**Element Names and Symbols**

**Honors Chemistry 21-22**

You must learn the names, correct spelling, and symbol for each of the following elements. Symbols are always printed with the first letter capitalized and the second letter lower case.

There will be weekly quizzes as you learn these.

**Monday September 20th (B Day)**: Quiz 1 on Columns 1A , 2A and 3A and Transition elements listed below

 Scandium Sc Nickel Ni

 Titanium Ti Copper Cu

 Vanadium V Silver Ag

 Chromium Cr Gold Au

 Manganese Mn Zinc Zn

 Iron Fe Cadmium Cd

 Cobalt Co Mercury Hg

**Tuesday September 28th (B Day)**: Quiz 2 on Columns 4A through 8A, the transition elements listed above, and Columns 1A, 2A, and 3A.

**Wednesday October 4th (B Day)**: Monatomic ions of elements named above

1. Cations (positive ions) formed from metal atoms and hydrogen have the same name as the metal.

Na+  Sodium ion Zn2+ Zinc ion Al3+ Aluminum ion H+ hydrogen ion

Common cations and their charges

Group 1A +1

Group 2A +2

Silver +1

Zinc +2

Aluminum +3

1. If a metal **can** form cations of differing charges, the positive charge is given by a Roman numeral in parentheses following the name of the metal.

Fe2+ Iron (II) ion Cu+ Copper (I) ion

Fe3+ Iron (III) ion Cu2+ Copper (II) ion

1. Monatomic anions have names formed by replacing the ending of the name of the element with -**ide**.

Common anions and their charges

Group 7A -1 ( fluoride, chloride, bromide, iodide, astatide)

Group 6A nonmetals -2 (oxide, sulfide, selenide, telluride)

Group 5A nonmetals -3 (nitride, phosphide, arsenide)

Other notable anions: carbide , C4- and hydride, H1-

**Polyatomic Ions**

**Tuesday October 13th (B Day)**

carbonate CO32- oxalate C2O42-

nitrate NO31- nitrite NO2­1-

phosphate PO43-  phosphite PO33-

sulfate SO42- sulfite SO32-

chlorate ClO31- perchlorate ClO41-

acetate C2H3O21- chlorite ClO21-

ammonium NH4+ hypochlorite ClO1-

permanganate MnO41- mercury (I) ion Hg22+

chromate CrO42- peroxide O22-

hydroxide OH1- hydrogen carbonate HCO31-

cyanide CN1- bicarbonate HCO31-

thiocyanate SCN1- dichromate Cr2O72-

iodate IO31- hydrogen sulfite HSO31-

bromate BrO31- hypoiodite IO1-

**Rules for oxyanions Rules for acidic anions**

Most common ion chlor**ate** no hydrogen **phosphate PO43-**

One more oxygen **per**chlorate + one hydrogen **bi**phosphate

One less oxygen chlor**ite hydrogen** phosphate **ion**

Two less oxygens **hypo**chlor**ite** **HPO42-**

 **+** two hydrogens **di**hydrogen phosphate

 **H2**PO4**1-**