# Periodic Table of the Elements

| 1<br>IA<br>11A | 2<br>IIA<br>2A | 3<br>IIIB<br>3B | 4<br>IVB<br>4B | 5<br>VB<br>5B | 6<br>VIB<br>6B | 7<br>VIIB<br>7B | 8 | 9<br>VIII<br>8 | 10 | 11<br>IB<br>1B | 12<br>IIB<br>2B | 13<br>IIIA<br>3A | 14<br>IVA<br>4A | 15<br>VA<br>5A | 16<br>VIA<br>6A | 17<br>VIIA<br>7A | 18<br>VIIIA<br>8A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1<br>**H**<br>Hydrogen<br>1.008 | | | | | | | | | | | | | | | | | 2<br>**He**<br>Helium<br>4.003 |
| 3<br>**Li**<br>Lithium<br>6.941 | 4<br>**Be**<br>Beryllium<br>9.012 | | | | | | | | | | | 5<br>**B**<br>Boron<br>10.811 | 6<br>**C**<br>Carbon<br>12.011 | 7<br>**N**<br>Nitrogen<br>14.007 | 8<br>**O**<br>Oxygen<br>15.999 | 9<br>**F**<br>Fluorine<br>18.998 | 10<br>**Ne**<br>Neon<br>20.180 |
| 11<br>**Na**<br>Sodium<br>22.990 | 12<br>**Mg**<br>Magnesium<br>24.305 | | | | | | | | | | | 13<br>**Al**<br>Aluminum<br>26.982 | 14<br>**Si**<br>Silicon<br>28.086 | 15<br>**P**<br>Phosphorus<br>30.974 | 16<br>**S**<br>Sulfur<br>32.066 | 17<br>**Cl**<br>Chlorine<br>35.453 | 18<br>**Ar**<br>Argon<br>39.948 |
| 19<br>**K**<br>Potassium<br>39.098 | 20<br>**Ca**<br>Calcium<br>40.078 | 21<br>**Sc**<br>Scandium<br>44.956 | 22<br>**Ti**<br>Titanium<br>47.88 | 23<br>**V**<br>Vanadium<br>50.942 | 24<br>**Cr**<br>Chromium<br>51.996 | 25<br>**Mn**<br>Manganese<br>54.938 | 26<br>**Fe**<br>Iron<br>55.933 | 27<br>**Co**<br>Cobalt<br>58.933 | 28<br>**Ni**<br>Nickel<br>58.693 | 29<br>**Cu**<br>Copper<br>63.546 | 30<br>**Zn**<br>Zinc<br>65.39 | 31<br>**Ga**<br>Gallium<br>69.732 | 32<br>**Ge**<br>Germanium<br>72.61 | 33<br>**As**<br>Arsenic<br>74.922 | 34<br>**Se**<br>Selenium<br>78.09 | 35<br>**Br**<br>Bromine<br>79.904 | 36<br>**Kr**<br>Krypton<br>84.80 |
| 37<br>**Rb**<br>Rubidium<br>84.468 | 38<br>**Sr**<br>Strontium<br>87.62 | 39<br>**Y**<br>Yttrium<br>88.906 | 40<br>**Zr**<br>Zirconium<br>91.224 | 41<br>**Nb**<br>Niobium<br>92.906 | 42<br>**Mo**<br>Molybdenum<br>95.94 | 43<br>**Tc**<br>Technetium<br>98.907 | 44<br>**Ru**<br>Ruthenium<br>101.07 | 45<br>**Rh**<br>Rhodium<br>102.906 | 46<br>**Pd**<br>Palladium<br>106.42 | 47<br>**Ag**<br>Silver<br>107.868 | 48<br>**Cd**<br>Cadmium<br>112.411 | 49<br>**In**<br>Indium<br>114.818 | 50<br>**Sn**<br>Tin<br>118.71 | 51<br>**Sb**<br>Antimony<br>121.760 | 52<br>**Te**<br>Tellurium<br>127.6 | 53<br>**I**<br>Iodine<br>126.904 | 54<br>**Xe**<br>Xenon<br>131.29 |
| 55<br>**Cs**<br>Cesium<br>132.905 | 56<br>**Ba**<br>Barium<br>137.327 | 57-71 | 72<br>**Hf**<br>Hafnium<br>178.49 | 73<br>**Ta**<br>Tantalum<br>180.948 | 74<br>**W**<br>Tungsten<br>183.85 | 75<br>**Re**<br>Rhenium<br>186.207 | 76<br>**Os**<br>Osmium<br>190.23 | 77<br>**Ir**<br>Iridium<br>192.22 | 78<br>**Pt**<br>Platinum<br>195.08 | 79<br>**Au**<br>Gold<br>196.967 | 80<br>**Hg**<br>Mercury<br>200.59 | 81<br>**Tl**<br>Thallium<br>204.383 | 82<br>**Pb**<br>Lead<br>207.2 | 83<br>**Bi**<br>Bismuth<br>208.980 | 84<br>**Po**<br>Polonium<br>[208.982] | 85<br>**At**<br>Astatine<br>209.987 | 86<br>**Rn**<br>Radon<br>222.018 |
| 87<br>**Fr**<br>Francium<br>223.020 | 88<br>**Ra**<br>Radium<br>226.025 | 89-103 | 104<br>**Rf**<br>Rutherfordium<br>[261] | 105<br>**Db**<br>Dubnium<br>[262] | 106<br>**Sg**<br>Seaborgium<br>[266] | 107<br>**Bh**<br>Bohrium<br>[264] | 108<br>**Hs**<br>Hassium<br>[269] | 109<br>**Mt**<br>Meitnerium<br>[268] | 110<br>**Ds**<br>Darmstadtium<br>[269] | 111<br>**Rg**<br>Roentgenium<br>[272] | 112<br>**Cn**<br>Copernicium<br>[277] | 113<br>**Uut**<br>Ununtrium<br>unknown | 114<br>**Fl**<br>Flerovium<br>[289] | 115<br>**Uup**<br>Ununpentium<br>unknown | 116<br>**Lv**<br>Livermorium<br>[298] | 117<br>**Uus**<br>Ununseptium<br>unknown | 118<br>**Uuo**<br>Ununoctium<br>unknown |

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| Lanthanide Series | 57<br>**La**<br>Lanthanum<br>138.906 | 58<br>**Ce**<br>Cerium<br>140.115 | 59<br>**Pr**<br>Praseodymium<br>140.908 | 60<br>**Nd**<br>Neodymium<br>144.24 | 61<br>**Pm**<br>Promethium<br>144.913 | 62<br>**Sm**<br>Samarium<br>150.36 | 63<br>**Eu**<br>Europium<br>151.966 | 64<br>**Gd**<br>Gadolinium<br>157.25 | 65<br>**Tb**<br>Terbium<br>158.925 | 66<br>**Dy**<br>Dysprosium<br>162.50 | 67<br>**Ho**<br>Holmium<br>164.930 | 68<br>**Er**<br>Erbium<br>167.26 | 69<br>**Tm**<br>Thulium<br>168.934 | 70<br>**Yb**<br>Ytterbium<br>173.04 | 71<br>**Lu**<br>Lutetium<br>174.967 |
| Actinide Series | 89<br>**Ac**<br>Actinium<br>227.028 | 90<br>**Th**<br>Thorium<br>232.038 | 91<br>**Pa**<br>Protactinium<br>231.036 | 92<br>**U**<br>Uranium<br>238.029 | 93<br>**Np**<br>Neptunium<br>237.048 | 94<br>**Pu**<br>Plutonium<br>244.064 | 95<br>**Am**<br>Americium<br>243.061 | 96<br>**Cm**<br>Curium<br>247.070 | 97<br>**Bk**<br>Berkelium<br>247.070 | 98<br>**Cf**<br>Californium<br>251.080 | 99<br>**Es**<br>Einsteinium<br>[254] | 100<br>**Fm**<br>Fermium<br>257.095 | 101<br>**Md**<br>Mendelevium<br>258.1 | 102<br>**No**<br>Nobelium<br>259.101 | 103<br>**Lr**<br>Lawrencium<br>[262] |

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