

1 (IA)	2 (IIA)	3 (IIIB)	4 (IVB)	5 (VB)	6 (VIB)	7 (VIIB)	8 ----- (VIII) -----	9 (IB)	10 (IIB)	11 (IIIB)	12 (IIIB)	13 (IIIA)	14 (IVA)	15 (VA)	16 (VIA)	17 (VIIA)	18 (VIIIA)																																																	
1 H 1.00794*	2 He 4.00260	3 Li 6.941*	4 Be 9.01218	5 Na 22.9898	6 Mg 24.3050	7 Al 26.9815	8 Si 28.0855*	9 P 30.9738	10 S 32.065*	11 Cl 35.453*	12 Ar 39.948	13 K 39.0983	14 Ca 40.078	15 Sc 44.9559	16 Ti 47.867	17 V 50.9415	18 Cr 51.9961	19 Mn 54.9380	20 Fe 55.845	21 Co 58.9332	22 Ni 58.6934	23 Cu 63.546	24 Zn 65.38	25 Ga 69.723	26 Ge 72.63	27 As 74.9216	28 Se 78.96	29 Br 79.904	30 Kr 83.798	31 Rb 85.4678	32 Sr 87.62	33 Y 88.9059	34 Zr 91.224	35 Nb 92.9064	36 Mo 95.96	37 Tc [98]	38 Ru 101.07	39 Rh 102.906	40 Pd 106.42	41 Ag 107.868	42 Cd 112.411	43 In 114.818	44 Sn 118.710	45 Sb 121.760	46 Te 127.60	47 I 126.904	48 Xe 131.293	49 Cs 132.905	50 Ba 137.327	51 La 138.906	52 Pr 140.908	53 Ce 140.116	54 Th 232.038	55 Pa 231.036	56 U 238.029	57 Np [237]	58 Pu [244]	59 Am [243]	60 Cm [247]	61 Bk [247]	62 Cf [251]	63 Es [252]	64 Fm [257]	65 Md [258]	66 No [259]	67 Lr [262]

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**THE PERIODIC TABLE
OF THE ELEMENTS**

UPDATED 11/2016

Note: The IUPAC has assigned each of the ten elements marked with asterisks a range of atomic mass values instead of the solitary value listed in this table. The exact values of those ranges are available at IUPAC.org.

Lanthanoids	58 Ce 140.116	59 Pr 140.908	60 Nd 144.24	61 Pm [145]	62 Sm 150.36	63 Eu 151.964	64 Gd 157.25	65 Tb 158.925	66 Dy 162.500	67 Ho 164.930	68 Er 167.259	69 Tm 168.934	70 Yb 173.1	71 Lu 174.967
Actinoids	90 Th 232.038	91 Pa 231.036	92 U 238.029	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]

Common Multiple Charge Cations

Antimony(III) or antimonous	Sb ³⁺
Antimony(V) or antimonic	Sb ⁵⁺
Bismuth(III) or bismuthous	Bi ³⁺
Bismuth(V) or bismuthic	Bi ⁵⁺
Chromium(II) or chromous	Cr ²⁺
Chromium(III) or chromic	Cr ³⁺
Cobalt(II) or cobaltous	Co ²⁺
Cobalt(III) or cobaltic	Co ³⁺
Copper(I) or cuprous	Cu ⁺
Copper(II) or cupric	Cu ²⁺
Gold(I) or aurous	Au ⁺
Gold(III) or auric	Au ³⁺
Iron(II) or ferrous	Fe ²⁺
Iron(III) or ferric	Fe ³⁺
Lead(II) or plumbous	Pb ²⁺
Lead(IV) or plumbic	Pb ⁴⁺
Manganese(II) or manganous	Mn ²⁺
Manganese(III) or manganic	Mn ³⁺
Mercury(I) or mercurous	Hg ₂ ²⁺
Mercury(II) or mercuric	Hg ²⁺
Nickel(II) or nickelous	Ni ²⁺
Nickel(III) or nickelic	Ni ³⁺
Thallium(I) or thallos	Tl ⁺
Thallium(III) or thallic	Tl ³⁺
Tin(II) or stannous	Sn ²⁺
Tin(IV) or stannic	Sn ⁴⁺
Titanium(III) or titanous	Ti ³⁺
Titanium(IV) or titanic	Ti ⁴⁺

Single charge cations in the transition metals

Silver	Ag ⁺
Cadmium	Cd ²⁺
Zinc	Zn ²⁺

Common Polyatomics

Positively Charged

Ammonium	NH ₄ ⁺
Hydronium	H ₃ O ⁺
Mercury(I) or mercurous	Hg ₂ ²⁺

Negatively Charged

Acetate	C ₂ H ₃ O ₂ ⁻
Arsenate	AsO ₄ ³⁻
Bicarbonate (hydrogen carbonate)	HCO ₃ ⁻
Borate	BO ₃ ³⁻
Bromate	BrO ₃ ⁻
Carbonate	CO ₃ ²⁻
Chlorate	ClO ₃ ⁻
Chromate	CrO ₄ ²⁻
Cyanate	OCN ⁻
Cyanide	CN ⁻
Dichromate	Cr ₂ O ₇ ²⁻
Hydroxide	OH ⁻
Iodate	IO ₃ ⁻
Nitrate	NO ₃ ⁻
Oxalate	C ₂ O ₄ ²⁻
Manganate	MnO ₄ ²⁻
Permanganate	MnO ₄ ⁻
Peroxide	O ₂ ²⁻
Phosphate	PO ₄ ³⁻
Sulfate	SO ₄ ²⁻
Thiocyanate	SCN ⁻
Thiosulfate	S ₂ O ₃ ²⁻

'Ladder' guidelines (mainly halogens)

per - ? - ate	? O _(x+1) ^{y-}
? - ate	? O _x ^{y-}
? - ite	? O _(x-1) ^{y-}
hypo - ? - ite	? O _(x-2) ^{y-}
thio - ?	Swap O ²⁻ w/ S ²⁻

bi-? (or hydrogen ?) Add **H**⁺ (account for charge)

"The best way out is always through." - Robert Frost