² 6d ¹ 7s ² 231.0359 1.5	92 Uranium U [Rn]5f ³ 6d ¹ 7s ² 238.0289 1.7	93 Neptunium Np [Rn]5f ⁴ 6d ¹ 7s ² 237.0482 1.3	94 Plutonium Pu [Rn]5f ⁶ 7s ² (242) 1.3	95 Americium Am [Rn]5f ⁷ 7s ² (243) 1.3	96 Curium Cm [Rn]5f ⁸ 6d ¹ 7s ² (247)	97 Berkelium Bk [Rn]5f ⁹ 7s ² (247)	98 Californium Cf [Rn]5f ¹⁰ 7s ² (251)	99 Einsteinium Es [Rn]5f ¹¹ 7s ² (252)	100 Fermium Fm [Rn]5f ¹² 7s ² (257)	101 Mendelevium Md [Rn]5f ¹³ 7s ² (258)	102 Nobelium No [Rn]5f ¹⁴ 7s ² (259)	103 Lawrencium Lr [Rn]5f ¹⁴ 6d ¹ 7s ² (260)		

key

Numbers in brackets are mass numbers of the most stable or most common isotope. Atomic weights conform to the Bulletin of the International Union of Pure and Applied Chemistry, volume 56, number 6 1984. Scaled to Ar (c¹²) = 12

atomic number

atomic symbol

electronic structure

atomic weight

electronegativity

filling of electrons:

on s level on f level on d level on p level

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