

Name _____ Date _____ Block _____

Double Replacement Lab: precipitate reactions

Directions: Complete each of the 16 reactions below. Two reactions will be completed at each lab station. In table 1 write your observation (this includes color changes, precipitates, or no reaction). After writing your observations complete data table 2 with the products including your states of matter. Balance all reactions in table 2!

Data Table 1

Reactants	Observations
1a) $\text{BaCl}_2(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
1b) $\text{BaCl}_2(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	
2a) $\text{KNO}_3(\text{aq}) + \text{Zn}(\text{NO}_3)_2(\text{aq}) \rightarrow$	
2b) $\text{KNO}_3(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
3a) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
3b) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
4a) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{Fe}(\text{NO}_3)_3(\text{aq}) \rightarrow$	
4b) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
5a) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{BaCl}_2(\text{aq}) \rightarrow$	
5b) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
6a) $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{CO}_3(\text{aq}) \rightarrow$	
6b) $\text{BaCl}_2(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
7a) $\text{CoCl}_2(\text{aq}) + \text{Na}_2\text{CO}_3(\text{aq}) \rightarrow$	
7b) $\text{CaCl}_2(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
8a) $\text{Cu}(\text{NO}_3)_2(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	
8b) $\text{Fe}(\text{NO}_3)_3(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	

Data Table 2

Reactants	Observations
1a) $\text{BaCl}_2(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
1b) $\text{BaCl}_2(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	
2a) $\text{KNO}_3(\text{aq}) + \text{Zn}(\text{NO}_3)_2(\text{aq}) \rightarrow$	
2b) $\text{KNO}_3(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
3a) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
3b) $\text{Na}_2\text{CO}_3(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
4a) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{Fe}(\text{NO}_3)_3(\text{aq}) \rightarrow$	
4b) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
5a) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{BaCl}_2(\text{aq}) \rightarrow$	
5b) $\text{Na}_3\text{PO}_4(\text{aq}) + \text{KNO}_3(\text{aq}) \rightarrow$	
6a) $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{CO}_3(\text{aq}) \rightarrow$	
6b) $\text{BaCl}_2(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
7a) $\text{CoCl}_2(\text{aq}) + \text{Na}_2\text{CO}_3(\text{aq}) \rightarrow$	
7b) $\text{CaCl}_2(\text{aq}) + \text{CaSO}_4(\text{aq}) \rightarrow$	
8a) $\text{Cu}(\text{NO}_3)_2(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	
8b) $\text{Fe}(\text{NO}_3)_3(\text{aq}) + \text{NaOH}(\text{aq}) \rightarrow$	

Post Lab:

- 1) Write the Complete Ionic, Net Ionic and Spectator Ions for reactions **8a**.

Complete:

Net:

Spectator:

- 2) What is one possible source of error? How does that error impact the results you are trying to obtain?