

The Periodic Table of the Elements

by Robert Conson version 1.4

| | | | | | | | | | | | | | | | | | | | | | |
|----------|--|---|--|---|--|---|--|--|--|---|---|---|---|--|--|--|--|---|---|---|--|
| group 1 | | | | | | | | | | | | | | | | | 18 | | | | |
| period 1 | 1.00794 1312.0 2.20 H Hydrogen 1s ¹ | | | | | | | | | | | | | | | | | 4.002602 2372.3 He Helium 1s ² | | | |
| 2 | 6.941 520.2 0.98 Li Lithium 1s ² 2s ¹ | 9.012182 899.5 1.57 Be Beryllium 1s ² 2s ² | | | | | | | | | | | | | | | | | 18.998403 1681.0 3.98 F Fluorine 1s ² 2s ² 2p ⁵ | 20.1797 2080.7 Ne Neon 1s ² 2s ² 2p ⁶ | |
| 3 | 22.98976 495.8 0.93 Na Sodium [Ne] 3s ¹ | 24.3050 737.7 1.31 Mg Magnesium [Ne] 3s ² | | | | | | | | | | | | | | | | | 32.065 999.6 2.58 S Sulfur [Ne] 3s ² 3p ⁴ | 35.453 1251.2 3.16 Cl Chlorine [Ne] 3s ² 3p ⁵ | 39.948 1520.6 Ar Argon [Ne] 3s ² 3p ⁶ |
| 4 | 39.0983 418.8 0.82 K Potassium [Ar] 4s ¹ | 40.078 589.8 1.00 Ca Calcium [Ar] 4s ² | 44.95591 633.1 1.36 Sc Scandium [Ar] 3d ¹ 4s ² | 47.867 658.8 1.54 Ti Titanium [Ar] 3d ² 4s ² | 50.9415 650.9 1.63 V Vanadium [Ar] 3d ³ 4s ² | 51.9962 652.9 1.66 Cr Chromium [Ar] 3d ⁵ 4s ¹ | 54.93804 717.3 1.55 Mn Manganese [Ar] 3d ⁵ 4s ² | 55.845 762.5 1.83 Fe Iron [Ar] 3d ⁶ 4s ² | 58.93319 760.4 1.91 Co Cobalt [Ar] 3d ⁷ 4s ² | 58.6934 737.1 1.88 Ni Nickel [Ar] 3d ⁸ 4s ² | 63.546 745.5 1.90 Cu Copper [Ar] 3d ¹⁰ 4s ¹ | 65.38 906.4 1.65 Zn Zinc [Ar] 3d ¹⁰ 4s ² | 69.723 577.5 1.61 Ga Gallium [Ar] 3d ¹⁰ 4s ² 4p ¹ | 72.64 762.0 2.01 Ge Germanium [Ar] 3d ¹⁰ 4s ² 4p ² | 74.92160 947.0 2.18 As Arsenic [Ar] 3d ¹⁰ 4s ² 4p ³ | 78.96 941.0 2.55 Se Selenium [Ar] 3d ¹⁰ 4s ² 4p ⁴ | 79.904 1139.9 2.98 Br Bromine [Ar] 3d ¹⁰ 4s ² 4p ⁵ | 83.798 1350.8 3.00 Kr Krypton [Ar] 3d ¹⁰ 4s ² 4p ⁶ | | | |
| 5 | 85.4678 403.0 0.82 Rb Rubidium [Kr] 5s ¹ | 87.62 549.5 0.95 Sr Strontium [Kr] 5s ² | 88.90585 600.0 1.22 Y Yttrium [Kr] 4d ¹ 5s ² | 91.224 640.1 1.33 Zr Zirconium [Kr] 4d ² 5s ² | 92.90638 652.1 1.60 Nb Niobium [Kr] 4d ⁴ 5s ¹ | 95.96 684.3 2.16 Mo Molybdenum [Kr] 4d ⁵ 5s ¹ | (98) 702.0 1.90 Tc Technetium [Kr] 4d ⁵ 5s ² | 101.07 710.2 2.20 Ru Ruthenium [Kr] 4d ⁷ 5s ¹ | 102.9055 719.7 2.28 Rh Rhodium [Kr] 4d ⁸ 5s ¹ | 106.42 804.4 2.20 Pd Palladium [Kr] 4d ¹⁰ | 107.8682 731.0 1.93 Ag Silver [Kr] 4d ¹⁰ 5s ¹ | 112.441 867.8 1.69 Cd Cadmium [Kr] 4d ¹⁰ 5s ² | 114.818 558.3 1.78 In Indium [Kr] 4d ¹⁰ 5s ² 5p ¹ | 118.710 708.6 1.96 Sn Tin [Kr] 4d ¹⁰ 5s ² 5p ² | 121.760 834.0 2.05 Sb Antimony [Kr] 4d ¹⁰ 5s ² 5p ³ | 127.60 869.3 2.10 Te Tellurium [Kr] 4d ¹⁰ 5s ² 5p ⁴ | 126.9044 1008.4 2.66 I Iodine [Kr] 4d ¹⁰ 5s ² 5p ⁵ | 131.293 1170.4 2.60 Xe Xenon [Kr] 4d ¹⁰ 5s ² 5p ⁶ | | | |
| 6 | 132.9054 375.7 0.79 Cs Caesium [Xe] 6s ¹ | 137.327 502.9 0.89 Ba Barium [Xe] 6s ² | 174.9668 523.5 1.27 Lu Lutetium [Xe] 4f ¹⁴ 5d ¹ 6s ² | 178.49 658.5 1.20 Hf Hafnium [Xe] 4f ¹⁴ 5d ² 6s ² | 180.9478 761.0 1.50 Ta Tantalum [Xe] 4f ¹⁴ 5d ³ 6s ² | 183.84 770.0 2.36 W Tungsten [Xe] 4f ¹⁴ 5d ⁴ 6s ² | 186.207 760.0 1.90 Re Rhenium [Xe] 4f ¹⁴ 5d ⁵ 6s ² | 190.23 840.0 2.20 Os Osmium [Xe] 4f ¹⁴ 5d ⁶ 6s ² | 192.217 880.0 2.20 Ir Iridium [Xe] 4f ¹⁴ 5d ⁷ 6s ² | 195.084 870.0 2.28 Pt Platinum [Xe] 4f ¹⁴ 5d ⁹ 6s ¹ | 196.9665 890.1 2.54 Au Gold [Xe] 4f ¹⁴ 5d ¹⁰ 6s ¹ | 200.59 1007.1 2.00 Hg Mercury [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² | 204.3833 589.4 1.62 Tl Thallium [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹ | 207.2 703.0 2.02 Pb Lead [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ² | 208.9804 703.0 2.02 Bi Bismuth [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ³ | (210) 812.1 2.00 Po Polonium [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴ | (210) 890.0 2.20 At Astatine [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵ | (220) 1037.0 Rn Radon [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶ | | | |
| 7 | (223) 380.0 0.70 Fr Francium [Rn] 7s ¹ | (226) 509.3 0.90 Ra Radium [Rn] 7s ² | (262) 470.0 Lr Lawrencium [Rn] 5f ¹⁴ 7s ² 7p ¹ | (261) 580.0 Rf Rutherfordium [Rn] 5f ¹⁴ 6d ² 7s ² | (262) 105 Db Dubnium | (266) 106 Sg Seaborgium | (264) 107 Bh Bohrium | (277) 108 Hs Hassium | (268) 109 Mt Meitnerium | (271) 110 Ds Darmstadtium | (272) 111 Rg Roentgenium | (285) 112 Cn Copernicium | (284) 113 Uut Ununtrium | (289) 114 Uuq Ununquadium | (288) 115 Uup Ununpentium | (292) 116 Uuh Ununhexium | 117 Uus Ununseptium | (294) 118 Uuo Ununoctium | | | |

atomic mass
or most stable mass number
1st ionization energy
in kJ/mol

chemical symbol

name

electron configuration

atomic number

electronegativity

oxidation states
most common are bold

Fe

55.845 26

[Ar] 3d⁶ 4s²

+6
+5
+4
+3
+2
+1
-1
-2

alkali metals

alkaline metals

other metals

transition metals

lanthanoids

actinoids

metalloids

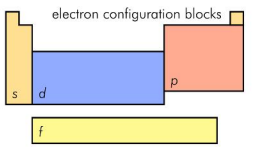
nonmetals

halogens

noble gases

unknown elements

radioactive elements have
masses in parenthesis



- notes
- as of yet, elements 113-118 have no official name designated by the IUPAC.
 - 1 kJ/mol ≈ 96.485 eV.
 - all elements are implied to have an oxidation state of zero.

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|--|--|---|---|---|---|---|---|---|---|--|---|--|---|
| 138.9054 538.1 1.10 La Lanthanum [Xe] 5d ¹ 6s ² | 140.116 534.4 1.12 Ce Cerium [Xe] 4f ¹ 5d ¹ 6s ² | 140.9076 527.0 1.13 Pr Praseodymium [Xe] 4f ³ 6s ² | 144.242 533.1 1.14 Nd Neodymium [Xe] 4f ⁴ 6s ² | (145) 540.0 Pm Promethium [Xe] 4f ⁵ 6s ² | 150.36 544.5 1.17 Sm Samarium [Xe] 4f ⁶ 6s ² | 151.964 547.1 Eu Europium [Xe] 4f ⁷ 6s ² | 157.25 593.4 1.20 Gd Gadolinium [Xe] 4f ⁷ 5d ¹ 6s ² | 158.9253 565.8 Tb Terbium [Xe] 4f ⁹ 6s ² | 162.500 573.0 1.22 Dy Dysprosium [Xe] 4f ¹⁰ 6s ² | 164.9303 581.0 1.23 Ho Holmium [Xe] 4f ¹¹ 6s ² | 167.259 589.3 1.24 Er Erbium [Xe] 4f ¹² 6s ² | 168.9342 596.7 1.25 Tm Thulium [Xe] 4f ¹³ 6s ² | 173.054 603.4 Yb Ytterbium [Xe] 4f ¹⁴ 6s ² |
| (227) 499.0 1.10 Ac Actinium [Rn] 6d ¹ 7s ² | 232.0380 587.0 1.30 Th Thorium [Rn] 6d ² 7s ² | 231.0358 568.0 1.50 Pa Protactinium [Rn] 5f ² 6d ¹ 7s ² | 238.0289 597.6 1.38 U Uranium [Rn] 5f ³ 6d ¹ 7s ² | (237) 604.5 1.36 Np Neptunium [Rn] 5f ⁴ 6d ¹ 7s ² | (244) 584.7 1.28 Pu Plutonium [Rn] 5f ⁶ 7s ² | (243) 578.0 1.30 Am Americium [Rn] 5f ⁷ 7s ² | (247) 581.0 1.30 Cm Curium [Rn] 5f ⁷ 6d ¹ 7s ² | (247) 601.0 1.30 Bk Berkelium [Rn] 5f ⁹ 7s ² | (251) 608.0 1.30 Cf Californium [Rn] 5f ¹⁰ 7s ² | (252) 619.0 1.30 Es Einsteinium [Rn] 5f ¹¹ 6s ² | (257) 627.0 1.30 Fm Fermium [Rn] 5f ¹² 7s ² | (258) 635.0 1.30 Md Mendelevium [Rn] 5f ¹³ 7s ² | (259) 642.0 1.30 No Nobelium [Rn] 5f ¹⁴ 7s ² |