MINI-LAB: INVERTED FLASKS

PURPOSE: to see the effects of temperature on the volume of a gas

PROCEDURE:

1. Fill beaker 3/4 full of water.
2. Invert flask and clamp to ring stand. Lower stem into water until water about 4 - 6 cm. Mark the level of the water inside the stem on Diagram A.
3. Use the burner and gently heat flask for several minutes. Mark the level of the water inside the stem <u>while</u> the flask was being heated on Diagram B.
4. Let the flask cool for 6 minutes, then place some ice on the flask. After a couple of minutes, mark the final level of the water inside the stem on Diagram C.

OBSERVATIONS:

A **B** **C**

CONCLUSION:

1. What substance was originally contained in the flask? _____

2. What effect did heat have upon the particles inside the flask?

_____

3. Did the gas expand, or contract when heated? _____

3b. How could you tell? _____

4. At the end of the experiment, was there more, or less air inside the flask?

_____

5. What effect did cooling have upon the particles inside the flask?

_____

5b. How could you tell? _____

6. At the end of the experiment, had the water been sucked into the flask, or pushed into the flask?

_____

7. What pushed the water into the flask?

_____

8. What device used by weather forecasters works on the principle of air pushing a liquid (Hg) up a tube?

_____

9. Summarize how temperature changes affect the volume of a gas.