

Lab Instructor: _____

Name: _____

1. Record your observations of each experiment. Use the following terminology: (a) "Precipitate formed" (include the color), (b) "Gas evolved", (c) "Heat evolved," or (d) "no reaction observed."
2. Complete and balance the equation for each case in which a reaction occurred. First write the correct formulas for the products, taking into account the charge on each ion involved. Then balance the equation. Use phase symbols to indicate precipitates and gases. Where no evidence of reaction was observed, write the words "No reaction" as the right-hand side of the equation.

Evidence of Reaction	Equation
1.	$\text{NaCl} + \text{KNO}_3 \rightarrow$
2.	$\text{NaCl} + \text{AgNO}_3 \rightarrow$
3.	$\text{Na}_2\text{CO}_3 + \text{HCl} \rightarrow$
4.	$\text{NaOH} + \text{HCl} \rightarrow$
5.	$\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow$
6.	$\text{NH}_4\text{OH} + \text{H}_2\text{SO}_4 \rightarrow$
7.	$\text{CuSO}_4 + \text{Zn}(\text{NO}_3)_2 \rightarrow$
8.	$\text{Na}_2\text{CO}_3 + \text{CaCl}_2 \rightarrow$
9.	$\text{CuSO}_4 + \text{NH}_4\text{Cl} \rightarrow$
10.	$\text{NaOH} + \text{HNO}_3 \rightarrow$
11.	$\text{FeCl}_3 + \text{NaOH} \rightarrow$
12.	$\text{NaHCO}_3 + \text{HCl} \rightarrow$

Questions

1. The formation of what four classes of substances caused double displacement reactions to occur in this experiment?
2. Write the equation for the decomposition of sulfurous acid (H_2SO_3).
3. Using four criteria for double displacement reactions, together with the solubility table, predict whether a double displacement reaction will occur in each example below. If reaction will occur, complete and balance the overall equation, properly indicating gases and precipitates. Then write the **net ionic equation** for the reaction. If you believe no reaction will occur, write “no reaction” as the right-hand side of the equation. All reactants are in aqueous solution.
 - a. $\text{K}_2\text{S} + \text{CuSO}_4 \rightarrow$
 - b. $\text{KOH} + \text{NH}_4\text{Cl} \rightarrow$
 - c. $(\text{NH}_4)_2\text{SO}_4 + \text{NaCl} \rightarrow$
 - d. $\text{CoCl}_3 + \text{NaOH} \rightarrow$
 - e. $\text{Na}_2\text{CO}_3 + \text{HNO}_3 \rightarrow$

