

Name: _____ Period: _____

Candle Lab

Purpose: To determine the generic chemical equation for a combustion reaction. To determine what indicators and observations support our combustion equation.

Prelab Questions:

1. What is a reactant?
2. What is a product?
3. What is an indicator?
4. What do you know about combustion? What are common terms for combustion?

Procedure:

1. Start at the station assigned by your teacher.
2. Follow the steps outlined at the station
3. Answer the questions below for each station.
4. Clean up the station for the next group by following the instructions on the station sheet.
5. Rotate clockwise to the next station.

Observations/Questions: Answer in complete sentences.

Station 1:

1. What did you observe?
2. Can you wipe anything off of the spatula? Can you write on a clean sheet of paper with this material?
3. What could this material be made of?
4. Is this substance a reactant or a product of combustion?

Station 2:

1. What did you observe? Be specific.
2. Why does this happen?
3. What might this indicate about what is contained in smoke?
4. Draw a before and after picture of the candle, flame, and smoke as the candle is lit and then relit with the new match.

Station 3:

1. How did you extinguish the candle?
2. Did you notice anything after the candle went out?
3. Can you identify any products or reactants of combustion from your observations?

Station 4:

1. What did you observe?
2. What gas were you blowing into the straw? Into the lime water?
3. What might be causing this to happen?
4. Could you use lime water as an indicator? Why or why not?

Station 5:

1. Describe what you observed at this station.
2. Limewater can be used as an indicator. What is an indicator?
3. What might limewater be an indicator for? (You might need to talk to people working at lab station 7.)
4. How do you know?

Station 6:

1. What did you notice about the CoCl_2 strip that you dipped in H_2O ?
2. What did you notice about the CoCl_2 strip that you dipped in $\text{C}_2\text{H}_5\text{OH}$?
3. What can CoCl_2 be used as an indicator for?

Station 7:

1. Does the CoCl_2 strip change colors?
2. What might this indicate is forming on the inside of the beaker? (You might need to talk to station 4.)
3. Is this material a reactant or product of combustion?