**FYI- Double Displacement Reactions and NR: *Honors Chemistry***

Refer to: <http://www.kentchemistry.com/links/Kinetics/PredictingDR.htm>

**Here’s a synopsis of it:** Step by step-

1. Write names of products by switching last names

2. Check solubility on table F.

       soluble --> (aq)

        insoluble--> (s)= precipitate = means a reaction occurs

      2 soluble products = no reaction=STOP

\*\*There are a couple of more factors, but you are not expected to know those in 1st year chemistry. Actually, the primary rxn you should focus on for determining ‘NR’ for this test is a SD reaction.

**For those who have asked, here goes:**

In double displacement, you have to determine the state of your product. \*Meaning, whether they are GAS, AQUEOUS, WATER (Liquid) or SOLID   
  
In a double displacement reaction, you will have one of the followings:   
  
1. **Precipitate (ppt)**: You'll have one solid and one aqueous product   
  
AgNO3 (aq) + NaCl (aq) --> AgCl (s) + NaNO3 (aq)   
  
2. **Gas production: You'll have one gas and one aqueous product**   
  
K2S (aq) + 2HCl (aq) --> 2KCl + H2S (g)

\*\*I only expect you to know the gases that are diatomic, unless I state it in the problem. I realize, at this point in the course, there are some substances that you don’t know if are gases or not.  
  
3. **Reaction that produces water.** Example:

STRONG ACID + HYDROXIDE BASE 🡪 SALT (metal bonded to halogen) + H2O  
  
H2SO4 (aq) + 2NaOH (aq) --> Na2SO4 (aq) + H2O (l) ..... "l" stands for liquid   
  
**So, WHENEVER YOU HAVE TWO AQUEOUS PRODUCTS THERE IS NO REACTION!**  
  
example: NaCl (aq) + NH4NO3 (aq) --> No Reaction   
*Because if you check with the "solubility guideline" you'll see that NaNO3 and NH4Cl (as products) are all SOLUBLE, so all of them will be AQUEOUS.*  
You can find a good GUIDELINE in this link:   
<http://www.fairbornchempage.com/Resources/SolGuides.htm>     
  
And we CANNOT have TWO AQUEOUS in out products, so there is no reaction.