

SCIENCE *periodic table of the elements*

GROUP	Transition Metals										Main Group Elements														
	1	2	3-10										11	12	13	14	15	16	17	18					
	IA	IIA	IIIB-VIIB										VIII	IX	10	IIIA	IVA	VA	VIA	VIIA	VIIIA				
PERIOD	Atomic Mass																								
1	H hydrogen [1.007, 1.009]																		He helium 4.003						
2	Li lithium [6.938, 6.997]	Be beryllium 9.012																		B boron [10.80, 10.83]	C carbon [12.00, 12.02]	N nitrogen [14.00, 14.01]	O oxygen [15.99, 16.00]	F fluorine 19.00	Ne neon 20.18
3	Na sodium [22.99, 23.00]	Mg magnesium [24.30, 24.31]											Al aluminum 26.98	Si silicon [28.08, 28.09]	P phosphorus 30.97	S sulfur [32.05, 32.08]	Cl chlorine [35.44, 35.46]	Ar argon 39.95							
4	K potassium 39.10	Ca calcium 40.08	Sc scandium 44.96	Ti titanium 47.87	V vanadium 50.94	Cr chromium 52.00	Mn manganese 54.94	Fe iron 55.85	Co cobalt 58.93	Ni nickel 58.69	Cu copper 63.55	Zn zinc 65.38	Ga gallium 69.72	Ge germanium 72.63	As arsenic 74.92	Se selenium 78.97	Br bromine [79.90, 79.91]	Kr krypton 83.80							
5	Rb rubidium 85.47	Sr strontium 87.62	Y yttrium 88.91	Zr zirconium 91.22	Nb niobium 92.91	Mo molybdenum 95.95	Tc technetium (98)	Ru ruthenium 101.07	Rh rhodium 101.07	Pd palladium 106.42	Ag silver 107.87	Cd cadmium 112.41	In indium 114.82	Sn tin 118.71	Sb antimony 121.76	Te tellurium 127.6	I iodine 126.9	Xe xenon 131.3							
6	Cs caesium 132.9	Ba barium 137.3	Lanthanoids		Ta tantalum 180.9	W tungsten 183.8	Re rhenium 186.2	Rf rutherfordium (261)	Hf hafnium 178.5	Tl thallium 204.4	Pb lead 207.2	Bi bismuth 208.98	Po polonium (209)	At astatine (210)	Rn radon (222)										
7	Fr francium (223)	Ra radium (226)	Actinoids		Ac actinium (227)	Th thorium (232)	Pa protactinium (231)	U uranium (238)	Np neptunium (237)	Pu plutonium (244)	Am americium (243)	Cm curium (247)	Bk berkelium (247)	Cf californium (251)	Es einsteinium (252)	Fm fermium (257)	Er erbium (167)	Tm thulium (169)	Yb ytterbium (173)	Lu lutetium (175)					
	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71										
	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu										
	lanthanum 138.90547	cerium 140.116	praseodymium 140.907	neodymium 144.242	promethium (145)	samarium 150.36	europium 151.964	gadolinium 157.25	terbium 158.92535	dysprosium 162.500	holmium 164.93033	erbium 167.259	thulium 168.93422	ytterbium 173.054	lutetium 174.9668										
	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103										
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr										
	actinium (227)	thorium 232.0377	protactinium 231.03688	uranium 238.02891	neptunium (237)	plutonium (244)	americium (243)	curium (247)	berkelium (247)	californium (251)	einsteinium (252)	fermium (257)	mendeleevium (258)	nobelium (259)	lawrencium (262)										

DO NOT SUBMIT FOR PRINT REVIEW ONLY

Group IA (excluding Hydrogen) comprises the alkali metals.
 Group IIA comprises the alkaline-earth metals.
 Group VIIIA comprises the noble gases.

* IUPAC conventional atomic weights;
 standard atomic weights for these elements are expressed in intervals; see iupac.org for an explanation and values. ** Numbering system adopted by IUPAC. *** Numbering system widely used from the mid-20th century. () indicates the mass number of the longest-lived isotope.