Electron configurations of the elements

ChemTable chemtable.org

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 H Hydrogen 1s¹																	2 He Helium 1s²
2	3 Li Lithium [He] 2s¹	4 Be Beryllium [He] 2s²											5 B Boron [He] 2s² 2p¹	6 C Carbon [He] 2s² 2p²	7 N Nitrogen [He] 2s² 2p³	8 O Oxygen [He] 2s² 2p⁴	9 F Fluorine [He] 2s² 2p⁵	10 Ne Neon [He] 2s² 2p⁶
3	11 Na Sodium [Ne] 3s¹	12 Mg Magnesium [Ne] 3s²											13 Al Aluminium [Ne] 3s² 3p¹	14 Si Silicon [Ne] 3s² 3p²	15 P Phosphorus [Ne] 3s² 3p³	16 S Sulfur [Ne] 3s² 3p⁴	17 Cl Chlorine [Ne] 3s² 3p⁵	18 Ar Argon [Ne] 3s² 3p⁶
4	19 K Potassium [Ar] 4s¹	20 Ca Calcium [Ar] 4s²	21 Sc Scandium [Ar] 3d¹ 4s²	22 Ti Titanium [Ar] 3d² 4s²	23 V Vanadium [Ar] 3d³ 4s²	24 Cr Chromium [Ar] 3d⁵ 4s¹	25 Mn Manganese [Ar] 3d⁵ 4s²	26 Fe Iron [Ar] 3d⁶ 4s²	27 Co Cobalt [Ar] 3d⁷ 4s²	28 Ni Nickel [Ar] 3d⁸ 4s²	29 Cu Copper [Ar] 3d¹⁰ 4s¹	30 Zn Zinc [Ar] 3d¹⁰ 4s²	31 Ga Gallium [Ar] 3d¹⁰ 4s² 4p¹	32 Ge Germanium [Ar] 3d¹⁰ 4s² 4p²	33 As Arsenic [Ar] 3d¹⁰ 4s² 4p³	34 Se Selenium [Ar] 3d¹⁰ 4s² 4p⁴	35 Br Bromine [Ar] 3d¹⁰ 4s² 4p⁵	36 Kr Krypton [Ar] 3d¹⁰ 4s² 4p⁶
5	37 Rb Rubidium [Kr] 5s¹	38 Sr Strontium [Kr] 5s²	39 Y Yttrium [Kr] 4d¹ 5s²	40 Zr Zirconium [Kr] 4d² 5s²	41 Nb Niobium [Kr] 4d⁴ 5s¹	42 Mo Molybdenum [Kr] 4d⁵ 5s¹	43 Tc Technetium [Kr] 4d⁵ 5s²	44 Ru Ruthenium [Kr] 4d⁷ 5s¹	45 Rh Rhodium [Kr] 4d⁸ 5s¹	46 Pd Palladium [Kr] 4d¹⁰	47 Ag Silver [Kr] 4d¹⁰ 5s¹	48 Cd Cadmium [Kr] 4d¹⁰ 5s²	49 In Indium [Kr] 4d¹⁰ 5s² 5p¹	50 Sn Tin [Kr] 4d¹⁰ 5s² 5p²	51 Sb Antimony [Kr] 4d¹⁰ 5s² 5p³	52 Te Tellurium [Kr] 4d¹⁰ 5s² 5p⁴	53 I Iodine [Kr] 4d¹⁰ 5s² 5p⁵	54 Xe Xenon [Kr] 4d¹⁰ 5s² 5p⁶
6	55 Cs Caesium [Xe] 6s¹	56 Ba Barium [Xe] 6s²	57–71	72 Hf Hafnium [Xe] 4f¹⁴ 5d² 6s²	73 Ta Tantalum [Xe] 4f¹⁴ 5d³ 6s²	74 W Tungsten [Xe] 4f¹⁴ 5d⁴ 6s²	75 Re Rhenium [Xe] 4f¹⁴ 5d⁵ 6s²	76 Os Osmium [Xe] 4f¹⁴ 5d⁶ 6s²	77 Ir Iridium [Xe] 4f¹⁴ 5d⁷ 6s²	78 Pt Platinum [Xe] 4f¹⁴ 5d⁹ 6s¹	79 Au Gold [Xe] 4f¹⁴ 5d¹⁰ 6s¹	80 Hg Mercury [Xe] 4f¹⁴ 5d¹⁰ 6s²	81 Tl Thallium [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p¹	82 Pb Lead [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p²	83 Bi Bismuth [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p³	84 Po Polonium [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁴	85 At Astatine [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁵	86 Rn Radon [Xe] 4f¹⁴ 5d¹⁰ 6s² 6p⁶
7	87 Fr Francium [Rn] 7s¹	88 Ra Radium [Rn] 7s²	89–103	104 Rf Rutherfordium [Rn] 5f¹⁴ 6d² 7s²	105 Db Dubnium [Rn] 5f¹⁴ 6d³ 7s²	106 Sg Seaborgium [Rn] 5f¹⁴ 6d⁴ 7s²	107 Bh Bohrium [Rn] 5f¹⁴ 6d⁵ 7s²	108 Hs Hassium [Rn] 5f¹⁴ 6d⁶ 7s²	109 Mt Meitnerium [Rn] 5f¹⁴ 6d⁷ 7s²	110 Ds Darmstadtium [Rn] 5f¹⁴ 6d⁸ 7s²	111 Rg Roentgenium [Rn] 5f¹⁴ 6d⁹ 7s²	112 Cn Copernicium [Rn] 5f¹⁴ 6d¹⁰ 7s²	113 Nh Nihonium [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p¹	114 Fl Flerovium [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p²	115 Mc Moscovium [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p³	116 Lv Livermorium [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁴	117 Ts Tennessine [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁵	118 Og Oganesson [Rn] 5f¹⁴ 6d¹⁰ 7s² 7p⁶

57 La Lanthanum [Xe] 5d¹ 6s²	58 Ce Cerium [Xe] 4f¹ 5d¹ 6s²	59 Pr Praseodymium [Xe] 4f³ 6s²	60 Nd Neodymium [Xe] 4f⁴ 6s²	61 Pm Promethium [Xe] 4f⁵ 6s²	62 Sm Samarium [Xe] 4f⁶ 6s²	63 Eu Europium [Xe] 4f⁷ 6s²	64 Gd Gadolinium [Xe] 4f⁷ 5d¹ 6s²	65 Tb Terbium [Xe] 4f⁹ 6s²	66 Dy Dysprosium [Xe] 4f¹⁰ 6s²	67 Ho Holmium [Xe] 4f¹¹ 6s²	68 Er Erbium [Xe] 4f¹² 6s²	69 Tm Thulium [Xe] 4f¹³ 6s²	70 Yb Ytterbium [Xe] 4f¹⁴ 6s²	71 Lu Lutetium [Xe] 4f¹⁴ 5d¹ 6s²
89 Ac Actinium [Rn] 6d¹ 7s²	90 Th Thorium [Rn] 6d² 7s²	91 Pa Protactinium [Rn] 5f² 6d¹ 7s²	92 U Uranium [Rn] 5f³ 6d¹ 7s²	93 Np Neptunium [Rn] 5f⁴ 6d¹ 7s²	94 Pu Plutonium [Rn] 5f⁶ 7s²	95 Am Americium [Rn] 5f⁷ 7s²	96 Cm Curium [Rn] 5f⁷ 6d¹ 7s²	97 Bk Berkelium [Rn] 5f⁹ 7s²	98 Cf Californium [Rn] 5f¹⁰ 7s²	99 Es Einsteinium [Rn] 5f¹¹ 7s²	100 Fm Fermium [Rn] 5f¹² 7s²	101 Md Mendelevium [Rn] 5f¹³ 7s²	102 No Nobelium [Rn] 5f¹⁴ 7s²	103 Lr Lawrencium [Rn] 5f¹⁴ 7s² 7p¹*

26
Fe
Iron
[Ar] 3d⁶ 4s²

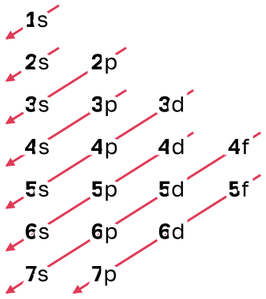
Atomic number

Symbol

Name

Electron configuration

Order in which subshells fill



s-block
p-block
d-block
f-block

How electrons are arranged in subshells. The bracket stands for the previous noble gas; the superscript is the number of electrons in a subshell.

* predicted

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