

# Periodic Table of the Elements

|   |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                            |                           |                            |                           |                             |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|---------------------------|----------------------------|---------------------------|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|----------------------------|---------------------------|----------------------------|---------------------------|
| 1<br><b>H</b><br>1.01   |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                            |                           |                            |                           |                             |                           | 18<br><b>He</b><br>4.00   |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 3<br><b>Li</b><br>6.94  | 4<br><b>Be</b><br>9.01    |                           |                           |                           |                           |                           |                           |                           |                           |                           |                            | 5<br><b>B</b><br>10.81    | 6<br><b>C</b><br>12.01     | 7<br><b>N</b><br>14.01    | 8<br><b>O</b><br>16.00      | 9<br><b>F</b><br>19.00    | 10<br><b>Ne</b><br>20.18  |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 11<br><b>Na</b><br>22.99  | 12<br><b>Mg</b><br>24.31  |                           |                           |                           |                           |                           |                           |                           |                           |                           |                            | 13<br><b>Al</b><br>26.98  | 14<br><b>Si</b><br>28.09   | 15<br><b>P</b><br>30.97   | 16<br><b>S</b><br>32.07     | 17<br><b>Cl</b><br>35.45  | 18<br><b>Ar</b><br>39.95  |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 19<br><b>K</b><br>39.10   | 20<br><b>Ca</b><br>40.08  | 21<br><b>Sc</b><br>44.96  | 22<br><b>Ti</b><br>47.87  | 23<br><b>V</b><br>50.94   | 24<br><b>Cr</b><br>51.99  | 25<br><b>Mn</b><br>54.94  | 26<br><b>Fe</b><br>55.85  | 27<br><b>Co</b><br>58.93  | 28<br><b>Ni</b><br>58.69  | 29<br><b>Cu</b><br>63.55  | 30<br><b>Zn</b><br>65.38   | 31<br><b>Ga</b><br>69.72  | 32<br><b>Ge</b><br>72.63   | 33<br><b>As</b><br>74.92  | 34<br><b>Se</b><br>78.97    | 35<br><b>Br</b><br>79.90  | 36<br><b>Kr</b><br>83.80  |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 37<br><b>Rb</b><br>85.47  | 38<br><b>Sr</b><br>87.62  | 39<br><b>Y</b><br>88.91   | 40<br><b>Zr</b><br>91.22  | 41<br><b>Nb</b><br>92.91  | 42<br><b>Mo</b><br>95.95  | 43<br><b>Tc</b><br>98.91  | 44<br><b>Ru</b><br>101.07 | 45<br><b>Rh</b><br>102.91 | 46<br><b>Pd</b><br>106.42 | 47<br><b>Ag</b><br>107.87 | 48<br><b>Cd</b><br>112.41  | 49<br><b>In</b><br>114.82 | 50<br><b>Sn</b><br>118.71  | 51<br><b>Sb</b><br>121.76 | 52<br><b>Te</b><br>127.6    | 53<br><b>I</b><br>126.90  | 54<br><b>Xe</b><br>131.29 |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 55<br><b>Cs</b><br>132.91   | 56<br><b>Ba</b><br>137.33 | 57-71                     | 72<br><b>Hf</b><br>178.49 | 73<br><b>Ta</b><br>180.95 | 74<br><b>W</b><br>183.84  | 75<br><b>Re</b><br>186.21 | 76<br><b>Os</b><br>190.23 | 77<br><b>Ir</b><br>192.22 | 78<br><b>Pt</b><br>195.09 | 79<br><b>Au</b><br>196.97 | 80<br><b>Hg</b><br>200.59  | 81<br><b>Tl</b><br>204.38 | 82<br><b>Pb</b><br>207.2   | 83<br><b>Bi</b><br>208.98 | 84<br><b>Po</b><br>[208.98] | 85<br><b>At</b><br>209.99 | 86<br><b>Rn</b><br>222.02 |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| 87<br><b>Fr</b><br>223.02   | 88<br><b>Ra</b><br>226.03 | 89-103                    | 104<br><b>Rf</b><br>[261] | 105<br><b>Db</b><br>[262] | 106<br><b>Sg</b><br>[266] | 107<br><b>Bh</b><br>[264] | 108<br><b>Hs</b><br>[269] | 109<br><b>Mt</b><br>[278] | 110<br><b>Ds</b><br>[281] | 111<br><b>Rg</b><br>[280] | 112<br><b>Cn</b><br>[285]  | 113<br><b>Nh</b><br>[286] | 114<br><b>Fl</b><br>[289]  | 115<br><b>Mc</b><br>[289] | 116<br><b>Lv</b><br>[293]   | 117<br><b>Ts</b><br>[294] | 118<br><b>Og</b><br>[294] |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                          |                           |                           |                           |                           |                           |                           |                          |                            |                           |                            |                           |
| <table border="1"> <tr> <td>57<br/><b>La</b><br/>138.91</td> <td>58<br/><b>Ce</b><br/>140.12</td> <td>59<br/><b>Pr</b><br/>140.91</td> <td>60<br/><b>Nd</b><br/>144.24</td> <td>61<br/><b>Pm</b><br/>144.91</td> <td>62<br/><b>Sm</b><br/>150.36</td> <td>63<br/><b>Eu</b><br/>151.96</td> <td>64<br/><b>Gd</b><br/>157.25</td> <td>65<br/><b>Tb</b><br/>158.93</td> <td>66<br/><b>Dy</b><br/>162.50</td> <td>67<br/><b>Ho</b><br/>164.93</td> <td>68<br/><b>Er</b><br/>167.26</td> <td>69<br/><b>Tm</b><br/>168.93</td> <td>70<br/><b>Yb</b><br/>173.06</td> <td>71<br/><b>Lu</b><br/>174.97</td> </tr> <tr> <td>89<br/><b>Ac</b><br/>227.03</td> <td>90<br/><b>Th</b><br/>232.04</td> <td>91<br/><b>Pa</b><br/>231.04</td> <td>92<br/><b>U</b><br/>238.03</td> <td>93<br/><b>Np</b><br/>237.05</td> <td>94<br/><b>Pu</b><br/>244.06</td> <td>95<br/><b>Am</b><br/>243.06</td> <td>96<br/><b>Cm</b><br/>247.07</td> <td>97<br/><b>Bk</b><br/>247.07</td> <td>98<br/><b>Cf</b><br/>251.08</td> <td>99<br/><b>Es</b><br/>[254]</td> <td>100<br/><b>Fm</b><br/>257.10</td> <td>101<br/><b>Md</b><br/>258.1</td> <td>102<br/><b>No</b><br/>259.10</td> <td>103<br/><b>Lr</b><br/>[262]</td> </tr> </table> |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |                            |                           |                            |                           |                             |                           |                           | 57<br><b>La</b><br>138.91 | 58<br><b>Ce</b><br>140.12 | 59<br><b>Pr</b><br>140.91 | 60<br><b>Nd</b><br>144.24 | 61<br><b>Pm</b><br>144.91 | 62<br><b>Sm</b><br>150.36 | 63<br><b>Eu</b><br>151.96 | 64<br><b>Gd</b><br>157.25 | 65<br><b>Tb</b><br>158.93 | 66<br><b>Dy</b><br>162.50 | 67<br><b>Ho</b><br>164.93 | 68<br><b>Er</b><br>167.26 | 69<br><b>Tm</b><br>168.93 | 70<br><b>Yb</b><br>173.06 | 71<br><b>Lu</b><br>174.97 | 89<br><b>Ac</b><br>227.03 | 90<br><b>Th</b><br>232.04 | 91<br><b>Pa</b><br>231.04 | 92<br><b>U</b><br>238.03 | 93<br><b>Np</b><br>237.05 | 94<br><b>Pu</b><br>244.06 | 95<br><b>Am</b><br>243.06 | 96<br><b>Cm</b><br>247.07 | 97<br><b>Bk</b><br>247.07 | 98<br><b>Cf</b><br>251.08 | 99<br><b>Es</b><br>[254] | 100<br><b>Fm</b><br>257.10 | 101<br><b>Md</b><br>258.1 | 102<br><b>No</b><br>259.10 | 103<br><b>Lr</b><br>[262] |
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