PERIODIC TABLE OF THE ELEMENTS

KEY:

Field	Carbon example
Atomic Number	6
Atomic Mass	12.011
Element Symbol	C
Oxidation States (bold indicates most stable)	±4,+2
Electronegativity	2.55
Electronic Configuration	He $2s^22p^2$
Element Name	CARBON
Density at 300K (g/cm³) * indicates density in g/l of gaseous state at 273K and 1atm	2.27
Melting Point, K	3825
Boiling Point, K	5100
Atomic Radius (pm)	70
Ionic Radius (pm)	16
First Ionisation Potential, V	11.26

GROUPS 1–18 →
PERIODS 1–7 ↓

Period	Group	No.	Symbol	Name	Atomic Mass	Oxidation States	Electronegativity	Electronic Configuration	Density	Melting Point	Boiling Point	Atomic Radius	Ionic Radius	First Ionisation Potential
1	1	1	H	HYDROGEN	1.0079	±1	2.20	$1s^1$	0.090*	14.02	20.28	25	–	13.59
1	18	2	He	HELIUM	4.0026			$1s^2$	0.179*	–	4.22	31	–	24.59
2	1	3	Li	LITHIUM	6.941	+1	0.98	He $2s^1$	0.53	453.7	1615	145	76	5.391
2	2	4	Be	BERYLLIUM	9.012	+2	1.57	He $2s^2$	1.85	1560	2742	105	45	9.323
2	13	5	B	BORON	10.811	+3	2.04	He $2s^22p^1$	2.34	2349	4200	85	27	8.298
2	14	6	C	CARBON	12.011	±4,+2	2.55	He $2s^22p^2$	2.27	3825	5100	70	16	11.26
2	15	7	N	NITROGEN	14.007	+5,+4,±3,±2,±1	3.04	He $2s^22p^3$	1.25*	63.15	77.36	65	16	14.53
2	16	8	O	OXYGEN	15.999	-1 -2	3.44	He $2s^22p^4$	1.43*	54.36	90.20	60	140	13.62
2	17	9	F	FLUORINE	18.998	-1	3.98	He $2s^22p^5$	1.70*	53.53	85.03	57	133	17.42
2	18	10	Ne	NEON	20.180			He $2s^22p^6$	0.90*	24.56	27.07	51	–	21.56
3	1	11	Na	SODIUM	22.990	+1	0.93	Ne $3s^1$	0.97	370.9	1156	180	102	5.139
3	2	12	Mg	MAGNESIUM	24.305	+2	1.31	Ne $3s^2$	1.74	923.0	1363	150	72	7.646
3	13	13	Al	ALUMINIUM	26.982	+3	1.61	Ne $3s^23p^1$	2.70	933.5	2792	125	53.5	5.985
3	14	14	Si	SILICON	28.086	+4,−4,+2	1.90	Ne $3s^23p^2$	2.33	1687	3538	110	40	8.151
3	15	15	P	PHOSPHORUS	30.974	+5,±3	2.19	Ne $3s^23p^3$	1.82	317.3	550.0	100	44	10.48
3	16	16	S	SULFUR	32.065	+6,+4,±2	2.58	Ne $3s^23p^4$	2.08	388.4	717.8	100	184	10.36
3	17	17	Cl	CHLORINE	35.453	+7,+5,+3,±1	3.16	Ne $3s^23p^5$	3.17*	171.6	239.1	100	181	12.97
3	18	18	Ar	ARGON	39.948			Ne $3s^23p^6$	1.78*	83.80	87.30	71	–	15.76
4	1	19	K	POTASSIUM	39.098	+1	0.82	Ar $4s^1$	0.89	336.5	1032	220	138	4.341
4	2	20	Ca	CALCIUM	40.078	+2	1.00	Ar $4s^2$	1.55	1115	1757	180	100	6.113
4	3	21	Sc	SCANDIUM	44.956	+3	1.36	Ar $3d^14s^2$	2.99	1814	3109	160	74.5	6.562
4	4	22	Ti	TITANIUM	47.867	+4,+3,+2	1.54	Ar $3d^24s^2$	4.51	1941	3560	140	86	6.828
4	5	23	V	VANADIUM	50.942	+5,+4,+3,+2	1.63	Ar $3d^34s^2$	6.00	2183	3680	135	79	6.746
4	6	24	Cr	CHROMIUM	51.996	+6,+3,+2	1.66	Ar $3d^54s^1$	7.15	2180	2944	140	80	6.767
4	7	25	Mn	MANGANESE	54.938	+7,+6,+4,+3,+2	1.55	Ar $3d^54s^2$	7.21	1519	2334	140	83	7.434
4	8	26	Fe	IRON	55.845	+6,+3,+2	1.83	Ar $3d^64s^2$	7.86	1811	3134	140	78	7.903
4	9	27	Co	COBALT	58.933	+3,+2	1.88	Ar $3d^74s^2$	8.90	1768	3200	135	74.5	7.881
4	10	28	Ni	NICKEL	58.693	+3,+2	1.91	Ar $3d^84s^2$	8.91	1728	3186	135	69	7.639
4	11	29	Cu	COPPER	63.546	+3,+2,+1	1.90	Ar $3d^{10}4s^1$	8.96	1358	2835	135	77	7.727
4	12	30	Zn	ZINC	65.409	+2	1.65	Ar $3d^{10}4s^2$	7.14	692.7	1180	135	74	9.394
4	13	31	Ga	GALLIUM	69.723	+3	1.81	Ar $3d^{10}4s^24p^1$	5.91	302.9	2477	130	62	5.999
4	14	32	Ge	GERMANIUM	72.640	+4,+2	2.01	Ar $3d^{10}4s^24p^2$	5.32	1211	3106	125	73	7.890
4	15	33	As	ARSENIC	74.922	+5,±3	2.18	Ar $3d^{10}4s^24p^3$	5.73	1090	887.0	115	58	9.815
4	16	34	Se	SELENIUM	78.960	+6,+4,-2	2.55	Ar $3d^{10}4s^24p^4$	4.81	494.0	958.0	115	198	9.753
4	17	35	Br	BROMINE	79.904	+5,+3,±1	2. 96	Ar $3d^{10}4s^24p^5$	3.10	265.8	332.0	115	196	11.81
4	18	36	Kr	KRYPTON	83.798		3.00	Ar $3d^{10}4s^24p^6$	3.75*	115.8	119.9	88	–	13.99
5	1	37	Rb	RUBIDIUM	85.468	+1	0.82		1.53	312.4	961	235	152	4.177
5	2	38	Sr	STRONTIUM	87.620	+2	0.95		2.64	1050	1655	200	118	5.695
5	3	39	Y	YTTRIUM	88.906	+3	1.22	1799	4.47	1799	3609	180	90	6.220
5	4	40	Zr	ZIRCONIUM	91.224	+4	1.33		6.52	2128	4682	155	72	6.634
5	5	41	Nb	NIOBIUM	92.906	+5,+3	1.60		8.57	2750	5017	145	72	6.759
5	6	42	Mo	MOLYBDENUM	95.940	+6,+5,+4,+3,+2	2.16		10.3	2896	4912	145	69	7.092
5	7	43	Tc	TECHNETIUM	*98	+7+6,+4	1.90		11.0	2430	4538	135	64.5	7.280
5	8	44	Ru	RUTHENIUM	101.07	+8,+6,+4,+3,+2	2.20		12.5	2607	4423	130	68	7.361
5	9	45	Rh	RHODIUM	102.91	+5,+4,+3,+2	2.28		12.4	2237	3968	135	66.5	7.459
5	10	46	Pd	PALLADIUM	106.42	+4,+2	2.20		12.0	1828	3236	140	86	8.337
5	11	47	Ag	SILVER	107.87	+3,+2,+1	1.93		10.5	1235	2435	160	115	7.576
5	12	48	Cd	CADMIUM	112.41	+2	1.69		8.65	594.2	1040	155	95	8.994
5	13	49	In	INDIUM	114.82	+3,+1	1.78		7.31	429.7	2345	155	80	5.786
5	14	50	Sn	TIN	118.71	+4,+2	1.96		7.27	505.1	2875	145	93	7.344
5	15	51	Sb	ANTIMONY	121.76	+5,±3	2.05		6.70	903.8	1860	145	76	8.640
5	16	52	Te	TELLURIUM	127.60	+6,+4,-2	2.10		6.24	722.7	1261	140	221	9.010
5	17	53	I	IODINE	126.90	+7,+5,±1	2.66		4.93	386.9	457.4	140	220	10.45
5	18	54	Xe	XENON	131.29		2.60		5.89*	161.4	165.0	108	–	12.13
6	1	55	Cs	CESIUM	132.91	+1	0.79		1.93	301.6	944	260	167	3.894
6	2	56	Ba	BARIUM	137.33	+2	0.89		3.51	1000	2170	215	135	5.212
6	3	57-71	La-Lu	LANTHANIDES										
6	4	72	Hf	HAFNIUM	178.49	+4	1.30		13.3	2506	4876	167	71	6.825
6	5	73	Ta	TANTALUM	180.95	+5,+4,+3	1.50		16.7	3290	5731	149	72	7.890
6	6	74	W	TUNGSTEN	183.85	+6,+5,+4,+3,+2	2.36		19.3	3695	5828	141	66	7.980
6	7	75	Re	RHENIUM	186.21	+7,+6,+4,+3,+2	1.90		21.0	3459	5869	137	63	7.880
6	8	76	Os	OSMIUM	190.23	+8,+6,+4,+3,+2	2.20		22.6	3306	5285	135	63	8.710
6	9	77	Ir	IRIDIUM	192.22	+6,+4,+3,+2	2.20		22.6	2719	4701	136	68	9.120
6	10	78	Pt	PLATINUM	195.08	+6,+4,+2	2.28		21.5	2041	4098	139	80	9.020
6	11	79	Au	GOLD	196.97	+3,+1	2.54		19.3	1337	3129	146	137	9.225
6	12	80	Hg	MERCURY	200.59	+2,+1	2.00		13.5	234.3	629.9	160	119	10.44
6	13	81	Tl	THALLIUM	204.38	+3,+1	1.62		11.9	577.0	1746	171	150	6.109
6	14	82	Pb	LEAD	207.20	+4,+2	2.33		11.3	600.6	2022	175	119	7.417
6	15	83	Bi	BISMUTH	208.98	+5,+3	2.02		9.78	544.7	1837	170	103	7.288
6	16	84	Po	POLONIUM	*209	+6,+4,+2	2.00		9.20	527.0	1235	167	230	8.417
6	17	85	At	ASTATINE	*210	+7,+5,+3,±1	2.20		–	575	610	145	227	9.220
6	18	86	Rn	RADON	*222				0.97*	202.0	211.3	134	–	10.75
7	1	87	Fr	FRANCIUM	223.02	+1	0.70		1.87	300.0	950	270	180	3.940
7	2	88	Ra	RADIUM	226.02	+2	0.90		5.50	973	1413	233	143	5.278
7	3	89-103	Ac-Lr	ACTINIDES										
7	4	104	Rf	RUTHERFORDIUM	*261									
7	5	105	Db	DUBNIUM	*262									
7	6	106	Sg	SEABORGIUM	*266									
7	7	107	Bh	BOHRIUM	*264									
7	8	108	Hs	HASSIUM	*277									
7	9	109	Mt	MEITNERIUM	*268									
7	10	110	Ds	DARMSTADTIUM	*281									
7	11	111	Rg	ROENTGENIUM	*272									
7	12	112	Cn	COPERNICIUM	*285									
7	13	113	Nh	NIHONIUM	*284									
7	14	114	Fl	FLEROVIUM	*289									
7	15	115	Mc	MOSCOVIUM	*288									
7	16	116	Lv	LIVERMORIUM	*292									
7	17	117	Ts	TENNESSINE	*294									
7	18	118	Og	OGANESSON	*294									

LANTHANIDES

No.	Symbol	Name	Atomic Mass	Oxidation States
57	La	LANTHANUM	138.91	+3
58	Ce	CERIUM	140.12	+4,+3
59	Pr	PRASEODYMIUM	140.91	+4,+3
60	Nd	NEODYMIUM	144.24	+3
61	Pm	PROMETHIUM	*145	+3
62	Sm	SAMARIUM	150.36	+3,+2
63	Eu	EUROPIUM	151.97	+3,+2
64	Gd	GADOLINIUM	157.25	+3
65	Tb	TERBIUM	158.93	+4,+3
66	Dy	DYSPROSIUM	162.50	+3
67	Ho	HOLMIUM	164.93	+3
68	Er	ERBIUM	167.26	+3
69	Tm	THULIUM	168.93	+3
70	Yb	YTTERBIUM	173.04	+3,+2
71	Lu	LUTETIUM	174.97	+3

ACTINIDES

No.	Symbol	Name	Atomic Mass	Oxidation States
89	Ac	ACTINIUM	227.03	+3
90	Th	THORIUM	232.04	+4
91	Pa	PROTACTINIUM	231.04	+5,+4
92	U	URANIUM	238.03	+6,+5,+4,+3
93	Np	NEPTUNIUM	*237	+7,+6,+5,+4,+3
94	Pu	PLUTONIUM	*244	+6,+5,+4,+3
95	Am	AMERICIUM	*243	+6,+5,+4,+3
96	Cm	CURIUM	*247	+4,+3
97	Bk	BERKELIUM	*247	+4,+3,+2
98	Cf	CALIFORNIUM	*251	
99	Es	EINSTEINIUM	*252	
100	Fm	FERMIUM	*257	
101	Md	MENDELEVIUM	*258	
102	No	NOBELIUM	*259	
103	Lr	LAWRENCIUM	*260	

Alkali metals · Alkali earth metals · Transition metals · Rare earths · Basic metals · Metalloids · Non-metals · Halogens · Noble gases

Pb Solid · Br Liquid · He Gas

H Hydrogen · Og Not classified

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