Chemistry of Combustion

Name _____

Phenomenon: Watch as your teacher performs two demonstrations that show combustion.

What questions do you have?

1.

2.

What are three things the demonstrations have in common?

1.

2.

3.

Combustion happens all around us all the time, and we often do not notice it. Where are substances burning to keep your classroom warm or your car running?

Chemical equations help us understand combustion. Many of the substances we burn are carbon compounds that contain hydrogen. Coal, gasoline, natural gas, and propane are all examples of combustible materials that we use every day. The chemical equation looks like this for burning propane:

$C_3H_8 + O_2 \longrightarrow$

Propane Oxygen What products form?

Design your own combustion reaction. Choose from the materials provided and make sure you follow the safety rules (wear your goggles!). You must burn the substance over the metal pan and have a tub of water nearby just in case. What could you use the large glass jar for?

Your task is to show what products form in a combustion reaction. Be ready to explain what and where the products are found.

List your procedures here.

1.

2.

3.

4.

Data: Draw and explain your combustion reaction. You can use words instead of chemical symbols for the substances involved.

Be ready to explain your investigation to the class.

Analysis:

1. What did all the experiments in the class have in common?

2. Which substances were easy to see and describe?

3. Which substances were invisible and escaped?

4. Combustion reactions require energy to get started. Do you think more energy is required to start the reaction or released by the reaction? Why?

Summary

What **claim** can you make about combustion?

What **evidence** do you have?

What **reasoning** did you use?