**PERIODIC** **TABLE** **OF** **THE** **ELEMENTS**

**group→ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18** **1A**  **8A**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1**H**1.008 | **2A** |  |  |  |  |  |  |  |  |  |  | **3A** | **4A** | **5A** | **6A** | **7A** | 2**He**4.003 |
| 3**Li**6.941 | 4**Be**9.012 |  |  |  |  |  |  |  |  |  |  | 5**B**10.81 | 6**C**12.01 | 7**N**14.01 | 8**O**16.00 | 9**F**19.00 | 10**Ne**20.18 |
| 11**Na**22.99 | 12**Mg**24.31 | **3B** | **4B** | **5B** | **6B** | **7B** |  | **8B** |  | **1B** | **2B** | 13**Al**26.98 | 14**Si**28.09 | 15**P**30.97 | 16**S**32.07 | 17**Cl**35.45 | 18**Ar**39.95 |
| 19**K**39.10 | 20**Ca**40.08 | 21**Sc**44.96 | 22**Ti**47.88 | 23**V**50.94 | 24**Cr**52.00 | 25**Mn**54.94 | 26**Fe**55.85 | 27**Co**58.93 | 28**Ni**58.69 | 29**Cu**63.55 | 30**Zn**65.39 | 31**Ga**69.72 | 32**Ge**72.61 | 33**As**74.92 | 34**Se**78.96 | 35**Br**79.90 | 36**Kr**83.80 |
| 37**Rb**85.47 | 38**Sr**87.62 | 39**Y**88.91 | 40**Zr**91.22 | 41**Nb**92.91 | 42**Mo**95.94 | 43**Tc**(98) | 44**Ru**101.1 | 45**Rh**102.9 | 46**Pd**106.4 | 47**Ag**107.9 | 48**Cd**112.4 | 49**In**114.8 | 50**Sn**118.7 | 51**Sb**121.8 | 52**Te**127.6 | 53**I**126.9 | 54**Xe**131.3 |
| 55**Cs**132.9 | 56**Ba**137.3 | 57**La**138.9 | 72**Hf**178.5 | 73**Ta**181.0 | 74**W**183.8 | 75**Re**186.2 | 76**Os**190.2 | 77**Ir**192.2 | 78**Pt**195.1 | 79**Au**197.0 | 80**Hg**200.6 | 81**Tl**204.4 | 82**Pb**207.2 | 83**Bi**209.0 | 84**Po**(209) | 85**At**(210) | 86**Rn**(222) |
| 87**Fr**(223) | 88**Ra**226.0 | 89**Ac**227.0 | 104**Rf**(261) | 105**Db**(262) | 106**Sg**(263) | 107**Bh**(262) | 108**Hs**(265) | 109**Mt**(266) |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 58**Ce**140.1 | 59**Pr**140.9 | 60**Nd**144.2 | 61**Pm**(145) | 62**Sm**150.4 | 63**Eu**152.0 | 64**Gd**157.3 | 65**Tb**158.9 | 66**Dy**162.5 | 67**Ho**164.9 | 68**Er**167.3 | 69**Tm**168.9 | 70**Yb**173.0 | 71**Lu**175.0 |
| 90**Th**232.0 | 91**Pa**231.0 | 92**U**238.0 | 93**Np**237.0 | 94**Pu**(244) | 95**Am**(243) | 96**Cm**(247) | 97**Bk**(247) | 98**Cf**(251) | 99**Es**(252) | 100**Fm**(257) | 101**Md**(258) | 102**No**(259) | 103**Lr**(260) |

Other useful information: R = 0.0821 L atm/molK, = 62.4 L torr/mol K = 8.31 J/mol K. STP = 273 K and 1 atm, or 101.3 KPa, or 760 torr.