

PERIODIC TABLE OF THE ELEMENTS

According to the Commission on Atomic Weights and Isotopic Abundances, International Union of Pure and Applied Chemistry (IUPAC) and the latest information. Atomic weights are relative to 1/12 the weight of the Carbon 12 atom.

METALS

NON METALS

SEMICONDUCTORS

d-ORBITAL

P-ORBITAL



| | | |
|--------------|-----|-------------|
| Hydrogen | 1 | 1.00794 |
| Helium | 2 | 4.00260 |
| Lithium | 3 | 6.941 |
| Beryllium | 4 | 9.01218 |
| Boron | 5 | 10.811 |
| Carbon | 6 | 12.011 |
| Nitrogen | 7 | 14.0067 |
| Oxygen | 8 | 15.9994 |
| Fluorine | 9 | 18.998403 |
| Neon | 10 | 20.1797 |
| Sodium | 11 | 22.98977 |
| Magnesium | 12 | 24.305 |
| Aluminum | 13 | 26.98154 |
| Silicon | 14 | 28.0855 |
| Phosphorus | 15 | 30.97376 |
| Sulfur | 16 | 32.06 |
| Chlorine | 17 | 35.453 |
| Argon | 18 | 39.948 |
| Potassium | 19 | 39.0983 |
| Calcium | 20 | 40.078 |
| Scandium | 21 | 44.9559 |
| Titanium | 22 | 47.88 |
| Vanadium | 23 | 50.9415 |
| Chromium | 24 | 51.996 |
| Manganese | 25 | 54.9380 |
| Iron | 26 | 55.847 |
| Cobalt | 27 | 58.9332 |
| Nickel | 28 | 58.69 |
| Copper | 29 | 63.546 |
| Zinc | 30 | 65.38 |
| Gallium | 31 | 69.723 |
| Germanium | 32 | 72.64 |
| Arsenic | 33 | 74.9216 |
| Selenium | 34 | 78.9718 |
| Bromine | 35 | 79.904 |
| Krypton | 36 | 83.80 |
| Rubidium | 37 | 85.4678 |
| Strontium | 38 | 87.62 |
| Yttrium | 39 | 88.9059 |
| Zirconium | 40 | 91.224 |
| Niobium | 41 | 92.9064 |
| Molybdenum | 42 | 95.94 |
| Technetium | 43 | (98) |
| Rhenium | 44 | 186.207 |
| Osmium | 45 | 192.22 |
| Iridium | 46 | 192.22 |
| Platinum | 47 | 195.08 |
| Gold | 48 | 196.96655 |
| Mercury | 49 | 200.59 |
| Thallium | 50 | 204.383 |
| Lead | 51 | 207.2 |
| Bismuth | 52 | 208.9804 |
| Polonium | 53 | (209) |
| Astatine | 54 | (210) |
| Radon | 55 | (222) |
| Francium | 56 | (223) |
| Radium | 57 | (226) |
| Actinium | 58 | (227) |
| Thorium | 59 | (232) |
| Protactinium | 60 | (231) |
| Uranium | 61 | (238) |
| Nephtunium | 62 | (237) |
| Plutonium | 63 | (244) |
| Americium | 64 | (243) |
| Curium | 65 | (247) |
| Berkelium | 66 | (247) |
| Californium | 67 | (251) |
| Einsteinium | 68 | (252) |
| Fermium | 69 | (257) |
| Mendelevium | 70 | (258) |
| Nobelium | 71 | (259) |
| Lanthanum | 72 | (138.9055) |
| Cerium | 73 | (140.12) |
| Praseodymium | 74 | (140.9077) |
| Neodymium | 75 | (144.24) |
| Europium | 76 | (151.96) |
| Gadolinium | 77 | (157.25) |
| Terbium | 78 | (158.925) |
| Dysprosium | 79 | (162.50) |
| Hoium | 80 | (164.9304) |
| Erbium | 81 | (167.255) |
| Thulium | 82 | (168.9342) |
| Ytterbium | 83 | (173.054) |
| Lutetium | 84 | (174.967) |
| Scandium | 85 | (44.9559) |
| Titanium | 86 | (47.88) |
| Vanadium | 87 | (50.9415) |
| Chromium | 88 | (51.996) |
| Manganese | 89 | (54.9380) |
| Iron | 90 | (55.847) |
| Cobalt | 91 | (58.9332) |
| Nickel | 92 | (58.69) |
| Copper | 93 | (63.546) |
| Zinc | 94 | (65.38) |
| Gallium | 95 | (69.723) |
| Germanium | 96 | (72.64) |
| Arsenic | 97 | (74.9216) |
| Selenium | 98 | (78.9718) |
| Bromine | 99 | (79.904) |
| Krypton | 100 | (83.80) |
| Rubidium | 101 | (85.4678) |
| Strontium | 102 | (87.62) |
| Yttrium | 103 | (88.9059) |
| Zirconium | 104 | (91.224) |
| Niobium | 105 | (92.9064) |
| Molybdenum | 106 | (95.94) |
| Technetium | 107 | (98) |
| Rhenium | 108 | (186.207) |
| Osmium | 109 | (192.22) |
| Iridium | 110 | (192.22) |
| Platinum | 111 | (195.08) |
| Gold | 112 | (196.96655) |
| Mercury | 113 | (200.59) |
| Thallium | 114 | (204.383) |
| Lead | 115 | (207.2) |
| Bismuth | 116 | (208.9804) |
| Polonium | 117 | (209) |
| Astatine | 118 | (210) |
| Radon | 119 | (222) |
| Francium | 120 | (223) |
| Radium | 121 | (226) |
| Actinium | 122 | (227) |
| Thorium | 123 | (232) |
| Protactinium | 124 | (231) |
| Uranium | 125 | (238) |
| Nephtunium | 126 | (237) |
| Plutonium | 127 | (244) |
| Americium | 128 | (243) |
| Curium | 129 | (247) |
| Berkelium | 130 | (247) |
| Californium | 131 | (251) |
| Einsteinium | 132 | (252) |
| Fermium | 133 | (257) |
| Mendelevium | 134 | (258) |
| Nobelium | 135 | (259) |
| Lanthanum | 136 | (138.9055) |
| Cerium | 137 | (140.12) |
| Praseodymium | 138 | (140.9077) |
| Neodymium | 139 | (144.24) |
| Europium | 140 | (151.96) |
| Gadolinium | 141 | (157.25) |
| Terbium | 142 | (158.925) |
| Dysprosium | 143 | (162.50) |
| Hoium | 144 | (164.9304) |
| Erbium | 145 | (167.255) |
| Thulium | 146 | (168.9342) |
| Ytterbium | 147 | (173.054) |
| Lutetium | 148 | (174.967) |

The subgroup designations 1 through 18 are those adopted in August 1984 by the Commission on Nomenclature of Inorganic Chemistry of IUPAC, and since accepted by the American Chemical Society (ACS) for use in its publications. They replace the A & B designations that were applied inconsistently in North America and Europe.

Elements 101-112: The Council of the International Union of Pure and Applied Chemistry (IUPAC) approved final recommendations for names of elements 101-109. Names have not been proposed as yet for elements 110-112 so those used here are IUPAC's temporary systematic names.

OXYGEN FAM

NITROGEN FAM

f-orbital

| | | |
|--------------|-----|----------|
| Lanthanum | 57 | 138.9055 |
| Cerium | 58 | 140.12 |
| Praseodymium | 59 | 140.9077 |
| Neodymium | 60 | 144.24 |
| Europium | 63 | 151.96 |
| Gadolinium | 64 | 157.25 |
| Terbium | 65 | 158.925 |
| Dysprosium | 66 | 162.50 |
| Hoium | 67 | 164.9304 |
| Erbium | 68 | 167.255 |
| Thulium | 69 | 168.9342 |
| Ytterbium | 70 | 173.054 |
| Lutetium | 71 | 174.967 |
| Actinium | 89 | 227.0278 |
| Thorium | 90 | 232.0381 |
| Protactinium | 91 | 231.0359 |
| Uranium | 92 | 238.0289 |
| Nephtunium | 93 | 237.0482 |
| Plutonium | 94 | 239.0521 |
| Americium | 95 | 243.0613 |
| Curium | 96 | 247.0712 |
| Berkelium | 97 | 247.0712 |
| Californium | 98 | 251.0833 |
| Einsteinium | 99 | 252.0833 |
| Fermium | 100 | 257.1036 |
| Mendelevium | 101 | 258.1036 |
| Nobelium | 102 | 259.1036 |
| Lutetium | 71 | 174.967 |
| Lu | 71 | 174.967 |
| Ytterbium | 70 | 173.054 |
| Yb | 70 | 173.054 |
| Thulium | 69 | 168.9342 |
| Tm | 69 | 168.9342 |
| Erbium | 68 | 167.255 |
| Er | 68 | 167.255 |
| Dysprosium | 66 | 162.50 |
| Dy | 66 | 162.50 |
| Hoium | 67 | 164.9304 |
| Ho | 67 | 164.9304 |
| Gadolinium | 64 | 157.25 |
| Gd | 64 | 157.25 |
| Terbium | 65 | 158.925 |
| Tb | 65 | 158.925 |
| Europium | 63 | 151.96 |
| Eu | 63 | 151.96 |
| Gadolinium | 64 | 157.25 |
| Gd | 64 | 157.25 |
| Terbium | 65 | 158.925 |
| Tb | 65 | 158.925 |
| Dysprosium | 66 | 162.50 |
| Dy | 66 | 162.50 |
| Hoium | 67 | 164.9304 |
| Ho | 67 | 164.9304 |
| Erbium | 68 | 167.255 |
| Er | 68 | 167.255 |
| Thulium | 69 | 168.9342 |
| Tm | 69 | 168.9342 |
| Ytterbium | 70 | 173.054 |
| Yb | 70 | 173.054 |
| Lutetium | 71 | 174.967 |
| Lu | 71 | 174.967 |
| Actinium | 89 | 227.0278 |
| Ac | 89 | 227.0278 |
| Thorium | 90 | 232.0381 |
| Th | 90 | 232.0381 |
| Protactinium | 91 | 231.0359 |
| Pa | 91 | 231.0359 |
| Uranium | 92 | 238.0289 |
| U | 92 | 238.0289 |
| Nephtunium | 93 | 237.0482 |
| Np | 93 | 237.0482 |
| Plutonium | 94 | 239.0521 |
| Pu | 94 | 239.0521 |
| Americium | 95 | 243.0613 |
| Am | 95 | 243.0613 |
| Curium | 96 | 247.0712 |
| Cm | 96 | 247.0712 |
| Berkelium | 97 | 247.0712 |
| Bk | 97 | 247.0712 |
| Californium | 98 | 251.0833 |
| Cf | 98 | 251.0833 |
| Einsteinium | 99 | 252.0833 |
| Ei | 99 | 252.0833 |
| Fermium | 100 | 257.1036 |
| Fm | 100 | 257.1036 |
| Mendelevium | 101 | 258.1036 |
| Md | 101 | 258.1036 |
| Nobelium | 102 | 259.1036 |
| Nb | 102 | 259.1036 |
| Lutetium | 71 | 174.967 |
| Lu | 71 | 174.967 |
| Ytterbium | 70 | 173.054 |
| Yb | 70 | 173.054 |
| Thulium | 69 | 168.9342 |
| Tm | 69 | 168.9342 |
| Erbium | 68 | 167.255 |
| Er | 68 | 167.255 |
| Dysprosium | 66 | 162.50 |
| Dy | 66 | 162.50 |
| Hoium | 67 | 164.9304 |
| Ho | 67 | 164.9304 |
| Gadolinium | 64 | 157.25 |
| Gd | 64 | 157.25 |
| Terbium | 65 | 158.925 |
| Tb | 65 | 158.925 |
| Europium | 63 | 151.96 |
| Eu | 63 | 151.96 |
| Gadolinium | 64 | 157.25 |
| Gd | 64 | 157.25 |
| Terbium | 65 | 158.925 |
| Tb | 65 | 158.925 |
| Dysprosium | 66 | 162.50 |
| Dy | 66 | 162.50 |
| Hoium | 67 | 164.9304 |
| Ho | 67 | 164.9304 |
| Erbium | 68 | 167.255 |
| Er | 68 | 167.255 |
| Thulium | 69 | 168.9342 |
| Tm | 69 | 168.9342 |
| Ytterbium | 70 | 173.054 |
| Yb | 70 | 173.054 |
| Lutetium | 71 | 174.967 |
| Lu | 71 | 174.967 |

KEY

| | | | |
|--|-----------------|-----------------|-----------------|
| Name of Element | Potassium | 19 | 19 |
| Atomic Number | 19 | 19 | 19 |
| Oxidation State | 1 | 1 | 1 |
| (Gold most stable valence number) | 1 | 1 | 1 |
| Electron Configuration | 4s ¹ | 4s ¹ | 4s ¹ |
| Atomic Weight | 39.0983 | 39.0983 | 39.0983 |
| Mass number of most stable isotope in () | 39 | 39 | 39 |
| Atomic Symbol | K | K | K |
| Atomic symbols in outline = synthetic elements | | | |

Science Kit & Boreal Laboratories

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