

PERIODIC TABLE OF THE ELEMENTS

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Group		1	2											13	14	15	16	17	VIII		
		I	II											III	IV	V	VI	VII	VIIA		
		IA	IIA											IIIA	IVA	VA	VIA	VIIA			
Period	1	Period 1																		2 He helium 4.00 1s ²	
	2	3 Li lithium 6.94 2s ¹	4 Be beryllium 9.01 2s ²											5 B boron 10.81 2s ² 2p ¹	6 C carbon 12.01 2s ² 2p ²	7 N nitrogen 14.01 2s ² 2p ³	8 O oxygen 16.00 2s ² 2p ⁴	9 F fluorine 19.00 2s ² 2p ⁵	10 Ne neon 20.18 2s ² 2p ⁶		
	3	11 Na sodium 22.99 3s ¹	12 Mg magnesium 24.31 3s ²	3 IIIB	4 IVB	5 VB	6 VIB	7 VIIB	8	9	10	11 IB	12 IIB	13 Al aluminium 26.98 3s ² 3p ¹	14 Si silicon 28.09 3s ² 3p ²	15 P phosphorus 30.97 3s ² 3p ³	16 S sulfur 32.06 3s ² 3p ⁴	17 Cl chlorine 35.45 3s ² 3p ⁵	18 Ar argon 39.95 3s ² 3p ⁶		
	4	19 K potassium 39.10 4s ¹	20 Ca calcium 40.08 4s ²	21 Sc scandium 44.96 3d ¹ 4s ²	22 Ti titanium 47.87 3d ² 4s ²	23 V vanadium 50.94 3d ³ 4s ²	24 Cr chromium 52.00 3d ⁵ 4s ¹	25 Mn manganese 54.94 3d ⁵ 4s ²	26 Fe iron 55.84 3d ⁶ 4s ²	27 Co cobalt 58.93 3d ⁷ 4s ²	28 Ni nickel 58.69 3d ⁸ 4s ²	29 Cu copper 63.55 3d ¹⁰ 4s ¹	30 Zn zinc 65.41 3d ¹⁰ 4s ²	31 Ga gallium 69.72 4s ² 4p ¹	32 Ge germanium 72.64 4s ² 4p ²	33 As arsenic 74.92 4s ² 4p ³	34 Se selenium 78.96 4s ² 4p ⁴	35 Br bromine 79.90 4s ² 4p ⁵	36 Kr krypton 83.80 4s ² 4p ⁶		
	5	37 Rb rubidium 85.47 5s ¹	38 Sr strontium 87.62 5s ²	39 Y yttrium 88.91 4d ¹ 5s ²	40 Zr zirconium 91.22 4d ² 5s ²	41 Nb niobium 92.91 4d ⁴ 5s ¹	42 Mo molybdenum 95.94 4d ⁵ 5s ¹	43 Tc technetium (98) 4d ⁵ 5s ²	44 Ru ruthenium 101.07 4d ⁷ 5s ¹	45 Rh rhodium 102.90 4d ⁸ 5s ¹	46 Pd palladium 106.42 4d ¹⁰	47 Ag silver 107.87 4d ¹⁰ 5s ¹	48 Cd cadmium 112.41 4d ¹⁰ 5s ²	49 In indium 114.82 5s ² 5p ¹	50 Sn tin 118.71 5s ² 5p ²	51 Sb antimony 121.76 5s ² 5p ³	52 Te tellurium 127.60 5s ² 5p ⁴	53 I iodine 126.90 5s ² 5p ⁵	54 Xe xenon 131.29 5s ² 5p ⁶		
	6	55 Cs caesium 132.91 6s ¹	56 Ba barium 137.33 6s ²	57 La lanthanum 138.91 5d ¹ 6s ²	72 Hf hafnium 178.49 5d ² 6s ²	73 Ta tantalum 180.95 5d ³ 6s ²	74 W tungsten 183.84 5d ⁴ 6s ²	75 Re rhenium 186.21 5d ⁵ 6s ²	76 Os osmium 190.23 5d ⁶ 6s ²	77 Ir iridium 192.22 5d ⁷ 6s ²	78 Pt platinum 195.08 5d ⁹ 6s ¹	79 Au gold 196.97 5d ¹⁰ 6s ¹	80 Hg mercury 200.59 5d ¹⁰ 6s ²	81 Tl thallium 204.38 6s ² 6p ¹	82 Pb lead 207.2 6s ² 6p ²	83 Bi bismuth 208.98 6s ² 6p ³	84 Po polonium (209) 6s ² 6p ⁴	85 At astatine (210) 6s ² 6p ⁵	86 Rn radon (222) 6s ² 6p ⁶		
	7	87 Fr francium (223) 7s ¹	88 Ra radium (226) 7s ²	89 Ac actinium (227) 6d ¹ 7s ²	104 Rf rutherfordium (261) 6d ² 7s ²	105 Db dubnium (262) 6d ³ 7s ²	106 Sg seaborgium (266) 6d ⁴ 7s ²	107 Bh bohrium (264) 6d ⁵ 7s ²	108 Hs hassium (277) 6d ⁶ 7s ²	109 Mt meitnerium (268) 6d ⁷ 7s ²	110 Ds darmstadtium (271) 6d ⁸ 7s ²	111 Rg roentgenium (272) 6d ¹⁰ 7s ¹	112 Cp copernicium (277) 6d ¹⁰ 7s ²	113	114 Fl flerovium (289) 7s ² 7p ²	115	116 Lv livermorium (293) 7s ² 7p ⁴	117	118		
			6																Lanthanoids (lanthanides)		
			7																Actinoids (actinides)		
			Molar masses (atomic weights) quoted to the number of significant figures given here can be regarded as typical of most naturally occurring samples-																		
			58 Ce cerium 140.12 4f ¹ 5d ¹ 6s ²																		
			59 Pr praseodymium 140.91 4f ³ 6s ²																		
			60 Nd neodymium 144.24 4f ⁴ 6s ²																		
			61 Pm promethium (145) 4f ⁵ 6s ²																		
			62 Sm samarium 150.36 4f ⁶ 6s ²																		
			63 Eu europium 151.96 4f ⁷ 6s ²																		
			64 Gd gadolinium 157.25 4f ⁷ 5d ¹ 6s ²																		
			65 Tb terbium 158.93 4f ⁹ 6s ²																		
			66 Dy dysprosium 162.50 4f ¹⁰ 6s ²																		
			67 Ho holmium 164.93 4f ¹¹ 6s ²																		
			68 Er erbium 167.26 4f ¹² 6s ²																		
			69 Tm thulium 168.93 4f ¹³ 6s ²																		
			70 Yb ytterbium 173.04 4f ¹⁴ 6s ²																		
			71 Lu lutetium 174.97 5d ¹ 6s ²																		
			90 Th thorium 232.04 6d ² 7s ²																		
			91 Pa protactinium 231.04 5f ² 6d ¹ 7s ²																		
			92 U uranium 238.03 5f ³ 6d ¹ 7s ²																		
			93 Np neptunium (237) 5f ⁴ 6d ¹ 7s ²																		
			94 Pu plutonium (244) 5f ⁶ 7s ²																		
			95 Am americium (243) 5f ⁷ 7s ²																		
			96 Cm curium (247) 5f ⁷ 6d ¹ 7s ²																		
			97 Bk berkelium (247) 5f ⁹ 7s ²																		
			98 Cf californium (251) 5f ¹⁰ 7s ²																		
			99 Es einsteinium (252) 5f ¹¹ 7s ²																		
			100 Fm fermium (257) 5f ¹² 7s ²																		
			101 Md mendelevium (258) 5f ¹³ 7s ²																		
			102 No nobelium (259) 5f ¹⁴ 7s ²																		
			103 Lr lawrencium (262) 6d ¹ 7s ²																		

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