Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_

**Predicting Products for Synthesis & Combustion Reactions**

Classifying & Balancing Warm-up

*For each of the following chemical equations – classify the type of reaction and balance the equation.*

\_\_\_\_\_\_\_\_ 1. Zn + H2SO4 -----> ZnSO4 + H2

\_\_\_\_\_\_\_\_ 2. H2CO3 -----> CO2 + H2O

\_\_\_\_\_\_\_\_ 3. CaCO3 + HCl ------> CaCl2 + H2CO3

\_\_\_\_\_\_\_\_ 4. C2H5OH + O2 -----> CO2 + H2O

**Synthesis Reaction Practice Problems**

Think about it… A synthesis reaction looks like:

*Predict the product for the following synthesis reactions. Balance the equations.*

1. Cu (I) + S 🡪
2. Mg + O2 🡪
3. Pb (II) + Cl2 🡪
4. Zn + Br2 🡪
5. Ca + P 🡪

**Combustion Reaction Practice Problems**  
Think about it… A combustion reaction looks like:

Predict the products for the following combustion reactions. Balance the equations.

1. C3H8 + O2 🡪
2. CH4 + O2 🡪
3. C4H10 + O2 🡪
4. C6H12O6 + O2 🡪
5. CH3COOH + O2 🡪

**Mixed Practice**

Think about it… what type(s) of reactants should you be looking for if it’s a combustion reaction? What about synthesis?

*Predict the product(s) for the following reactions. Balance the equations.*

1. Zn + O2 🡪
2. C2H6 + O2 🡪
3. Al + O2 🡪
4. Ca + O2 🡪
5. CH3OH + O2 🡪