

You should be able to do the following:

- Determine whether or not a single or double replacement reaction will actually happen
- Balance charges of compounds (subscripts)
- Balance chemical reactions (the "big" numbers)
- Identify precipitates in double replacement reactions
- Identify and predict products for synthesis, decomposition, combustion, single replacement, and double replacement reactions.
- Identify products using litmus paper, cobalt paper, splint tests, an odor test, or a flame test

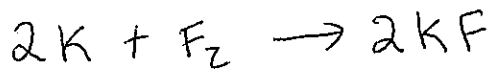
Identify the type of reaction and write balanced chemical equations for the following:

1. barium nitrate plus sodium chromate (Identify the precipitate)



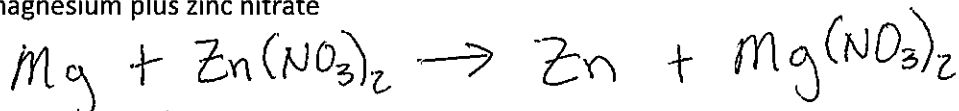
• Double Replacement

2. potassium plus fluorine



• Synthesis

3. magnesium plus zinc nitrate



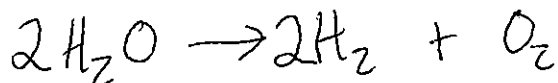
• Single Replacement

4. methane ( $\text{CH}_4$ ) burns in air



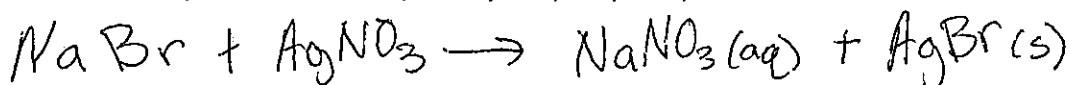
• Combustion

5. water is electrolyzed (decomposed)



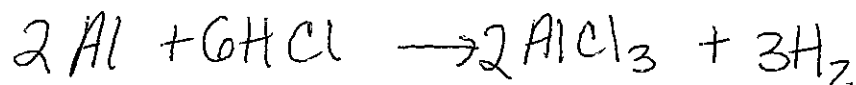
• Decomposition

6. sodium bromide plus silver nitrate (Identify the precipitate)



• Double Replacement

7. aluminum plus hydrochloric acid (HCl)



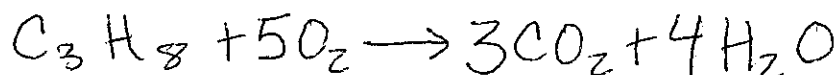
• Single Replacement

8. copper (II) carbonate decomposes into copper (II) oxide and carbon dioxide



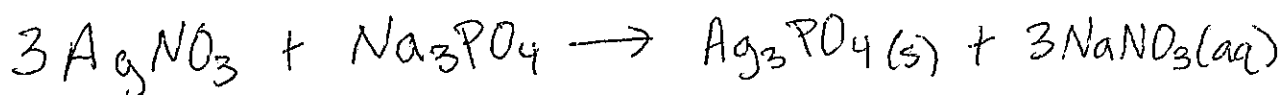
• Decomposition

9. propane ( $\text{C}_3\text{H}_8$ ) is burned in oxygen

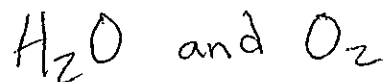


• Combustion

10. aqueous silver nitrate reacts with aqueous sodium phosphate (Identify the precipitate)



11. Hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) decomposes and a student performs some tests to determine the products. The product turns cobalt paper pink, does not have an odor, and relights a glowing splint. What are the most likely products?



12. Heating ammonium carbonate,  $(\text{NH}_4)_2\text{CO}_3$ , produces a gas with a strong odor and turns universal indicator paper blue. What is one of the products of this reaction?



13. A student predicted that carbon dioxide would be one of the products of her reaction. What test(s) should she perform and what results does she expect if her hypothesis is correct?

splint test - extinguish

indicator test - turn orange