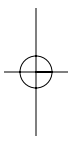
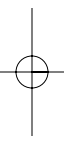
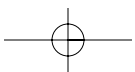


PERIODIC TABLE OF THE ELEMENTS

		Alkali metals (except H)		Alkaline earth metals		Atomic number		Atomic mass		Group designation		Halogens		Noble gases				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 H 1.008	2 He 4.003	3 Li 6.941	4 Be 9.012	5 B 10.81	6 C 12.01	7 N 14.01	8 O 16.00	9 F 19.00	10 Ne 20.18	11 Na 22.99	12 Mg 24.31	13 Al 26.98	14 Si 28.09	15 P 30.97	16 S 32.06	17 Cl 35.45	18 Ar 39.95
2	19 K 39.10	20 Ca 40.08	21 Sc 44.96	22 Ti 47.87	23 V 50.94	24 Cr 52.00	25 Mn 54.94	26 Fe 55.85	27 Co 58.93	28 Ni 58.69	29 Cu 63.55	30 Zn 65.41	31 Ga 69.72	32 Ge 72.64	33 As 74.92	34 Se 78.96	35 Br 79.90	36 Kr 83.80
3	37 Rb 85.47	38 Sr 87.62	39 Y 88.91	40 Zr 91.22	41 Nb 92.91	42 Mo 95.94	43 Tc [98]	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.76	52 Te 127.60	53 I 126.90	54 Xe 131.29
4	55 Cs 132.91	56 Ba 137.33	57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm [145]	62 Sm 150.36	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97	
5	87 Fr [223]	88 Ra [226]	89 Ac [227]	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np [237]	94 Pu [244]	95 Am [243]	96 Cm [247]	97 Bk [247]	98 Cf [251]	99 Es [252]	100 Fm [257]	101 Md [258]	102 No [259]	103 Lr [262]	
6	55 Cs 132.91	56 Ba 137.33	57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm [145]	62 Sm 150.36	63 Eu 151.96	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.04	71 Lu 174.97	
7	87 Fr [223]	88 Ra [226]	89 Ac [227]	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np [237]	94 Pu [244]	95 Am [243]	96 Cm [247]	97 Bk [247]	98 Cf [251]	99 Es [252]	100 Fm [257]	101 Md [258]	102 No [259]	103 Lr [262]	

Lanthanides

Actinides



ATOMIC MASSES OF THE ELEMENTS

Data from *International Union of Pure and Applied Chemistry (IUPAC)*, 2006.

Name	Symbol	Atomic number	Atomic Mass*	Notes	Name	Symbol	Atomic number	Atomic Mass*	Notes
Actinium	Ac	89	[227]	5	Neodymium	Nd	60	144.242(3)	1
Aluminum	Al	13	26.9815386(8)		Neon	Ne	10	20.1797(6)	1, 3
Americium	Am	95	[243]	5	Neptunium	Np	93	[237]	5
Antimony	Sb	51	121.760(1)	1	Nickel	Ni	28	58.6934(2)	
Argon	Ar	18	39.948(1)	1, 2	Niobium	Nb	41	92.90638(2)	
Arsenic	As	33	74.92160(2)		Nitrogen	N	7	14.0067(2)	1, 2
Astatine	At	85	[210]	5	Nobelium	No	102	[259]	5
Barium	Ba	56	137.327(7)		Osmium	Os	76	190.23(3)	1
Berkelium	Bk	97	[247]	5	Oxygen	O	8	15.9994(3)	1, 2
Beryllium	Be	4	9.012182(3)		Palladium	Pd	46	106.42(1)	1
Bismuth	Bi	83	208.98040(1)		Phosphorus	P	15	30.973762(2)	
Bohrium	Bh	107	[272]	5	Platinum	Pt	78	195.084(9)	
Boron	B	5	10.811(7)	1, 2, 3	Plutonium	Pu	94	[244]	5
Bromine	Br	35	79.904(1)		Polonium	Po	84	[209]	5
Cadmium	Cd	48	112.411(8)	1	Potassium	K	19	39.0983(1)	1
Calcium	Ca	20	40.078(4)	1	Praseodymium	Pr	59	140.90765(2)	
Californium	Cf	98	[251]	5	Promethium	Pm	61	[145]	5
Carbon	C	6	12.0107(8)	1, 2	Protactinium	Pa	91	231.03588(2)	5
Cerium	Ce	58	140.116(1)	1	Radium	Ra	88	[226]	5
Cesium	Cs	55	132.9054519(2)		Radon	Rn	86	[222]	5
Chlorine	Cl	17	35.453(2)	3	Rhenium	Re	75	186.207(1)	
Chromium	Cr	24	51.9961(6)		Rhodium	Rh	45	102.90550(2)	
Cobalt	Co	27	58.933195(5)		Roentgenium	Rg	111	[280]	5
Copper	Cu	29	63.546(3)	2	Rubidium	Rb	37	85.4678(3)	1
Curium	Cm	96	[247]	5	Ruthenium	Ru	44	101.07(2)	1
Darmstadtium	Ds	110	[281]	5	Rutherfordium	Rf	104	[267]	5
Dubnium	Db	105	[268]	5	Samarium	Sm	62	150.36(2)	1
Dysprosium	Dy	66	162.500(1)	1	Scandium	Sc	21	44.955912(6)	
Einsteinium	Es	99	[252]	5	Seaborgium	Sg	106	[271]	5
Erbium	Er	68	167.259(3)	1	Selenium	Se	34	78.96(3)	
Europium	Eu	63	151.964(1)	1	Silicon	Si	14	28.0855(3)	2
Fermium	Fm	100	[257]	5	Silver	Ag	47	107.8682(2)	1
Fluorine	F	9	18.9984032(5)		Sodium	Na	11	22.98976928(2)	
Francium	Fr	87	[223]	5	Strontium	Sr	38	87.62(1)	1, 2
Gadolinium	Gd	64	157.25(3)	1	Sulfur	S	16	32.065(5)	1, 2
Gallium	Ga	31	69.723(1)		Tantalum	Ta	73	180.94788(2)	
Germanium	Ge	32	72.64(1)		Technetium	Tc	43	[98]	5
Gold	Au	79	196.966569(4)		Tellurium	Te	52	127.60(3)	1
Hafnium	Hf	72	178.49(2)		Terbium	Tb	65	158.92535(2)	
Hassium	Hs	108	[270]	5	Thallium	Tl	81	204.3833(2)	
Helium	He	2	4.002602(2)	1, 2	Thorium	Th	90	232.03806(2)	1, 5
Holmium	Ho	67	164.93032(2)		Thulium	Tm	69	168.93421(2)	
Hydrogen	H	1	1.00794(7)	1, 2, 3	Tin	Sn	50	118.710(7)	1
Indium	In	49	114.818(3)		Titanium	Ti	22	47.867(1)	
Iodine	I	53	126.90447(3)		Tungsten	W	74	183.84(1)	
Iridium	Ir	77	192.217(3)		Ununbium	Uub	112	[285]	5, 6
Iron	Fe	26	55.845(2)		Ununhexium	Uuh	116	[293]	5, 6
Krypton	Kr	36	83.798(2)	1, 3	Ununoctium	Uuo	118	[294]	5, 6
Lanthanum	La	57	138.90547(7)	1	Ununpentium	Uup	115	[288]	5, 6
Lawrencium	Lr	103	[262]	5	Ununquadium	Uuq	114	[289]	5, 6
Lead	Pb	82	207.2(1)	1, 2	Ununtrium	Uut	113	[284]	5, 6
Lithium	Li	3	6.941(2)	1, 2, 3, 4	Uranium	U	92	238.02891(3)	1, 3, 5
Lutetium	Lu	71	174.967(1)	1	Vanadium	V	23	50.9415(1)	
Magnesium	Mg	12	24.3050(6)		Xenon	Xe	54	131.293(6)	1, 3
Manganese	Mn	25	54.938045(5)		Ytterbium	Yb	70	173.04(3)	1
Meitnerium	Mt	109	[276]	5	Yttrium	Y	39	88.90585(2)	
Mendelevium	Md	101	[258]	5	Zinc	Zn	30	65.409(4)	
Mercury	Hg	80	200.59(2)		Zirconium	Zr	40	91.224(2)	1
Molybdenum	Mo	42	95.94(2)	1					

* A number in parentheses at the end of an atomic mass is the uncertainty in the preceding digit.

NOTES

1 Geological specimens are known in which the element has an isotopic composition outside the limits for normal material. The difference between the atomic mass of the element in such specimens and that given in the Table may exceed the stated uncertainty.

2 Range in isotopic composition of normal terrestrial material prevents a more precise value being given; the tabulated value should be applicable to any normal material.

3 Modified isotopic compositions may be found in commercially available material because it has been subject to an undisclosed or inadvertent isotopic fractionation. Substantial deviations in atomic mass of the element from that given in the Table can occur.

4 Commercially available Li materials have atomic masses that range between 6.939 and 6.996; if a more accurate value is required, it must be determined for the specific material.

5 Element has no stable nuclides. The value enclosed in brackets, e.g. [209], indicates the mass number of the longest-lived isotope of the element. However three such elements (Th, Pa, and U) do have a characteristic terrestrial isotopic composition, and for these an atomic mass is tabulated.

6 The names and symbols for elements 112-118 are under review. The temporary system recommended by J. Chatt, *Pure Appl. Chem.*, 51, 381-384 (1979) is used above.