

Gases heavier than Air

Group # \_\_\_\_\_

Your Name: \_\_\_\_\_

Materials: baking soda, vinegar, 2 beakers, piece of paper, spoon or scoop, candle

Procedure:

1. ) Read all instructions first
2. Put one scoop of baking soda in one of the beakers
3. Put a lit candle in the bottom of the other beaker
4. Slowly pour about 25 ml of vinegar into the beaker with the baking soda and carefully cover it with the paper
5. Very carefully lift the beaker with the baking soda and vinegar and slowly tilt the beaker into the beaker with the candle. \*\*\*Do not let the vinegar mixture pour out.\*\*\*

Questions

1.) What did you observe happening to the flame of the candle?

2.) Mixing baking soda and vinegar makes a chemical reaction. They produce a gas called carbon dioxide ( $\text{CO}_2$ ). Carbon dioxide does not burn. Where does the  $\text{CO}_2$  go; up in the air or down to the bottom of the beaker? How do you know this?

3. If  $\text{CO}_2$  went down to the bottom of the beaker would it be denser than air, or less dense than air?

4. If CO<sub>2</sub> is denser than air are the molecules in CO<sub>2</sub> closer together or farther apart compared to air molecules?

5.) Carbon dioxide is the waste gas that we breathe out. It is harmful to us. What is one problem you can think of that could happen if carbon dioxide levels were to increase in our atmosphere?