

Periodic Table

1 1A		Periodic Table																VIII B			
1 2.1 -259 -253 0.0899 37 H hydrogen 1.01		2 IIA		<div>Key</div> <div>atomic number → 26 electronegativity → 1.8 common ion charge → 3+ other ion charge → 2+ symbol of element → Fe (solids in black, liquids in blue, gases in red) atomic mass (u) → 55.85 atomic molar mass (g/mol) → 55.85 melting point (°C) → 1535 boiling point (°C) → 2750 density of solid (g/cm³) → 7.87 density of liquid (g/mL) → 7.87 density of gas at SATP (g/L) → 124 atomic radius (pm) → 124 name of element → iron</div>																	
3 1.0 181 1342 0.534 152 Li lithium 6.94		4 1.5 1278 2970 1.85 111 Be beryllium 9.01		3 IIIB		4 IVB		5 VB		6 VIB		7 VIIB		8		9					
11 0.9 97.8 883 0.971 186 Na sodium 22.99		12 1.2 649 1107 1.74 160 Mg magnesium 24.31		21 1.3 1541 2836 2.99 161 3+ Sc scandium 44.96		22 1.5 1660 3287 4.54 145 4+ 3+ Ti titanium 47.88		23 1.6 1890 3380 5.96 132 5+ 4+ V vanadium 50.94		24 1.6 1857 2672 7.20 125 3+ 2+ Cr chromium 52.00		25 1.5 1244 1962 7.20 124 2+ 4+ Mn manganese 54.94		26 1.8 1535 2750 7.87 124 3+ 2+ Fe iron 55.85		27 1.8 1495 2870 8.9 125 2+ 3+ Co cobalt 58.93					
37 0.8 63.3 760 0.862 227 K potassium 39.10		38 1.0 839 1484 1.54 197 Ca calcium 40.08		39 1.3 1522 3338 4.47 181 3+ Y yttrium 88.91		40 1.4 1852 4377 6.49 160 4+ Zr zirconium 91.22		41 1.6 2468 5127 8.57 143 5+ 3+ Nb niobium 92.91		42 1.8 2610 5560 10.2 136 6+ Mo molybdenum 95.94		43 1.9 2172 4877 11.5 136 7+ Tc technetium 98.91		44 2.2 2310 3900 12.4 133 3+ 4+ Ru ruthenium 101.07		45 2.2 1966 3727 12.4 135 3+ Rh rhodium 102.91					
55 0.7 28.4 669 1.88 265 Cs cesium 132.91		56 0.9 725 1640 3.5 217 Ba barium 137.33		71 1.2 1663 3402 9.84 188 3+ Lu lutetium 174.97		72 1.3 2227 4602 13.3 156 4+ Hf hafnium 178.49		73 1.5 2996 5425 16.6 143 5+ Ta tantalum 180.95		74 1.7 3410 5660 19.4 137 6+ W tungsten 183.85		75 1.9 3180 5627 21.0 137 7+ Re rhenium 186.21		76 2.2 2700 5300 22.5 134 4+ Os osmium 190.2		77 2.2 2410 4130 22.4 136 4+ Ir iridium 192.22					
87 0.7 27 677 — — Fr francium (223)		88 0.9 700 1140 5 215 Ra radium 226.03		103 — 1627 — — 3+ Lr lawrencium (260)		104 — — — — Rf rutherfordium (261)		105 — — — — Db dubnium (262)		106 — — — — Sg seaborgium (266)		107 — — — — Bh borium (264)		108 — — — — Hs hassium (269)		109 — — — — Mt meitnerium (268)					
				6		7		57 1.1 918 3464 6.15 195 3+ 2+ La lanthanum 138.90		58 1.1 798 3443 6.69 185 3+ Ce cerium 140.12		59 1.1 931 3520 6.64 185 3+ Pr praseodymium 140.91		60 1.2 1021 3074 7.01 185 3+ Nd neodymium 144.24		61 — 1042 3000 7.26 185 3+ Pm promethium (145)					
								89 1.1 1050 3200 10.1 195 3+ 2+ Ac actinium 227.03		90 1.3 1750 4790 11.7 180 4+ Th thorium 232.04		91 1.5 1600 — 15.4 180 5+ 4+ Pa protactinium 231.04		92 1.7 1132 3818 19.1 175 6+ 4+ U uranium 238.03		93 1.3 630 3902 20.5 175 5+ Np neptunium (237)					

of the Elements

of the Elements										18 VIIIA		1						
										2 — X	—272 —269 0.179 50							
										He helium 4.00								
										13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	2			
										5 2300 2.0 X	6 3550 4827 2.26 77	7 —210 —196 1.25 70	8 —218 —183 1.43 66	9 —220 —188 1.70 64	10 —249 —246 0.900 62			
										B boron 10.81	C carbon 12.01	N nitrogen 14.01	O oxygen 16.00	F fluorine 19.00	Ne neon 20.18			
										13 660 1.5 2467 2.70 143	14 1410 1.8 X 2355 2.33 117	15 44.1 2.1 280 1.82 110	16 113 2.5 445 2.07 104	17 —101 —34.6 3.21 99	18 —189 —186 1.78 95	3		
										Al aluminum 26.98	Si silicon 28.09	P phosphorus 30.97	S sulfur 32.06	Cl chlorine 35.45	Ar argon 39.95			
10	11 IB		12 IIB										4					
28 1.8 2+ 3+	1455 2730 8.90 124	29 1.9 2+ 1+	1083 2567 8.92 128	30 1.6 2+ 2+	420 907 7.14 133	31 1.6 3+ 3+	29.8 2403 5.90 122	32 1.8 4+ 4+	937 2830 5.35 123	33 817 613 5.73 121	34 217 684 4.81 117	35 —7.2 58.8 3.12 114	36 —157 —152 3.74 112	5				
Ni nickel 58.69	Cu copper 63.55		Zn zinc 65.38		Ga gallium 69.72		Ge germanium 72.61		As arsenic 74.92		Se selenium 78.96		Kr krypton 83.80					
46 2.2 2+ 4+	1554 2970 12.0 138	47 1.9 1+ 1+	962 2212 10.5 144	48 1.7 2+ 1+	321 765 8.64 149	49 1.7 3+ 3+	157 2080 7.30 163	50 1.8 4+ 2+	232 2270 7.31 140	51 631 1750 6.68 141	52 450 990 6.2 137	53 114 184 4.93 133	54 —112 —107 5.89 130	6				
Pd palladium 106.42	Ag silver 107.87		Cd cadmium 112.41		In indium 114.82		Sn tin 118.69		Sb antimony 121.75		Te tellurium 127.60		Xe xenon 131.29					
78 2.2 4+ 2+	1772 3827 21.5 138	79 2.4 3+ 1+	1064 2808 19.3 144	80 1.9 2+ 1+	—39.0 357 13.5 160	81 1.8 1+ 3+	304 1457 11.85 170	82 1.8 2+ 4+	328 1740 11.3 175	83 271 1560 9.80 155	84 254 962 9.40 167	85 302 337 — 142	86 —71 —61.8 9.73 140	7				
Pt platinum 195.08	Au gold 196.97		Hg mercury 200.59		Tl thallium 204.38		Pb lead 207.20		Bi bismuth 209.98		Po polonium (209)		Rn radon (222)					
110 — — —	111 — — —	112 — — —	113		114 — — —		115		116 — — —		117		118 — — —					
Uun ununnilium (269, 271)	Uuu unununium (272)		Uub ununbium (277)		Uuq ununquadium (285)		Uuh ununhexium (289)		Uuo ununoctium (293)									
62 1.2 3+ 2+	1074 1794 7.52 185	63 — 3+ 2+	822 1527 5.24 185	64 1.1 3+ 3+	1313 3273 7.90 180	65 1.2 3+ 3+	1356 3230 8.23 175	66 — 3+ 3+	1412 2567 8.55 175	67 1.2 3+ 3+	1474 2700 8.80 175	68 1.2 3+ 3+	1529 2868 9.07 175	69 1.2 3+ 3+	1545 1950 9.32 175	70 819 1196 6.97 175	8	
Sm samarium 150.36	Eu europium 151.96		Gd gadolinium 157.25		Tb terbium 158.92		Dy dysprosium 162.50		Ho holmium 164.93		Er erbium 167.26		Tm thulium 168.93		Yb ytterbium 173.04			
94 1.3 4+ 6+	641 3232 19.8 175	95 1.3 3+ 4+	994 2607 13.7 175	96 — 3+ 3+	1340 3110 13.5 —	97 — 3+ 4+	986 — 14 —	98 — 3+ 4+	900 — — —	99 — 3+ 3+	860 — — —	100 — 3+ 3+	1527 — — —	101 — 2+ 3+	1021 3074 — —	102 — 2+ 3+	863 — — —	9
Pu plutonium (244)	Am americium (243)		Cm curium (247)		Bk berkelium (247)		Cf californium (251)		Es einsteinium (252)		Fm fermium (257)		Md mendelevium (258)		No nobelium (259)			