

Periodic Table of the Elements

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1A										http://chemistry.about.com ©2008 Todd Helmenstine About Chemistry										8A	
1 H 1.00794 Hydrogen																		2 He 4.002602 Helium			
3 Li 6.941 Lithium	4 Be 9.012182 Beryllium															5 B 10.811 Boron	6 C 12.0107 Carbon	7 N 14.0067 Nitrogen	8 O 15.9994 Oxygen	9 F 18.9984032 Fluorine	10 Ne 20.1797 Neon
11 Na 22.989769 Sodium	12 Mg 24.3050 Magnesium	3B	4B	5B	6B	7B	8B			1B	2B	13 Al 26.9815386 Aluminum	14 Si 28.0855 Silicon	15 P 30.973762 Phosphorus	16 S 32.065 Sulfur	17 Cl 35.453 Chlorine	18 Ar 39.948 Argon				
19 K 39.0983 Potassium	20 Ca 40.078 Calcium	21 Sc 44.955912 Scandium	22 Ti 47.887 Titanium	23 V 50.9415 Vanadium	24 Cr 51.9961 Chromium	25 Mn 54.938045 Manganese	26 Fe 55.845 Iron	27 Co 58.933195 Cobalt	28 Ni 58.6934 Nickel	29 Cu 63.546 Copper	30 Zn 65.38 Zinc	31 Ga 69.723 Gallium	32 Ge 72.64 Germanium	33 As 74.92160 Arsenic	34 Se 78.96 Selenium	35 Br 79.904 Bromine	36 Kr 83.798 Krypton				
37 Rb 85.4678 Rubidium	38 Sr 87.62 Strontium	39 Y 88.90585 Yttrium	40 Zr 91.224 Zirconium	41 Nb 92.90638 Niobium	42 Mo 95.96 Molybdenum	43 Tc [98] Technetium	44 Ru 101.07 Ruthenium	45 Rh 102.90550 Rhodium	46 Pd 106.42 Palladium	47 Ag 107.8682 Silver	48 Cd 112.411 Cadmium	49 In 114.818 Indium	50 Sn 118.710 Tin	51 Sb 121.760 Antimony	52 Te 127.60 Tellurium	53 I 126.90447 Iodine	54 Xe 131.293 Xenon				
55 Cs 132.9054519 Cesium	56 Ba 137.327 Barium	57 La 138.90547 Lanthanum	72 Hf 178.49 Hafnium	73 Ta 180.94788 Tantalum	74 W 183.84 Tungsten	75 Re 186.207 Rhenium	76 Os 190.23 Osmium	77 Ir 192.217 Iridium	78 Pt 195.084 Platinum	79 Au 196.966569 Gold	80 Hg 200.59 Mercury	81 Tl 204.3833 Thallium	82 Pb 207.2 Lead	83 Bi 208.98040 Bismuth	84 Po [209] Polonium	85 At [210] Astatine	86 Rn [222] Radon				
87 Fr [223] Francium	88 Ra [226] Radium	89 Ac [227] Actinium	104 Rf [267] Rutherfordium	105 Db [268] Dubnium	106 Sg [271] Seaborgium	107 Bh [272] Bohrium	108 Hs [270] Hassium	109 Mt [276] Meitnerium	110 Ds [281] Darmstadtium	111 Rg [280] Roentgenium	112 Uub [285] Ununbium	113 Uut [284] Ununtrium	114 Uuq [289] Ununquadium	115 Uup [288] Ununpentium	116 Uuh [293] Ununhexium	117 Uus [294] Ununseptium	118 Uuo [294] Ununoctium				

Lanthanides

Actinides

58 Ce 140.116 Cerium	59 Pr 140.90765 Praseodymium	60 Nd 144.242 Neodymium	61 Pm [145] Promethium	62 Sm 150.36 Samarium	63 Eu 151.964 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.92535 Terbium	66 Dy 162.500 Dysprosium	67 Ho 164.93032 Holmium	68 Er 167.259 Erbium	69 Tm 168.93421 Thulium	70 Yb 173.054 Ytterbium	71 Lu 174.9668 Lutetium
90 Th 232.03806 Thorium	91 Pa 231.03588 Protactinium	92 U 238.02891 Uranium	93 Np [237] Neptunium	94 Pu [244] Plutonium	95 Am [243] Americium	96 Cm [247] Curium	97 Bk [247] Berkelium	98 Cf [251] Californium	99 Es [252] Einsteinium	100 Fm [257] Fermium	101 Md [258] Mendelevium	102 No [259] Nobelium	103 Lr [262] Lawrencium

A Periodic Table of Ions

Table of Polyatomic Ions

acetate	$C_2H_3O_2^{1-}$	dichromate	$Cr_2O_7^{2-}$	dihydrogen phosphate	$H_2PO_4^{1-}$
ammonium	NH_4^{1+}	cyanide	CN^{1-}		
benzoate	$C_6H_5COO^{1-}$	hydroxide	OH^{1-}	silicate	SiO_3^{2-}
borate	BO_3^{3-}	iodate	IO_3^{1-}	sulfate	SO_4^{2-}
carbonate	CO_3^{2-}	nitrate	NO_3^{1-}	sulfite	SO_3^{2-}
hydrogen carbonate	HCO_3^{1-}	nitrite	NO_2^{1-}	hydrogen sulfide	HS^{1-}
perchlorate	ClO_4^{1-}	oxalate	$C_2O_4^{2-}$	hydrogen sulfate	HSO_4^{1-}
chlorate	ClO_3^{1-}	permanganate	MnO_4^{1-}	hydrogen sulfite	HSO_3^{1-}
chlorite	ClO_2^{1-}	phosphate	PO_4^{3-}	thiocyanate	SCN^{1-}
hypochlorite	ClO^{1-}	hydrogen phosphate	HPO_4^{2-}	thiosulfate	$S_2O_3^{2-}$
chromate	CrO_4^{2-}				

IA 1	IIA 2											IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	VIIIA 18	
1 H ⁺ 2.1	4 Be ²⁺ 1.5	acetate	C ₂ H ₃ O ₂ ⁻	dichromate	Cr ₂ O ₇ ²⁻	dihydrogen												
		ammonium	NH ₄ ⁺	cyanide	CN ¹⁻	phosphate	H ₂ PO ₄ ¹⁻											
		benzoate	C ₆ H ₅ COO ¹⁻															
		borate	BO ₃ ³⁻	hydroxide	OH ¹⁻	silicate	SiO ₃ ²⁻											
		carbonate	CO ₃ ²⁻	iodate	IO ₃ ¹⁻	sulfate	SO ₄ ²⁻											
		hydrogen carbonate	HCO ₃ ¹⁻	nitrate	NO ₃ ¹⁻	sulfite	SO ₃ ²⁻											
		perchlorate	ClO ₄ ¹⁻	nitrite	NO ₂ ¹⁻	hydrogen sulfide	HS ¹⁻											
3 Li ⁺ 1.0	12 Mg ²⁺ 1.2	chlorate	ClO ₃ ¹⁻	oxalate	C ₂ O ₄ ²⁻	hydrogen sulfate	HSO ₄ ¹⁻											
		chlorite	ClO ₂ ¹⁻	permanganate	MnO ₄ ¹⁻	hydrogen sulfite	HSO ₃ ¹⁻											
		hypochlorite	ClO ¹⁻	phosphate	PO ₄ ³⁻	thiocyanate	SCN ¹⁻											
		chromate	CrO ₄ ²⁻	hydrogen phosphate	HPO ₄ ²⁻	thiosulfate	S ₂ O ₃ ²⁻											
11 Na ⁺ .9	12 Mg ²⁺ 1.2	IIIB 3	IVB 4	VB 5	VIB 6	VIIB 7	VIII B 8 9 10		IB 11	II B 12	5 B 2.0	6 C 2.5	7 N ³⁻ 3.0	8 O ²⁻ 3.5	9 F ¹⁻ 4.0	10 Ne		
19 K ⁺ .8	20 Ca ²⁺ 1.0	21 Sc ³⁺	22 Ti ⁴⁺ Ti ³⁺	23 V ⁵⁺ V ⁴⁺	24 Cr ³⁺ Cr ²⁺	25 Mn ²⁺ Mn ⁴⁺	26 Fe ²⁺ Fe ³⁺	27 Co ²⁺ Co ³⁺	28 Ni ²⁺ Ni ³⁺	29 Cu ²⁺ Cu ¹⁺	30 Zn ²⁺	31 Ga ³⁺ 1.6	32 Ge ⁴⁺ 1.8	33 As ³⁻ 2.0	34 Se ²⁻ 2.4	35 Br ¹⁻ 2.8	36 Kr	
37 Rb ⁺ .8	38 Sr ²⁺ 1.0	39 Y ³⁺	40 Zr ⁴⁺	41 Nb ⁵⁺ Nb ³⁺	42 Mo ⁶⁺	43 Tc	44 Ru ³⁺ Ru ⁴⁺	45 Rh ³⁺	46 Pd ²⁺ Pd ⁴⁺	47 Ag ¹⁺	48 Cd ²⁺	49 In ³⁺ 1.7	50 Sn ⁴⁺ Sn ²⁺	51 Sb ³⁺ Sb ⁵⁺	52 Te ²⁻ 2.1	53 I ¹⁻ 2.5	54 Xe	
55 Cs ⁺ .7	56 Ba ²⁺ .9	57 La ³⁺	72 Hf ⁴⁺	73 Ta ⁵⁺	74 W ⁶⁺	75 Re ⁷⁺	76 Os ⁴⁺	77 Ir ⁴⁺	78 Pt ⁴⁺ Pt ²⁺	79 Au ³⁺ Au ¹⁺	80 Hg ²⁺ Hg ¹⁺	81 Tl ¹⁺ Tl ³⁺	82 Pb ²⁺ Pb ⁴⁺	83 Bi ³⁺ Bi ⁵⁺	84 Po ²⁺ Po ⁴⁺	85 At ¹⁻	86 Rn	
87 Fr .6	88 Ra ²⁺	89 Ac ³⁺	104 Rf	105 Ha	106 Sg	107 Uns	108 Uno	109 Une	110	111	112	113	114	115	116	117	118	

58 Ce^{3+}	59 Pr^{3+}	60 Nd^{3+}	61 Pm^{3+}	62 Sm^{3+} Sm^{2+}	63 Eu^{3+} Eu^{2+}	64 Gd^{3+}	65 Tb^{3+}	66 Dy^{3+}	67 Ho^{3+}	68 Er^{3+}	69 Tm^{3+}	70 Yb^{3+} Yb^{2+}	71 Lu^{2+}
90 Th^{4+}	91 Pa^{5+} Pa^{4+}	92 U^{6+} U^{4+}	93 Np^{5+}	94 Pu^{4+} Pu^{6+}	95 Am^{3+} Am^{4+}	96 Cm^{3+}	97 Bk^{3+} Bk^{4+}	98 Cf^{3+}	99 Es^{3+}	100 Fm^{3+}	101 Md^{2+} Md^{3+}	102 No^{2+} No^{3+}	103 Lr^{3+}

Key
At. # charge
symbol
* electronegativity
number

* For a few atoms this is
written above the symbol