

Name _____

Date _____

Honors Chemistry Ion Sheet

You must know the names and charges of the following ions and formulas to succeed in Chemistry.

Stock Naming System

1+	2+	3+	4+
copper (I), Cu^+ silver, Ag^+ ammonium, NH_4^+ hydronium, H_3O^+ gold (I), Au^+	cadmium, Cd^{2+} cobalt (II), Co^{2+} copper (II), Cu^{2+} iron (II), Fe^{2+} lead (II), Pb^{2+} chromium(II), Cr^{2+}	mercury (I), Hg_2^{2+} mercury (II), Hg^{2+} nickel (II), Ni^{2+} zinc, Zn^{2+} tin (II), Sn^{2+} manganese (II), Mn^{2+}	chromium(III), Cr^{3+} iron (III), Fe^{3+} nickel (III), Ni^{3+} gold (III), Au^{3+} cobalt (III), Co^{3+}

1-	2-	3-
hydrogen carbonate HCO_3^- bicarbonate HCO_3^- hydrogen sulfate, HSO_4^- hypochlorite, ClO^- chlorite, ClO_2^- chlorate, ClO_3^- perchlorate, ClO_4^- bromate, BrO_3^-	nitrate, NO_3^- nitrite, NO_2^- hydroxide, OH^- thiocyanate, SCN^- permanganate, MnO_4^- acetate, $\text{C}_2\text{H}_3\text{O}_2^-$ cyanide, CN^- iodate, IO_3^-	carbonate, CO_3^{2-} chromate, CrO_4^{2-} dichromate, $\text{Cr}_2\text{O}_7^{2-}$ oxalate, $\text{C}_2\text{O}_4^{2-}$ peroxide, O_2^{2-} sulfate, SO_4^{2-} sulfite, SO_3^{2-} thiosulfate, $\text{S}_2\text{O}_3^{2-}$

Common Naming System

1+	2+	3+	4+
aurous, Au^{1+} cuprous, Cu^{1+}	cobaltous, Co^{2+} mercurous, $(\text{Hg}_2)^{2+}$ nickelous, Ni^{2+} stannous, Sn^{2+}	ferrous, Fe^{2+} mercuric, Hg^{2+} plumbous, Pb^{2+} cupric, Cu^{2+}	auric, Au^{3+} cobaltic, Co^{3+} ferric, Fe^{3+} nickelic, Ni^{3+}

While looking at a periodic table, or a formula for an ionic compound, be able to determine the charges of the ions that the element will be most likely to form. Some examples are listed below:

Lithium, Li^+
Cesium, Cs^+
Potassium, K^+
Sodium, Na^+
Barium, Ba^{2+}
Beryllium, Be^{2+}
Calcium, Ca^{2+}
Magnesium, Mg^{2+}
Strontium, Sr^{2+}
Aluminum, Al^{3+}
Oxide, O^{2-}
Sulfide, S^{2-}
Nitride, N^{3-}
Phosphide, P^{3-}

Halogens:

Bromide, Br^-
Chloride, Cl^-
Fluoride, F^-
Iodide, I^-

Formulas:

Ammonia, NH_3
Methane, CH_4
Glucose, $\text{C}_6\text{H}_{12}\text{O}_6$
Sucrose, $\text{C}_{12}\text{H}_{22}\text{O}_{11}$

Diatomics:

Hydrogen, H_2
Nitrogen, N_2
Oxygen, O_2
Fluorine, F_2
Chlorine, Cl_2
Bromine, Br_2
Iodine, I_2

