## Reaction Products Worksheet Name\_\_\_\_

For each of the following reactions, determine what the products of each reaction will be. When you have predicted the products, balance the equation and use a table of solubility products to determine which of the products (if any) will precipitate. Assume all reactions take place in water.

Write the balanced overall equation and the net ionic equation if a precipitate is formed.

1) Pb(NO<sub>3</sub>)<sub>2</sub> + K<sub>2</sub>CrO<sub>4</sub> 
$$\rightarrow$$

2) 
$$MaC_2H_3O_2 + M_2SO_4 \rightarrow$$

3 \_\_\_\_ Cu(OH)<sub>2</sub> + \_\_\_\_ H<sub>3</sub>PO<sub>4</sub> 
$$\rightarrow$$

4) 
$$\_\_$$
 AgNO<sub>3</sub> +  $\_\_$  Na<sub>2</sub>CO<sub>3</sub>  $\rightarrow$ 

5) 
$$\underline{\hspace{1cm}}$$
 ZnCl<sub>2</sub> +  $\underline{\hspace{1cm}}$  H<sub>2</sub>CO<sub>3</sub>  $\rightarrow$ 

6) Pb(OH)<sub>2</sub> + \_\_\_\_ Hg<sub>2</sub>S 
$$\rightarrow$$

## **SOLUBILITY RULES WORKSHEET**

Classify each of the following as soluble (aq) or insoluble (s).

1) FeCl3	5) (NH4)2SO4	9) NaBr
2) KOH	6) AgNO3	10) AgCl
3) KCl	7) PbSO4	11) NaNO3
4) Fe(OH)3	8) Mn(OH)2	12) BaSO4

Classify each of the substances as being soluble or insoluble in water.

KBr =	silver acetate =
PbCO <sub>3</sub> =	copper (II) sulfide =
BSO <sub>3</sub> =	$Mg_3(PO_4)_2 =$
zinc hydroxide =	KOH =
sodium acetate =	$NiCl_2 =$
silver iodide =	$NH_4OH =$
cadmium (II) sulfide =	$Hg_2SO_4 =$
zinc carbonate =	$Pbl_2 =$

## **Reaction Products Worksheet - Key**

For each of the following reactions, determine what the products of each reaction will be. When you have predicted the products, balance the equation and use a table of solubility products to determine which of the products (if any) will precipitate. Assume all reactions take place in water.

- 1) 1 Ca(OH)<sub>2</sub> + 2 HF  $\rightarrow$  2 H<sub>2</sub>O + CaF<sub>2</sub> (CaF<sub>2</sub> precipitates)
- 1 Pb(NO<sub>3</sub>)<sub>2</sub> + 1 K<sub>2</sub>CrO<sub>4</sub>  $\rightarrow$  2 KNO<sub>3</sub> + PbCrO<sub>4</sub> (PbCrO<sub>4</sub> precipitates)
- 3)  $\underline{2} \text{ NaC}_2 \text{H}_3 \text{O}_2 + \underline{1} \text{ H}_2 \text{SO}_4 \rightarrow \text{Na}_2 \text{SO}_4 + 2 \text{ CH}_3 \text{COOH (no precipitate)}$
- 4) 3 Cu(OH)<sub>2</sub> + 2 H<sub>3</sub>PO<sub>4</sub> → 6 H<sub>2</sub>O + Cu<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>

  copper (II) phosphate precipitates
- 5)  $\underline{2} \text{ AgNO}_3 + \underline{1} \text{ Na}_2 \text{CO}_3 \rightarrow \text{Ag}_2 \text{CO}_3 + 2 \text{ NaNO}_3 \text{ (Ag}_2 \text{CO}_3 \text{ precipitates)}$
- 6)  $\underline{1} \text{ Zn} + \underline{2} \text{ H}_2\text{CO}_3 \rightarrow \text{ZnCO}_3 + \text{H}_2 \quad (\text{ZnCO}_3 \text{ precipitates})$
- 7)  $Pb(OH)_2 + Hg_2S \rightarrow$  no reaction; neither reagent is soluble in water