CHEMICAL REACTIONS – SET II

1. Write balanced molecular equations for the following double replacement reactions: (Make sure the products of the molecular equations are electrically neutral.)

   (a) $Cu(NO_3)_{2(aq)}$ + $NaOH_{(aq)}$ →

   (b) $HgCl_{2(aq)}$ + $K_3PO_{4(aq)}$ →

   (c) $CaSO_{4(aq)}$ + $Li_2CO_{3(aq)}$ →

2. Write the formulas for the following ionic compounds:

   magnesium phosphate _____

   sodium sulfide _____

   copper(II) iodide _____

3. Identify the cation and anion in each of the following *aqueous* solutions:

   $(NH_4)_2CO_3$ _____ and _____

   $CaBr_2$ _____ and _____

   Ag_2S _____ and _____

4. Using your activity series list the following: three metals that

   (a) three metal ions that *can* be replaced by Zn(s) _____

   (b) three metal ions that *cannot* be replaced by Zn(s) _____

5. When one metal replaces another metal, what is taking place at the atomic level ?

6. List three metal atoms that will lose electrons to the Fe^{2+} ion. _____

7. Write equations for the following single replacement reactions:

   (a) $Zn_{(s)}$ + $CuSO_{4(aq)}$ →

   (b) $Fe_{(s)}$ + $Ni(NO_3)_{2(aq)}$ →