

Name _____ Date _____

Biology Honors: Scientific Method

Directions: base your answers to the following on the video illustrating the reaction between Diet Coke & Mentos shown in class. Do **NOT** restate the questions in your responses!

Observation: Mentos candies react w/Diet Coke resulting in a “fountain” that erupts from the open bottle.

1) Propose a question regarding this observation that would be worthy of scientific investigation.

2) Propose a *scientific hypothesis* based on your question.

3) Identify 2 characteristics of a scientific hypothesis.

4) Propose a prediction based on your hypothesis (“If _____ then _____”).

5) Design a controlled experiment to test your hypothesis. In your design, be sure to:

- a) Identify *at least* 3 factors that must be kept the same in both the control & experimental groups:

Factor 1: _____

Factor 2: _____

Factor 3: _____

b) Identify the independent variable:

c) Identify the dependent variable:

d) What type of graph would be most appropriate for illustrating your results?

6) Describe the results that would verify your initial hypothesis.

7) Can a hypothesis ever be proven true? Explain.
