

Periodic Table of the Elements

	1 IA 1A																					18 VIIIA 8A				
1	1 1.008 H Hydrogen 1 1s ¹	2 9.012 He Helium 2 1s ²																			2 4.003 He Helium 2 1s ²					
2	3 6.941 Li Lithium 2 1 [He]2s ¹	4 9.012 Be Beryllium 2 2 [He]2s ²																			5 10.811 B Boron 2 3 [He]2s ² 2p ¹	6 12.011 C Carbon 2 4 [He]2s ² 2p ²	7 14.007 N Nitrogen 2 5 [He]2s ² 2p ³	8 15.999 O Oxygen 2 6 [He]2s ² 2p ⁴	9 18.998 F Fluorine 2 7 [He]2s ² 2p ⁵	10 20.180 Ne Neon 2 8 [He]2s ² 2p ⁶
3	11 22.990 Na Sodium 2 8 1 [Ne]3s ¹	12 24.305 Mg Magnesium 2 8 2 [Ne]3s ²	3 IIIB 3B	4 IVB 4B	5 VB 5B	6 VIB 6B	7 VIIIB 7B	8 VIII 8	9 VIII 8	10 VIII 8	11 IB 1B	12 IIB 2B	13 26.982 Al Aluminum 2 8 3 [Ne]3s ² 3p ¹	14 28.086 Si Silicon 2 8 4 [Ne]3s ² 3p ²	15 30.974 P Phosphorus 2 8 5 [Ne]3s ² 3p ³	16 32.066 S Sulfur 2 8 6 [Ne]3s ² 3p ⁴	17 35.453 Cl Chlorine 2 8 7 [Ne]3s ² 3p ⁵	18 39.948 Ar Argon 2 8 8 [Ne]3s ² 3p ⁶								
4	19 39.098 K Potassium 2 8 8 1 [Ar]4s ¹	20 40.078 Ca Calcium 2 8 8 2 [Ar]4s ²	21 44.956 Sc Scandium 2 8 9 2 [Ar]3d ¹ 4s ²	22 47.88 Ti Titanium 2 8 10 2 [Ar]3d ² 4s ²	23 50.942 V Vanadium 2 8 11 2 [Ar]3d ³ 4s ²	24 51.996 Cr Chromium 2 8 13 1 [Ar]3d ⁵ 4s ¹	25 54.938 Mn Manganese 2 8 13 2 [Ar]3d ⁵ 4s ²	26 55.845 Fe Iron 2 8 14 2 [Ar]3d ⁶ 4s ²	27 58.933 Co Cobalt 2 8 15 2 [Ar]3d ⁷ 4s ²	28 58.693 Ni Nickel 2 8 16 2 [Ar]3d ⁸ 4s ²	29 63.546 Cu Copper 2 8 18 1 [Ar]3d ¹⁰ 4s ¹	30 65.38 Zn Zinc 2 8 18 2 [Ar]3d ¹⁰ 4s ²	31 69.723 Ga Gallium 2 8 18 3 [Ar]3d ¹⁰ 4s ² 4p ¹	32 72.631 Ge Germanium 2 8 18 4 [Ar]3d ¹⁰ 4s ² 4p ²	33 74.922 As Arsenic 2 8 18 5 [Ar]3d ¹⁰ 4s ² 4p ³	34 78.971 Se Selenium 2 8 18 6 [Ar]3d ¹⁰ 4s ² 4p ⁴	35 79.904 Br Bromine 2 8 18 7 [Ar]3d ¹⁰ 4s ² 4p ⁵	36 83.798 Kr Krypton 2 8 18 8 [Ar]3d ¹⁰ 4s ² 4p ⁶								
5	37 85.468 Rb Rubidium 2 8 18 8 1 [Kr]5s ¹	38 87.62 Sr Strontium 2 8 18 8 2 [Kr]5s ²	39 88.906 Y Yttrium 2 8 18 9 2 [Kr]4d ¹ 5s ²	40 91.224 Zr Zirconium 2 8 18 10 2 [Kr]4d ² 5s ²	41 92.906 Nb Niobium 2 8 18 12 1 [Kr]4d ⁴ 5s ¹	42 95.95 Mo Molybdenum 2 8 18 13 1 [Kr]4d ⁵ 5s ¹	43 98.907 Tc Technetium 2 8 18 14 1 [Kr]4d ⁵ 5s ²	44 101.07 Ru Ruthenium 2 8 18 15 1 [Kr]4d ⁷ 5s ¹	45 102.906 Rh Rhodium 2 8 18 16 1 [Kr]4d ⁸ 5s ¹	46 106.42 Pd Palladium 2 8 18 18 [Kr]4d ¹⁰	47 107.868 Ag Silver 2 8 18 18 1 [Kr]4d ¹⁰ 5s ¹	48 112.414 Cd Cadmium 2 8 18 18 2 [Kr]4d ¹⁰ 5s ²	49 114.818 In Indium 2 8 18 18 3 [Kr]4d ¹⁰ 5s ² 5p ¹	50 118.711 Sn Tin 2 8 18 18 4 [Kr]4d ¹⁰ 5s ² 5p ²	51 121.760 Sb Antimony 2 8 18 18 5 [Kr]4d ¹⁰ 5s ² 5p ³	52 127.6 Te Tellurium 2 8 18 18 6 [Kr]4d ¹⁰ 5s ² 5p ⁴	53 126.904 I Iodine 2 8 18 18 7 [Kr]4d ¹⁰ 5s ² 5p ⁵	54 131.29 Xe Xenon 2 8 18 18 8 [Kr]4d ¹⁰ 5s ² 5p ⁶								
6	55 132.905 Cs Cesium 2 8 18 18 8 1 [Xe]6s ¹	56 137.328 Ba Barium 2 8 18 18 8 2 [Xe]6s ²	57-71	72 178.49 Hf Hafnium 2 8 18 32 10 2 [Xe]4f ¹⁴ 5d ² 6s ²	73 180.948 Ta Tantalum 2 8 18 32 11 2 [Xe]4f ¹⁴ 5d ³ 6s ²	74 183.84 W Tungsten 2 8 18 32 12 2 [Xe]4f ¹⁴ 5d ⁴ 6s ²	75 186.207 Re Rhenium 2 8 18 32 13 2 [Xe]4f ¹⁴ 5d ⁵ 6s ²	76 190.23 Os Osmium 2 8 18 32 14 2 [Xe]4f ¹⁴ 5d ⁶ 6s ²	77 192.217 Ir Iridium 2 8 18 32 15 2 [Xe]4f ¹⁴ 5d ⁷ 6s ²	78 195.085 Pt Platinum 2 8 18 32 17 1 [Xe]4f ¹⁴ 5d ⁹ 6s ¹	79 196.967 Au Gold 2 8 18 32 18 1 [Xe]4f ¹⁴ 5d ¹⁰ 6s ¹	80 200.592 Hg Mercury 2 8 18 32 18 2 [Xe]4f ¹⁴ 5d ¹⁰ 6s ²	81 204.383 Tl Thallium 2 8 18 32 18 3 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹	82 207.2 Pb Lead 2 8 18 32 18 4 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ²	83 208.980 Bi Bismuth 2 8 18 32 18 5 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ³	84 [208.982] Po Polonium 2 8 18 32 18 6 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴	85 209.987 At Astatine 2 8 18 32 18 7 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵	86 222.018 Rn Radon 2 8 18 32 18 8 [Xe]4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶								
7	87 223.020 Fr Francium 2 8 18 32 18 8 1 [Rn]7s ¹	88 226.025 Ra Radium 2 8 18 32 18 8 2 [Rn]7s ²	89-103	104 [261] Rf Rutherfordium 2 8 18 32 32 10 2 [Rn]5f ¹⁴ 6d ² 7s ² *	105 [262] Db Dubnium 2 8 18 32 32 11 2 [Rn]5f ¹⁴ 6d ³ 7s ² *	106 [266] Sg Seaborgium 2 8 18 32 32 12 2 [Rn]5f ¹⁴ 6d ⁴ 7s ² *	107 [264] Bh Bohrium 2 8 18 32 32 13 2 [Rn]5f ¹⁴ 6d ⁵ 7s ² *	108 [269] Hs Hassium 2 8 18 32 32 14 2 [Rn]5f ¹⁴ 6d ⁶ 7s ² *	109 [278] Mt Meitnerium 2 8 18 32 32 15 2 [Rn]5f ¹⁴ 6d ⁷ 7s ² *	110 [281] Ds Darmstadtium 2 8 18 32 32 16 2 [Rn]5f ¹⁴ 6d ⁸ 7s ² *	111 [280] Rg Roentgenium 2 8 18 32 32 17 2 [Rn]5f ¹⁴ 6d ⁹ 7s ² *	112 [285] Cn Copernicium 2 8 18 32 32 18 2 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² *	113 [286] Nh Nihonium 2 8 18 32 32 18 3 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ¹ *	114 [289] Fl Flerovium 2 8 18 32 32 18 4 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ² *	115 [289] Mc Moscovium 2 8 18 32 32 18 5 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ³ *	116 [293] Lv Livermorium 2 8 18 32 32 18 6 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁴ *	117 [294] Ts Tennessine 2 8 18 32 32 18 7 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁵ *	118 [294] Og Oganesson 2 8 18 32 32 18 8 [Rn]5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁶ *								

Atomic Number **Atomic Mass**

Symbol
Name

Electron Shells

Electron Configuration

Element symbol represents state at room temperature.
Solid, Liquid or Gas
 Electron Configurations with * are predicted values.

Period

Lanthanide Series

57 138.905 La Lanthanum 2 8 18 18 9 2 [Xe]5d ¹ 6s ²	58 140.116 Ce Cerium 2 8 18 19 9 2 [Xe]4f ¹ 5d ¹ 6s ²	59 140.908 Pr Praseodymium 2 8 18 21 8 2 [Xe]4f ³ 6s ²	60 144.243 Nd Neodymium 2 8 18 22 8 2 [Xe]4f ⁴ 6s ²	61 144.913 Pm Promethium 2 8 18 23 8 2 [Xe]4f ⁵ 6s ²	62 150.36 Sm Samarium 2 8 18 24 8 2 [Xe]4f ⁶ 6s ²	63 151.964 Eu Europium 2 8 18 25 8 2 [Xe]4f ⁷ 6s ²	64 157.25 Gd Gadolinium 2 8 18 25 9 2 [Xe]4f ⁷ 5d ¹ 6s ²	65 158.925 Tb Terbium 2 8 18 27 8 2 [Xe]4f ⁹ 6s ²	66 162.500 Dy Dysprosium 2 8 18 28 8 2 [Xe]4f ¹⁰ 6s ²	67 164.930 Ho Holmium 2 8 18 29 8 2 [Xe]4f ¹¹ 6s ²	68 167.259 Er Erbium 2 8 18 30 8 2 [Xe]4f ¹² 6s ²	69 168.934 Tm Thulium 2 8 18 31 8 2 [Xe]4f ¹³ 6s ²	70 173.055 Yb Ytterbium 2 8 18 32 8 2 [Xe]4f ¹⁴ 6s ²	71 174.967 Lu Lutetium 2 8 18 32 9 2 [Xe]4f ¹⁴ 5d ¹ 6s ²
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Actinide Series

89 227.028 Ac Actinium 2 8 18 32 18 9 2 [Rn]6d ¹ 7s ²	90 232.038 Th Thorium 2 8 18 32 18 10 2 [Rn]6d ² 7s ²	91 231.036 Pa Protactinium 2 8 18 32 20 9 2 [Rn]5f ² 6d ¹ 7s ²	92 238.029 U Uranium 2 8 18 32 21 9 2 [Rn]5f ³ 6d ¹ 7s ²	93 237.048 Np Neptunium 2 8 18 32 23 8 2 [Rn]5f ⁴ 6d ¹ 7s ²	94 244.064 Pu Plutonium 2 8 18 32 24 8 2 [Rn]5f ⁶ 7s ²	95 243.061 Am Americium 2 8 18 32 25 8 2 [Rn]5f ⁷ 7s ²	96 247.070 Cm Curium 2 8 18 32 25 9 2 [Rn]5f ⁷ 6d ¹ 7s ²	97 247.070 Bk Berkelium 2 8 18 32 27 8 2 [Rn]5f ⁹ 7s ²	98 251.080 Cf Californium 2 8 18 32 28 8 2 [Rn]5f ¹⁰ 7s ²	99 [254] Es Einsteinium 2 8 18 32 29 8 2 [Rn]5f ¹¹ 7s ²	100 257.095 Fm Fermium 2 8 18 32 30 8 2 [Rn]5f ¹² 7s ²	101 258.1 Md Mendelevium 2 8 18 32 31 8 2 [Rn]5f ¹³ 7s ²	102 259.101 No Nobelium 2 8 18 32 32 8 2 [Rn]5f ¹⁴ 7s ²	103 [262] Lr Lawrencium 2 8 18 32 32 9 2 [Rn]5f ¹⁴ 6d ¹ 7s ²
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