- 1. Double Replacements: a few more details!
- **a.** In a double replacement reaction, if both products are _____, the rxn is generally* "N.R." (* there are a couple of exceptions to this rule, but we won't worry about this until next term.)
- **b.** In order for a double replacement to occur (and not be an "N.R."), at least one of the products must be _____, ____, or ____ phase.
- 2. The only liquid you'll encounter in these double replacements is water: (Fill in the phase subscript!)

- 3. In this class, the only time a gas will form in a double replacement reaction is when carbonic acid is formed, because carbonic acid $(H_2CO_{3(aq)})$ decomposes into $H_2O_{(l)}$ and $CO_{2(g)}$. (This reaction occurs when you open a soda!)
- a. $Na_2CO_{3(aq)} + HNO_{3(aq)}$ ----->
- b. Baking Soda (sodium bicarbonate) + Vinegar (Acetic Acid):

$$NaHCO_{3(s)}$$
 + $HC_2H_3O_{2(aq)}$ ----->

4. Mixed Practice: Complete each reaction, including phase subscripts and balancing. One of these is "N.R."

a.
$$HNO_{3(aq)}$$
 + $BaCO_{3(s)}$ ----->____

b.
$$MgSO_{4(aq)} + NH_4Cl_{(aq)} ----->$$

c.
$$Ca(HCO_3)_{2(aq)}$$
 + $HBr_{(aq)}$ ----->

d.
$$Ag_2SO_{4(aq)}$$
 + $AlCl_{3(aq)}$ ----->____

e.
$$HNO_{3(a_0)} + Ca(OH)_{2(a_0)}$$
 ----->____

f.
$$MgCO_{3(s)}$$
 + $HCl_{(aq)}$ ----->