

# PERIODIC TABLE OF THE ELEMENTS

1 IA																	18 VIIIA	
1 1 <b>H</b> Hydrogen 1.008 -1 +1	2 IIA												13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	2 0 <b>He</b> Helium 4.0026
2 3 <b>Li</b> Lithium 6.941 +1	4 2 <b>Be</b> Beryllium 9.012 +2											5 2-3 <b>B</b> Boron 10.811 +3	6 2-4 <b>C</b> Carbon 12.011 -4 +2 +4	7 2-5 <b>N</b> Nitrogen 14.007 -3 -2 -1 +1 +2 +3 +4 +5	8 2-6 <b>O</b> Oxygen 15.999 -2	9 2-7 <b>F</b> Fluorine 18.998 -1	10 2-8 0 <b>Ne</b> Neon 20.179	
3 11 <b>Na</b> Sodium 22.989 +1	12 2-8-2 <b>Mg</b> Magnesium 24.305 +2	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8 VIII B	9 VIII B	10 VIII B	11 IB	12 IIB	13 2-8-3 <b>Al</b> Aluminium 26.982 +3	14 2-8-4 <b>Si</b> Silicon 28.086 -4 +2 +4	15 2-8-5 <b>P</b> Phosphorus 30.974 -3 +3 +5	16 2-8-6 <b>S</b> Sulphur 32.065 -2 +2 +4 +6	17 2-8-7 <b>Cl</b> Chlorine 35.453 -1 +1 +3 +5 +7	18 2-8-8 0 <b>Ar</b> Argon 39.948	
4 19 <b>K</b> Potassium 39.098 +1	20 2-8-8-2 <b>Ca</b> Calcium 40.078 +2	21 2-8-9-2 <b>Sc</b> Scandium 44.956 +3	22 2-8-10-2 <b>Ti</b> Titanium 47.867 +4	23 2-8-11-2 <b>V</b> Vanadium 50.942 +2 +3 +4 +5	24 2-8-13-1 <b>Cr</b> Chromium 51.996 +2 +3 +6	25 2-8-13-2 <b>Mn</b> Manganese 54.938 +2 +3 +4 +7	26 2-8-14-2 <b>Fe</b> Iron 55.845 +2 +3	27 2-8-15-2 <b>Co</b> Cobalt 58.933 +2 +3	28 2-8-16-2 <b>Ni</b> Nickel 58.693 +2 +3	29 2-8-18-1 <b>Cu</b> Copper 63.546 +1 +2	30 2-8-18-2 <b>Zn</b> Zinc 65.387 +2	31 2-8-18-3 <b>Ga</b> Gallium 69.723 +3	32 2-8-18-4 <b>Ge</b> Germanium 72.64 -4 +2 +4	33 2-8-18-5 <b>As</b> Arsenic 74.922 -3 +3 +5	34 2-8-18-6 <b>Se</b> Selenium 78.971 -2 +2 +4 +6	35 2-8-18-7 <b>Br</b> Bromine 79.904 -1 +1 +3 +5	36 2-8-18-8 0 <b>Kr</b> Krypton 83.798 +2	
5 37 <b>Rb</b> Rubidium 85.468 +1	38 2-8-18-8-2 <b>Sr</b> Strontium 87.62 +2	39 2-8-18-9-2 <b>Y</b> Yttrium 88.906 +3	40 2-8-18-10-2 <b>Zr</b> Zirconium 91.224 +4	41 2-8-18-12-1 <b>Nb</b> Niobium 92.906 +3 +5	42 2-8-18-13-1 <b>Mo</b> Molybdenum 95.94 +4 +6	43 2-8-18-14-1 <b>Tc</b> Technetium (98) +4 +6 +7	44 2-8-18-15-1 <b>Ru</b> Ruthenium 101.07 +3	45 2-8-18-16-1 <b>Rh</b> Rhodium 102.906 +3	46 2-8-18-18 <b>Pd</b> Palladium 106.42 +2 +4	47 2-8-18-18-1 <b>Ag</b> Silver 107.868 +1	48 2-8-18-18-2 <b>Cd</b> Cadmium 112.414 +2	49 2-8-18-18-3 <b>In</b> Indium 114.818 +3	50 2-8-18-18-4 <b>Sn</b> Tin 118.71 +2 +4	51 2-8-18-18-5 <b>Sb</b> Antimony 121.76 -3 +3 +5	52 2-8-18-18-6 <b>Te</b> Tellurium 127.60 -2 +2 +4 +6	53 2-8-18-18-7 <b>I</b> Iodine 126.904 -1 +1 +5 +7	54 2-8-18-18-8 0 <b>Xe</b> Xenon 131.293 +2 +4 +6 +8	
6 55 <b>Cs</b> Caesium 132.905 +1	56 2-8-18-18-8-2 <b>Ba</b> Barium 137.327 +2	57-71 <b>La</b> Lanthanide	72 2-8-18-32-10-2 <b>Hf</b> Hafnium 178.486 +4	73 2-8-18-32-11-2 <b>Ta</b> Tantalum 180.947 +5	74 2-8-18-32-12-2 <b>W</b> Tungsten 183.84 +6	75 2-8-18-32-13-2 <b>Re</b> Rhenium 186.207 +4 +6 +7	76 2-8-18-32-14-2 <b>Os</b> Osmium 190.23 +3 +4	77 2-8-18-32-15-2 <b>Ir</b> Iridium 192.217 +3 +4	78 2-8-18-32-17-1 <b>Pt</b> Platinum 195.085 +2 +4	79 2-8-18-32-18-1 <b>Au</b> Gold 196.967 +1 +3	80 2-8-18-32-18-2 <b>Hg</b> Mercury 200.592 +1 +2	81 2-8-18-32-18-3 <b>Tl</b> Thallium 204.383 +1 +3	82 2-8-18-32-18-4 <b>Pb</b> Lead 207.2 +2 +4	83 2-8-18-32-18-5 <b>Bi</b> Bismuth 208.98 +3 +5	84 2-8-18-32-18-6 <b>Po</b> Polonium (209) +2 +4	85 2-8-18-32-18-7 <b>At</b> Astatine (210) -1	86 2-8-18-32-18-8 0 <b>Rn</b> Radon (222)	
7 87 <b>Fr</b> Francium (223) +1	88 -18-32-18-8-2 <b>Ra</b> Radium (226) +2	89-103 <b>Ac</b> Actinide	104 -18-32-32-10-2 <b>Rf</b> Rutherfordium (267) +4	105 -18-32-32-11-2 <b>Db</b> Dubnium (268) +5	106 -18-32-32-12-2 <b>Sg</b> Seaborgium (269) +6	107 -18-32-32-13-2 <b>Bh</b> Bohrium (270) +7	108 -18-32-32-14-2 <b>Hs</b> Hassium (269) +8	109 -18-32-32-15-2 <b>Mt</b> Meitnerium (278) +3 +4 +6	110 -18-32-32-16-2 <b>Ds</b> Darmstadtium (281) +6	111 -18-32-32-17-2 <b>Rg</b> Roentgenium (282) -1 +1 +3 +5	112 -18-32-32-18-2 <b>Cn</b> Copernicium (285) 0 +1 +2 +4	113 -18-32-32-18-3 <b>Nh</b> Nihonium (286) -1 +1 +3 +5	114 -18-32-32-18-4 <b>Fl</b> Flerovium (289) 0 +1 +2 +4 +6	115 -18-32-32-18-5 <b>Mc</b> Moscovium (290) +1 +3	116 -18-32-32-18-6 <b>Lv</b> Livermorium (293) -2 +2 +4	117 -18-32-32-18-7 <b>Ts</b> Tennessine (294) -1 +1 +3 +5	118 -18-32-32-18-8 -1 +1 +2 +4 +6 +8 <b>Og</b> Oganesson (294)	

Diagram illustrating the structure of a periodic table element cell (Carbon, C) and its associated data:

- Group IUPAC: 14
- Group CAS: IVA
- Atomic Number: 6
- Symbol: C
- Name: Carbon
- Electron Configuration: 2-4
- Selected Oxidation States: -4, +2, +4
- Atomic Mass: 12.011

Legend for element categories (at 25°C):

- Alkali metal (Blue)
- Alkaline earth metal (Light Blue)
- Metals (Grey)
- Other metals (Orange)
- Nonmetals (Green)
- Nobel gases (Purple)
- Lanthanoids (Red)
- Actinoids (Dark Red)
- Solid (Black)
- Liquid (Dark Blue)
- Gas (Red)
- Synthetic (Grey)

## Electron Shells

1	K	2	S	P	D	F
2	L	8	2	6		
3	M	18	2	6	10	
4	N	32	2	6	10	14
5	O	32	2	6	10	14
6	P	18	2	6	10	
7	Q	8	2	6		
8	R	2	2			

## Lanthanide

57 <b>La</b> Lanthanum 138.91 +3	58 <b>Ce</b> Cerium 140.12 +3 +4	59 <b>Pr</b> Praseodymium 140.91 +3	60 <b>Nd</b> Neodymium 144.24 +3	61 <b>Pm</b> Promethium (145) +3	62 <b>Sm</b> Samarium 150.36 +2 +3	63 <b>Eu</b> Europium 151.96 +2 +3	64 <b>Gd</b> Gadolinium 157.25 +3	65 <b>Tb</b> Terbium 158.93 +3	66 <b>Dy</b> Dysprosium 162.50 +3	67 <b>Ho</b> Holmium 164.93 +3	68 <b>Er</b> Erbium 167.26 +3	69 <b>Tm</b> Thulium 168.93 +3	70 <b>Yb</b> Ytterbium 173.04 +2 +3	71 <b>Lu</b> Lutetium 174.97 +3
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## Actinide

89 <b>Ac</b> Actinium (227) +3	90 <b>Th</b> Thorium 232.04 +4	91 <b>Pa</b> Protoactinium 231.04 +4 +5	92 <b>U</b> Uranium 238.03 +3 +4 +5 +6	93 <b>Np</b> Neptunium (237) +3 +4 +5 +6	94 <b>Pu</b> Plutonium (244) +3 +4 +5 +6	95 <b>Am</b> Americium (243) +3 +4 +5 +6	96 <b>Cm</b> Curium (247) +3 +4	97 <b>Bk</b> Berkelium (247) +3 +4	98 <b>Cf</b> Californium (251) +3	99 <b>Es</b> Einsteinium (252) +2 +3 +4	100 <b>Fm</b> Fermium (257) +2 +3	101 <b>Md</b> Mendelevium (258) +2 +3	102 <b>No</b> Nobelium (259) +2 +3	103 <b>Lr</b> Lawrencium (262) +3
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