AP Worksheet 4c (Equations)

1. Consider each of the following pairs of aqueous solutions being mixed.

   On the basis of solubility rules,

   <u>Either</u>

   Write a full, balanced chemical equation for the double displacement reaction that takes place indicating the precipitate formed by adding the (*s*) state symbol in the equation, and using (*aq*) state symbols where appropriate, AND write the net ionic equation including state symbols.

   <u>or</u>

   If NO precipitate forms, write NO REACTION instead of a full, balanced chemical equation, AND DO NOT write a net ionic equation.

   a. potassium sulfide and barium chloride
   b. lead(II) nitrate and ammonium chromate
   c. sodium sulfate and lithium nitrate
   d. silver nitrate and sodium sulfate (*silver sulfate is only *slightly* soluble*)
   e. potassium phosphate and cobalt(II) nitrate
   f. RbCl and $BaCl_2$
   g. KOH and $NaNO_3$
   h. $Mg(NO_3)_2$ and NH_4HCO_3 (*look up solubility of hydrogen carbonates*)
   i. Na_2CO_3 and $LiNO_3$
   j. Na_3PO_4 and $CuCl_2$
   k. $SrCl_2$ and Li_2SO_4 (*strontium sulfate is only *slightly* soluble*)

2. Write the balanced equation for each of the following processes.
   a. Synthesis of lead(IV) iodide.
   b. Decomposition of aluminum fluoride.
   c. Dissolving of ammonium sulfate in water.
   d. Zinc metal is placed in a solution of copper(II) chloride.
   e. Solutions of silver nitrate and iron(III) iodide are mixed.
   f. Ethane (C_2H_6) gas is burned in the presence of oxygen.

3. Give the net ionic equations for the reactions in number 2, letters d and e.