Lab 4: Demo on Burning!

Name _____ Per. ___

This lab will be demonstrated in class. The Student will fill in the observations and write hypotheses and explanations.

1. Time the life of a burning candle under a 2000 ml beaker. _____ seconds.

2. Time the life of a burning candle under a 1000 ml beaker. _____ seconds.

Two ideas on why the candle dies:

... a. It runs out of something it needs to live.
... b. It is smothered in a polluting atmosphere.

3. Test the moisture in the beakers with $CoCl_2$ paper. _____.

4. Test $CoCl_2$ paper on tap water. _____.

5. Make Hypothesis about the liquid condensate.

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6. Use a blowpipe on the candle flame. Observation:

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Why does the flame burn hotter in the air blast? Hypothesis.

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7. Place 25 ml of Limewater into each of three flasks.
..... Add candle fumes into one flask.
..... Blow into another flask with a glass tube.
..... Describe what happens to the third over a period of time

.

Make an hypothesis.

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8. Place a burning candle inside an inverted glass cylinder immersed in a tub of water. Observations:

Make hypothesis about this action.

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What percentage of the atmosphere is oxygen? _____ % . What other factors are present besides how much air was used up?

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Note that certain fire extinquishers use CO_2 to put out a fire. Does CO_2 poison a fire?

Note that acetylene torches can operate under water and in CO_2 if O_2 is piped to the flame.

Here is an experiment that Boom did as a little kid. This is NOT recommended for you! He would breathe into a 20 liter antique vase until the oxygen was depleted. This showed that we do not use up all of the oxygen in each breath. The same air can be used several times. Likewise, the CO_2 exhaled in each breath is very small and adds up over several re-uses of the same air. This is why mouth to mouth resuscitation is possible.

Write a *grande critique* about this lab.