

Reaction Types & General Forms (AB Patterns)

- **Synthesis (Combination):**
 $A + B \rightarrow AB$
- **Single Displacement (Replacement):**
 $A + BC \rightarrow AC + B$
or
 $BA + C \rightarrow B + CA$
- **Double Displacement (Metathesis):**
 $AB + CD \rightarrow AD + CB$
- **Combustion:**
 $\text{Hydrocarbon} + O_2 \rightarrow CO_2 + H_2O$
- **1st 2nd**

Predict the Products

1. **Synthesis**
 $Na + Cl_2 \rightarrow$ _____
2. **Single Displacement**
 $Zn + CuSO_4 \rightarrow$ _____
3. **Double Displacement**
 $AgNO_3 + NaCl \rightarrow$ _____
4. **Combustion**
 $CH_4 + O_2 \rightarrow$ _____ + _____
5. **Synthesis**
 $Mg + O_2 \rightarrow$ _____
6. **Single Displacement**
 $Fe + HCl \rightarrow$ _____ + _____
7. **Double Displacement**
 $BaCl_2 + Na_2SO_4 \rightarrow$ _____ + _____
8. **Combustion**
 $C_3H_8 + O_2 \rightarrow$ _____ + _____
9. **Synthesis**
 $Al + S \rightarrow$ _____
10. **Single Displacement**
 $Cl_2 + KI \rightarrow$ _____ + _____
11. **Double Displacement**
 $Pb(NO_3)_2 + KI \rightarrow$ _____ + _____
12. **Combustion**
 $C_2H_6 + O_2 \rightarrow$ _____ + _____
13. **Synthesis**
 $Ca + N_2 \rightarrow$ _____
14. **Single Displacement**
 $Cu + AgNO_3 \rightarrow$ _____ + _____
15. **Double Displacement**
 $HCl + NaOH \rightarrow$ _____ + _____