Everlasting Gobstopper Lab

Scientific Method in Action

Name: _____ Date: _____ Block: _____

Question:

What will eight (8) Gobstoppers in a plate of **liquid** look like after 5 minutes.

Hypothesis: *write an if-then statement*

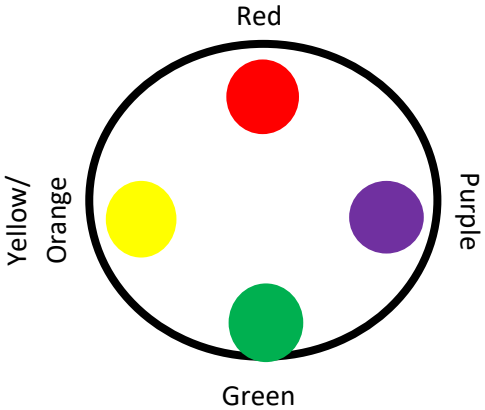
IF eight Gobstoppers are placed on a plate of liquid_____, **THEN** _____

_____because _____

_____

Materials:

- Styrofoam/clear plastic plate
- Water in a small beaker
- 4-8 different colored Gobstoppers
- Colored Pencils/Crayons/Markers



Procedure:

1. Place the plate flat on your desk/lab bench and fill it almost to the top with water (to the rim).
2. Equally space 4-8 different colored Gobstoppers on the plate as illustrated (shown in the picture above).
3. Observe and sketch what you see **as soon as the experiment starts**. Be sure to observe from the top and from the sides. At the end of **5 & 10 minutes**, make a sketch of your observations.

Conclusion:

1. What did your plate of Gobstoppers look like at the beginning and at the end of 5/10 minutes?

At the Beginning **AFTER 5 minutes** **AFTER 10 minutes**

2. How would you test your hypothesis? Design a brief experiment that could support or rule out your hypothesis. **[Think about control variables, and different liquids to use. What would/could you do different?]** _____

_____

_____

_____

_____

_____

_____

3. **Whenever possible, a hypothesis should be tested by an experiment in which only one variable is changed at a time. All other variables should be kept unchanged, or <u>controlled.</u>** ***<u>This is called a controlled experiment.</u>*** What variable(s) were controlled in this experiment?

4. The variable that is being deliberately changed is called the **<u>independent variable</u>**. In your experiment, what was the independent variable(s)? _____

5. The variable that you want to observe is called the **<u>dependent variable</u>.** In your experiment, which is the dependent variable(s)? _____

6. A **hypothesis** and a **theory** are related or connected because…?
    a. A theory is always used to develop a hypothesis
    b. They are both developed without observations
    c. The data collected when a hypothesis is tested can support a theory
    d. An experiment is done before creating both a hypothesis and a theory

7. If correctly written, **hypotheses** should be written in such a way that…?
    e. Enables them to be proven valid
    f. Enables them to be tested
    g. Does not contradict previous hypotheses
    h. Enables the experimenter to be correct