Name: _____   Date: _____   P: _____
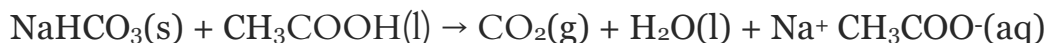
Can You Contain the Glow?

A lab Safety Challenge

The chemical equation for the overall reaction is:

$$NaHCO_3(s) + CH_3COOH(l) \rightarrow CO_2(g) + H_2O(l) + Na^+ CH_3COO^-(aq)$$

Materials:

- Safety goggles
- Graduated Cylinder
- Scale
- Plastic weigh boat

- Large glass dish
- Metal scoop
- small beaker
- Small flask

- $NaHCO_3$
- CH_3COOH
- Glow Powder
- Dawn soap solution

NEVER shine a black light in anyone's eyes! Safety goggles must be worn at all times for this lab.

Procedure:

1. Use the black light flashlight to check your area. What glows?

2. Carefully weigh out 0.2 grams of glow powder in a weighboat. Transfer the glow powder into a small glass beaker.
3. Obtain 5.0 grams of $NaHCO_3$ and add to the small beaker containing glow powder. Stir to mix.
4. Use a graduated cylinder to measure 10 mL of CH_3COOH. Transfer to the small glass flask.
5. Add 5 drops of dawn solution to the CH_3COOH. Gently swirl to mix.
6. Place the beaker containing glow powder and $NaHCO_3$ in a large glass dish.
7. Pour the CH3COOH mixture into the beaker containing glow powder and $NaHCO_3$. Record your observations in the table below, including whether you can see any white powder or glow using the black light.

	Observations - Normal light	Observations - Black Light
Chemical Reaction		
Counter top		
Your hands		
Weigh boat and scale		
Other equipment		

8. Clean up your area and all of the equipment you used. .
9. Once you are done cleaning up, check everything again with the black light. You are not done cleaning up until the only thing glowing is the original glow powder beaker!
    How challenging was it to get everything completely clean?

10. Why are safety goggles important for chemistry labs?

11. Remove your goggles and check them with the black light. Did any of the glow powder get on your goggles?

12.   What could you have done differently to keep the glo powder from contaminating other surfaces or the $NaHCO_3$?