

Appendix G | Abundances of the elements

Atomic number	Symbol	Element	Atomic weight	Relative abundance by number ^a
1	H	hydrogen	1.008	1.00
2	He	helium	4.003	1.45×10^{-1}
3	Li	lithium	6.939	1.00×10^{-9}
4	Be	beryllium	9.013	2.51×10^{-10}
5	B	boron	10.812	6.31×10^{-10}
6	C	carbon	12.012	3.02×10^{-4}
7	N	nitrogen	14.007	9.12×10^{-5}
8	O	oxygen	16.000	6.76×10^{-4}
9	F	fluorine	18.999	2.51×10^{-7}
10	Ne	neon	20.184	2.75×10^{-4}
11	Na	sodium	22.991	1.66×10^{-6}
12	Mg	magnesium	24.313	2.88×10^{-5}
13	Al	aluminum	26.982	1.91×10^{-6}
14	Si	silicon	28.09	2.95×10^{-5}
15	P	phosphorus	30.975	3.39×10^{-7}
16	S	sulphur	32.066	1.66×10^{-5}
17	Cl	chlorine	35.454	2.51×10^{-7}
18	Ar	argon	39.949	4.17×10^{-6}
19	K	potassium	39.103	7.59×10^{-8}
20	Ca	calcium	40.08	1.66×10^{-6}
21	Sc	scandium	44.958	8.13×10^{-10}
22	Ti	titanium	47.90	6.61×10^{-8}
23	V	vanadium	50.944	6.03×10^{-9}
24	Cr	chromium	52.00	2.40×10^{-7}
25	Mn	manganese	54.940	1.26×10^{-7}
26	Fe	iron	55.849	7.94×10^{-6}
27	Co	cobalt	58.936	5.25×10^{-8}
28	Ni	nickel	58.71	8.51×10^{-7}
29	Cu	copper	63.55	4.47×10^{-8}
30	Zn	zinc	65.37	1.91×10^{-8}
31	Ga	gallium	69.72	2.82×10^{-10}
32	Ge	germanium	72.60	1.51×10^{-9}
33	As	arsenic	74.924	2.0×10^{-10}
34	Se	selenium	78.96	1.6×10^{-9}
35	Br	bromine	79.912	4.0×10^{-10}
36	Kr	krypton	83.80	1.6×10^{-9}
37	Rb	rubidium	85.48	2.24×10^{-10}
38	Sr	strontium	87.63	5.62×10^{-10}
39	Y	yttrium	88.908	2.51×10^{-10}
40	Zr	zirconium	91.22	2.5×10^{-10}
41	Nb	niobium	92.91	5.0×10^{-11}
42	Mo	molybdenum	95.95	8.32×10^{-11}
43	Tc	technetium	99.0	

44	Ru	ruthenium	101.07	3.31×10^{-11}
45	Rh	rhodium	102.91	6.03×10^{-12}
46	Pd	palladium	106.4	1.78×10^{-11}
47	Ag	silver	107.874	5.0×10^{-12}
48	Cd	cadmium	112.41	3.16×10^{-11}
49	In	indium	114.82	7.9×10^{-12}
50	Sn	tin	118.70	3.55×10^{-11}
51	Sb	antimony	121.78	4.0×10^{-11}
52	Te	tellurium	127.61	1.0×10^{-10}
53	I	iodine	126.909	2.5×10^{-11}
54	Xe	xenon	131.30	1.0×10^{-10}
55	Cs	caesium	132.91	1.3×10^{-11}
56	Ba	barium	137.35	1.29×10^{-10}
57	La	lanthanum	138.92	2.5×10^{-11}
58	Ce	cerium	140.13	4.0×10^{-11}
59	Pr	praseodymium	140.913	6.3×10^{-12}
60	Nd	neodymium	144.25	3.2×10^{-11}
61	Pm	promethium	147.0	
62	Sm	samarium	150.36	1.0×10^{-11}
63	Eu	europium	151.96	5.0×10^{-12}
64	Gd	gadolinium	157.25	1.3×10^{-11}
65	Tb	terbium	158.930	2.5×10^{-12}
66	Dy	dysprosium	162.50	1.6×10^{-11}
67	Ho	holmium	164.937	3.2×10^{-12}
68	Er	erbium	167.27	7.9×10^{-12}
69	Tm	thulium	168.941	1.3×10^{-12}
70	Yb	ytterbium	173.04	1.3×10^{-11}
71	Lu	lutecium	174.98	2.0×10^{-12}
72	Hf	hafnium	178.50	4.0×10^{-12}
73	Ta	tantalum	180.955	2.0×10^{-12}
74	W	tungsten	183.86	1.3×10^{-11}
75	Re	rhenium	186.3	4.0×10^{-12}
76	Os	osmium	190.2	2.0×10^{-11}
77	Ir	iridium	192.2	1.6×10^{-11}
78	Pt	platinum	195.10	4.0×10^{-11}
79	Au	gold	196.977	5.0×10^{-12}
80	Hg	mercury	200.60	7.9×10^{-12}
81	Tl	thallium	204.38	3.2×10^{-12}
82	Pb	lead	207.20	4.0×10^{-11}
83	Bi	bismuth	208.988	5.0×10^{-12}
84	Po	polonium	210.0	
85	At	astatine	211.0	
86	Rn	radon	222.0	
87	Fr	francium	223.0	
88	Ra	radium	226.05	
89	Ac	actinium	227.0	
90	Th	thorium	232.047	2.0×10^{-12}
91	Pa	protactinium	231.0	
92	U	uranium	238.03	1.0×10^{-12}

(Continued)

Atomic number	Symbol	Element	Atomic weight	Relative abundance by number ^a
93	Np	neptunium	237.05	
94	Pu	plutonium	242.0	
95	Am	americium	242.0	
96	Cm	curium	245.0	
97	Bk	berkelium	248.0	
98	Cf	californium	252.0	
99	Es	einsteinium	253.0	
100	Fm	fermium	257.0	
101	Md	mendelevium	257.0	
102	No	nobelium	255.0	
103	Lr	lawrencium	256.0	
104	Rf	rutherfordium	261.0	
105	Ha	hahnium	262.0	

^aAbundances are by number, relative to hydrogen. These represent the best determinations of solar or Solar System abundances. No entry means that the abundance is not well determined.