

Periodic Table of the Elements

Ground State Electron Configurations

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About Chemistry

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|--|--|--|--|--|--|--|--|--|--|--|--|---|--|---|--|---|--|--|---|---|---|---|---|----|--|----|--|----|--|
| 1A | | | | | | | | | | | | | | | | | 8A | | | | | | | | | | | | |
| 1 H 1s ¹ | | | | | | | | | | | | | | | | | 2 He 1s ² | | | | | | | | | | | | |
| 2A | | | | | | | | | | | | | | | | | | 3A | | 4A | | 5A | | 6A | | 7A | | 8A | |
| 3 Li 1s ² 2s ¹ | 4 Be 1s ² 2s ² | | | | | | | | | | | | | | | | | 5 B 1s ² 2s ² 2p ¹ | 6 C 1s ² 2s ² 2p ² | 7 N 1s ² 2s ² 2p ³ | 8 O 1s ² 2s ² 2p ⁴ | 9 F 1s ² 2s ² 2p ⁵ | 10 Ne 1s ² 2s ² 2p ⁶ | | | | | | |
| 11 Na [Ne] 3s ¹ | 12 Mg [Ne] 3s ² | | | | | | | | | | | | | | | | | 13 Al [Ne] 3s ² 3p ¹ | 14 Si [Ne] 3s ² 3p ² | 15 P [Ne] 3s ² 3p ³ | 16 S [Ne] 3s ² 3p ⁴ | 17 Cl [Ne] 3s ² 3p ⁵ | 18 Ar [Ne] 3s ² 3p ⁶ | | | | | | |
| | | 3B | | 4B | | 5B | | 6B | | 7B | | 8B | | | | 1B | | 2B | | | | | | | | | | | |
| 19 K [Ar] 4s ¹ | 20 Ca [Ar] 4s ² | 21 Sc [Ar] 3d ¹ 4s ² | 22 Ti [Ar] 3d ² 4s ² | 23 V [Ar] 3d ³ 4s ² | 24 Cr [Ar] 3d ⁵ 4s ¹ | 25 Mn [Ar] 3d ⁵ 4s ² | 26 Fe [Ar] 3d ⁶ 4s ² | 27 Co [Ar] 3d ⁷ 4s ² | 28 Ni [Ar] 3d ⁸ 4s ² | 29 Cu [Ar] 3d ¹⁰ 4s ¹ | 30 Zn [Ar] 3d ¹⁰ 4s ² | 31 Ga [Ar] 3d ¹⁰ 4s ² 4p ¹ | 32 Ge [Ar] 3d ¹⁰ 4s ² 4p ² | 33 As [Ar] 3d ¹⁰ 4s ² 4p ³ | 34 Se [Ar] 3d ¹⁰ 4s ² 4p ⁴ | 35 Br [Ar] 3d ¹⁰ 4s ² 4p ⁵ | 36 Kr [Ar] 3d ¹⁰ 4s ² 4p ⁶ | | | | | | | | | | | | |
| 37 Rb [Kr] 5s ¹ | 38 Sr [Kr] 5s ² | 39 Y [Kr] 4d ¹ 5s ² | 40 Zr [Kr] 4d ² 5s ² | 41 Nb [Kr] 4d ⁴ 5s ¹ | 42 Mo [Kr] 4d ⁵ 5s ¹ | 43 Tc [Kr] 4d ⁵ 5s ² | 44 Ru [Kr] 4d ⁷ 5s ¹ | 45 Rh [Kr] 4d ⁸ 5s ¹ | 46 Pd [Kr] 4d ¹⁰ | 47 Ag [Kr] 4d ¹⁰ 5s ¹ | 48 Cd [Kr] 4d ¹⁰ 5s ² | 49 In [Kr] 4d ¹⁰ 5s ² 5p ¹ | 50 Sn [Kr] 4d ¹⁰ 5s ² 5p ² | 51 Sb [Kr] 4d ¹⁰ 5s ² 5p ³ | 52 Te [Kr] 4d ¹⁰ 5s ² 5p ⁴ | 53 I [Kr] 4d ¹⁰ 5s ² 5p ⁵ | 54 Xe [Kr] 4d ¹⁰ 5s ² 5p ⁶ | | | | | | | | | | | | |
| 55 Cs [Xe] 6s ¹ | 56 Ba [Xe] 6s ² | Lanthanides | | 72 Hf [Xe] 4f ¹⁴ 5d ² 6s ² | 73 Ta [Xe] 4f ¹⁴ 5d ³ 6s ² | 74 W [Xe] 4f ¹⁴ 5d ⁴ 6s ² | 75 Re [Xe] 4f ¹⁴ 5d ⁵ 6s ² | 76 Os [Xe] 4f ¹⁴ 5d ⁶ 6s ² | 77 Ir [Xe] 4f ¹⁴ 5d ⁷ 6s ² | 78 Pt [Xe] 4f ¹⁴ 5d ⁹ 6s ¹ | 79 Au [Xe] 4f ¹⁴ 5d ¹⁰ 6s ¹ | 80 Hg [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² | 81 Tl [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ¹ | 82 Pb [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ² | 83 Bi [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ³ | 84 Po [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁴ | 85 At [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁵ | 86 Rn [Xe] 4f ¹⁴ 5d ¹⁰ 6s ² 6p ⁶ | | | | | | | | | | | |
| 87 Fr [Rn] 7s ¹ | 88 Ra [Rn] 7s ² | Actinides | | 104 Rf [Rn] 5f ¹⁴ 6d ² 7s ² | 105 Db [Rn] 5f ¹⁴ 6d ³ 7s ² | 106 Sg [Rn] 5f ¹⁴ 6d ⁴ 7s ² | 107 Bh [Rn] 5f ¹⁴ 6d ⁵ 7s ² | 108 Hs [Rn] 5f ¹⁴ 6d ⁶ 7s ² | 109 Mt [Rn] 5f ¹⁴ 6d ⁷ 7s ² | 110 Ds [Rn] 5f ¹⁴ 6d ⁸ 7s ² | 111 Rg [Rn] 5f ¹⁴ 6d ⁹ 7s ² | 112 Cn [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² | 113 Uut [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ¹ | 114 Fl [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ² | 115 Uup [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ³ | 116 Lv [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁴ | 117 Uus [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁵ | 118 Uuo [Rn] 5f ¹⁴ 6d ¹⁰ 7s ² 7p ⁶ | | | | | | | | | | | |

Lanthanides

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|--|--|--|---|--|--|--|--|--|---|---|--|--|--|--|
| 57 La [Xe] 5d ¹ 6s ² | 58 Ce [Xe] 4f ¹ 6s ² | 59 Pr [Xe] 4f ² 6s ² | 60 Nd [Xe] 4f ³ 6s ² | 61 Pm [Xe] 4f ⁴ 6s ² | 62 Sm [Xe] 4f ⁶ 6s ² | 63 Eu [Xe] 4f ⁷ 6s ² | 64 Gd [Xe] 4f ⁷ 5d ¹ 6s ² | 65 Tb [Xe] 4f ⁹ 6s ² | 66 Dy [Xe] 4f ¹⁰ 6s ² | 67 Ho [Xe] 4f ¹¹ 6s ² | 68 Er [Xe] 4f ¹² 6s ² | 69 Tm [Xe] 4f ¹³ 6s ² | 70 Yb [Xe] 4f ¹⁴ 6s ² | 71 Lu [Xe] 4f ¹⁴ 5d ¹ 6s ² |
| 89 Ac [Rn] 6d ¹ 7s ² | 90 Th [Rn] 6d ² 7s ² | 91 Pa [Rn] 5f ² 6d ¹ 7s ² | 92 U [Rn] 5f ³ 6d ¹ 7s ² | 93 Np [Rn] 5f ⁴ 6d ¹ 7s ² | 94 Pu [Rn] 5f ⁶ 6d ¹ 7s ² | 95 Am [Rn] 5f ⁷ 7s ² | 96 Cm [Rn] 5f ⁷ 6d ¹ 7s ² | 97 Bk [Rn] 5f ⁹ 6d ¹ 7s ² | 98 Cf [Rn] 5f ¹⁰ 6d ¹ 7s ² | 99 Es [Rn] 5f ¹¹ 6d ¹ 7s ² | 100 Fm [Rn] 5f ¹² 6d ¹ 7s ² | 101 Md [Rn] 5f ¹³ 6d ¹ 7s ² | 102 No [Rn] 5f ¹⁴ 6d ¹ 7s ² | 103 Lr [Rn] 5f ¹⁴ 6d ¹ 7s ² |

* values are based on theory and are not verified