CHEMISTRY PRACTICE

1. Practice naming simple ions

   A. Mg^{+2} **Magnesium on**

   B. Ca^{++} **Calcium ion**

   C. F^{-} **Fluoride ion**

   D. Na^{+} **Sodium ion**

   E. O_2^{-} **Oxide ion**

   F. Cl^{-} **Chloride ion**

2. Write the symbol for:

   A. Hydrogen ion **H^{+}**

   B. Potassium ion **K^{+}**

3. Practice naming polyatomic ions and writing symbols for them:

   A. NH_4^{+} **Ammonium ion**

   B. PO_4^{-3} **Phosphate ion**

   C. Hydroxide **OH^{-}**

   D. Bicarbonate **HCO_3^{-}**

4. Naming the following ionic compounds:

   A. $Ca(OH)_2$ **Calcium hydroxide**

   B. CaO **Calcium oxide**

   C. $MgCl_2$ **Magnesium chloride**

   D. HCl **Hydrogen chloride**

5. Write the formula for the following ionic compounds:

   A. Sodium Bicarbonate **$NaHCO_3$**

   B. Magnesium Sulfate **$MgSO_4$**

   C. Sodium Chloride **$NaCl$**

6. Naming the following molecular compounds:

   A. ICl **Iodine monochloride**

   B. S_2Cl_2 **Disulfur dichloride**

   C. SO_3 **Sulfur trioxide**

   D. SF_6 **Sulfur hexafluoride**

7. Write the formula for the following molecular compounds:

   A. Dinitrogen pentaoxide **N_2O_5**

   B. Boron tribromide **BBr_3**

   C. Sulfur hexafluoride **SF_6**

8. Indicate whether the items below are:

   Acid (A) (Provide H+ ions in water)
   Base (B) (Provides OH- ions in water
   Salt (S) (Ionic compound formed from a reaction of acid and base)

   A. HCL **A**
   B. NaCl **S**
   C. HNO_3 **A**
   D. NaOH **B**
   E. AgCl **S**
   F. $AlBr_3$ **S**
   G. H_2SO_4 **A**
   H. KOH **B**
   I. $Ba(OH)_2$ **B**

9. What kind of reaction is occurring below?

   Synthesis (S) **Decomposition** (D) **Exchange** (E)

   A. $Pb(NO_3)_2$ *(aq)* + 2KI *(aq)* $\longrightarrow$ $2KNO_3$*(aq)* + PBI_2 *(aq)* **Exchange**

   B. HCl *(aq)* + NaOH *(aq)* $\longrightarrow$ H_2O (l) + NaCl *(aq)* **Exchange**

   C. Mg(s) + I_2(g) $\longrightarrow$ MgI_2(s) **Synthesis**

   D. C_2H_5Cl $\longrightarrow$ C_2H_4 + HCl **Decomposition**

10. What is oxidation? **Loss of electrons**

11. What is reduction? **Gain of electrons**

12. The atom that donates an electron during ionic bonding is the…

A. Oxidizing agent
B. Reducing agent

13. Which equations are balanced?

A. $HCL + KOH \longrightarrow H_2O + KCL$

B. b. $CH_4 + Cl_2 \longrightarrow CH_2CL_2 + HCl$ **Incorrect number of H and Cl**

C. c. $H_2O + MgO \longrightarrow Mg(OH)_2$

D. d. $Al(OH)_3 + H_3PO_4 \longrightarrow AlPO_4 + 2H_2O$ **Incorrect number of H and O**