Chart of Common Ions/Ionic Charges

POSITIVE IONS (CATIONS)		NEGATIVE IONS (ANIONS)	
Aluminium	Al^{3+}	Acetate	CH_3COO^-
Ammonium	NH_4^+	Bromide	Br^-
Barium	Ba^{2+}	Carbonate	CO_3^{2-}
Cadmium	Cd^{2+}	Hydrogen carbonate, bicarbonate	HCO_3^-
Calcium	Ca^{2+}	Chlorate	ClO_3^-
Chromium (II), *	Cr^{2+}	Chloride	Cl^-
Chromium (III), chromic	Cr^{3+}	Chlorite	ClO_2^-
Cobalt (II)	Co^{2+}	Chromate	CrO_4^{2-}
Copper (I), *cuprous	Cu^+	Dichromate	$Cr_2O_7^{2-}$
Copper (II), cupric	Cu^{2+}	Fluoride	F^-
Hydrogen	H^+, H_3O^+	Hydroxide	OH^-
Iron (II), *ferrous	Fe^{2+}	Hypochlorite	ClO^-
Iron (III), ferric	Fe^{3+}	Iodide	I^-
Lead (II)	Pb^{2+}	Nitrate	NO_3^-
Lithium	Li^+	Nitrite	NO_2^-
Magnesium	Mg^{2+}	Oxalate	$C_2O_4^{2-}$
Manganese (II)	Mn^{2+}		
Mercury (I), * mercurous	Hg_2^{2+}	Perchlorate	ClO_4^-
Mercury (II), mercuric	Hg^{2+}	Permanganate	MnO_4^-
Nickel	Ni^{2+}	Phosphate	PO_4^{3-}
Potassium	K^+	Hydrogen phosphate	HPO_4^{2-}
Scandium	Sc^{3+}	Dihydrogen phosphate	$H_2PO_4^-$
Silver	Ag^+	Sulphate	SO_4^{2-}
Sodium	Na^+	Silicate	SiO_3^{2-}
Strontium	Sr^{2+}	Hydrogen sulphate, bisulphate	HSO_4^-
Tin (II), *stannous	Sn^{2+}	Sulphide	S^{2-}
Tin (IV), stannic	Sn^{4+}	Hydrogen sulphide, bisulphide	HS^-
Zinc	Zn^{2+}	Sulphite	SO_3^{2-}
		Hydrogen sulphite, bisulphite	HSO_3^-
		Cyanide	CN^-

adapted from
http://www.adlerma.homestead.com/files/ionic_charges.htm

Periodic Table of the Elements

Chemistry Reference Sheet

California Standards Test

	1 1A												13 3A	14 4A	15 5A	16 6A	17 7A	18 8A
1	1 **H** Hydrogen 1.01	2 2A																2 **He** Helium 4.00
2	3 **Li** Lithium 6.94	4 **Be** Beryllium 9.01											5 **B** Boron 10.81	6 **C** Carbon 12.01	7 **N** Nitrogen 14.01	8 **O** Oxygen 16.00	9 **F** Fluorine 19.00	10 **Ne** Neon 20.18
3	11 **Na** Sodium 22.99	12 **Mg** Magnesium 24.31	3 3B	4 4B	5 5B	6 6B	7 7B	8	9 8B	10	11 1B	12 2B	13 **Al** Aluminum 26.98	14 **Si** Silicon 28.09	15 **P** Phosphorus 30.97	16 **S** Sulfur 32.07	17 **Cl** Chlorine 35.45	18 **Ar** Argon 39.95
4	19 **K** Potassium 39.10	20 **Ca** Calcium 40.08	21 **Sc** Scandium 44.96	22 **Ti** Titanium 47.87	23 **V** Vanadium 50.94	24 **Cr** Chromium 52.00	25 **Mn** Manganese 54.94	26 **Fe** Iron 55.85	27 **Co** Cobalt 58.93	28 **Ni** Nickel 58.69	29 **Cu** Copper 63.55	30 **Zn** Zinc 65.39	31 **Ga** Gallium 69.72	32 **Ge** Germanium 72.61	33 **As** Arsenic 74.92	34 **Se** Selenium 78.96	35 **Br** Bromine 79.90	36 **Kr** Krypton 83.80
5	37 **Rb** Rubidium 85.47	38 **Sr** Strontium 87.62	39 **Y** Yttrium 88.91	40 **Zr** Zirconium 91.22	41 **Nb** Niobium 92.91	42 **Mo** Molybdenum 95.94	43 **Tc** Technetium (98)	44 **Ru** Ruthenium 101.07	45 **Rh** Rhodium 102.91	46 **Pd** Palladium 106.42	47 **Ag** Silver 107.87	48 **Cd** Cadmium 112.41	49 **In** Indium 114.82	50 **Sn** Tin 118.71	51 **Sb** Antimony 121.76	52 **Te** Tellurium 127.60	53 **I** Iodine 126.90	54 **Xe** Xenon 131.29
6	55 **Cs** Cesium 132.91	56 **Ba** Barium 137.33	57 **La** Lanthanum 138.91	72 **Hf** Hafnium 178.49	73 **Ta** Tantalum 180.95	74 **W** Tungsten 183.84	75 **Re** Rhenium 186.21	76 **Os** Osmium 190.23	77 **Ir** Iridium 192.22	78 **Pt** Platinum 195.08	79 **Au** Gold 196.97	80 **Hg** Mercury 200.59	81 **Tl** Thallium 204.38	82 **Pb** Lead 207.2	83 **Bi** Bismuth 208.98	84 **Po** Polonium (209)	85 **At** Astatine (210)	86 **Rn** Radon (222)
7	87 **Fr** Francium (223)	88 **Ra** Radium (226)	89 **Ac** Actinium (227)	104 **Rf** Rutherfordium (261)	105 **Db** Dubnium (262)	106 **Sg** Seaborgium (266)	107 **Bh** Bohrium (264)	108 **Hs** Hassium (269)	109 **Mt** Meitnerium (268)									

58 **Ce** Cerium 140.12	59 **Pr** Praseodymium 140.91	60 **Nd** Neodymium 144.24	61 **Pm** Promethium (145)	62 **Sm** Samarium 150.36	63 **Eu** Europium 151.96	64 **Gd** Gadolinium 157.25	65 **Tb** Terbium 158.93	66 **Dy** Dysprosium 162.50	67 **Ho** Holmium 164.93	68 **Er** Erbium 167.26	69 **Tm** Thulium 168.93	70 **Yb** Ytterbium 173.04	71 **Lu** Lutetium 174.97
90 **Th** Thorium 232.04	91 **Pa** Protactinium 231.04	92 **U** Uranium 238.03	93 **Np** Neptunium (237)	94 **Pu** Plutonium (244)	95 **Am** Americium (243)	96 **Cm** Curium (247)	97 **Bk** Berkelium (247)	98 **Cf** Californium (251)	99 **Es** Einsteinium (252)	100 **Fm** Fermium (257)	101 **Md** Mendelevium (258)	102 **No** Nobelium (259)	103 **Lr** Lawrencium (262)

Key

11 — Atomic number
Na — Element symbol
Sodium — Element name
22.99 — Average atomic mass*

* If this number is in parentheses, then it refers to the atomic mass of the most stable isotope.

Chemistry Reference Sheet

Formulas

Ideal Gas Law: $PV = nRT$

Combined Gas Law: $\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$

Pressure Formula: $P = \frac{F}{A}$

Mass-Energy Formula: $E = mc^2$

Calorimetric Formulas –

No Phase Change: $Q = m(\Delta T)C_p$

Latent Heat of Fusion: $Q = m\Delta H_{fus}$

Latent Heat of Vaporization: $Q = m\Delta H_{vap}$

Constants

Volume of Ideal Gas at STP: $22.4 \frac{L}{mol}$

Speed of Light in a Vacuum: $c = 3.00 \times 10^8 \frac{m}{s}$

Specific Heat of Water: $C_p(H_2O) = 1.00 \frac{cal}{(g\ ^\circ C)} = 4.18 \frac{J}{(g\ ^\circ C)}$

Latent Heat of Fusion of Water: $\Delta H_{fus}(H_2O) = 80 \frac{cal}{g} = 334 \frac{J}{g}$

Latent Heat of Vaporization of Water: $\Delta H_{vap}(H_2O) = 540 \frac{cal}{g} = 2260 \frac{J}{g}$

Unit Conversions

Calorie-Joule Conversion: 1 cal = 4.184 J

Absolute Temperature Conversion: K = °C + 273

Pressure Conversions: 1 atm = 760 mm Hg = 760 Torr = 101.325 kPa = $14.7 \frac{lbs.}{in.^2}$ = 29.92 in. Hg