**FPS –Candle Hypothesis Lab**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| I can… |
| *Construct and evaluate a hypothesis.**Record and analyze quantitate data.* |

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| Pre-Lab |
| 1. What is a hypothesis?
2. What makes a good observation?
3. How do we test hypotheses?
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| SAFETY |
| Keep flames away from hair, clothing, and paper. Do not point lit matches downward. Do not put matches in the sink – dispose of them in the water dishes provided. Goggles must be worn. |
| READ the entire procedure before constructing your hypothesis, and before taking any steps to complete the experiment.Once you’ve read the procedure, predict what you think will happen by filling in your hypothesis below:The water level in the dish will ( rise / drop ) because\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| ***Candle Hypothesis lab*** |
| *Materials* -glass jar with centimeter marks -2 birthday candles -modeling clay -foil pie pan -matches -water dish -plastic cup |
| *Part 1- Procedure*1. Place the piece of modeling clay in the center of the pie dish. Put one candle into the modeling clay. See Figure 1.1.
2. Using the plastic cup, fill the pie pan to the marking on the pan.
3. Light the candle with a match. BE CAREFUL when using matches, and be aware of the burning candle.
4. Invert the jar and place it carefully over the candle. See Figure 1.2
5. STOP! Go back and write your hypothesis if you have not!!!
6. If you have recorded a hypothesis, do steps 1-4 and QUICKLY using the centimeter markings, record the water height in the data table below.
7. Continue to observe until the flame goes out. With the jar in place, record thechange in water level in the data table below.
8. Carefully remove the jar, and repeat for a second trial.
9. Repeat the entire experiment, with two birthday candles. Before you do so, record what you think will happen with two candle:

*With two candles, I think \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.* |
| *Part 2- Record your data*

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| --- | --- | --- | --- | --- |
| ***With 1 candle*** | **Trial** | **Initial water height**  | **Final water height**  | **Change in water height (Final – Initial)** |
| 1 | cm | cm | cm |
| 2 | cm | cm | cm |
| ***With 2 candles*** | 1 | cm | cm | cm |
| 2 | cm | cm | cm |

Observations: (all should be in COMPLETE SENTENCES!!)1. Describe what happens to the water level in the jar while the candle burns.
2. Describe what happens to the water level in the jar while the candle goes out.
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| *Part 3- Analysis Questions*  (write in complete sentences)1. How was the experiment **different** when one candle was used versus when two were used?
2. Was your hypothesis correct?
3. Rewrite your hypothesis about **two candles** in the form of an “If…then…” statement. For example, “If one candle is burning and we put the jar over it, the water level will rise.”

*Part 4- Conclusions*  (write in complete sentences)1. Compare your hypothesis with another student, and write their hypothesis below.
2. Explain why or why not this is a good hypothesis.
3. How do we **develop** and **test** a hypothesis? Be specific.
4. Make an observation of your everyday life. Develop a hypothesis (in an “If…then…” format) about this observation. Then, design an experiment to test this hypothesis.
5. Observation:
6. Hypothesis:
7. Experimental Design:
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