

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Due date: \_\_\_\_\_

## ***Scientific Method Practice Scenarios***

As we begin to work using the Scientific Method to solve problems, we must remember the vocabulary associated with it: **independent variable**, **dependent variable**, **constant**, **control**, **observation**, **inference**, **theory**, **law**.

Using your knowledge of the Scientific Method and the vocabulary words listed above, answer the following questions about the Scientific Method.

1. Peter loves music. He believes that he does his homework better and faster when he listens to music. His parents say that music is distracting when studying.

a. State the problem (question) at issue here.

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b. Write a testable hypothesis in the "If....., then ...." Form. Be sure it is in this form and write a complete sentence.

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c. Describe in 3-6 sentences an experiment Peter could do to test his hypothesis.

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d. What would the independent variable be? \_\_\_\_\_

e. What would the dependent variable be? \_\_\_\_\_

f. What would the control be? \_\_\_\_\_

g. What would some of the constants be? \_\_\_\_\_

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2. Identify the independent variable (IV) and the dependent variable (DV) in each of the following scenarios. Then write a hypothesis using the "If..., then..." method.

a. Which type of music quiets a baby faster: classical, jazz or rock?

IV: \_\_\_\_\_

DV: \_\_\_\_\_

Hypothesis: \_\_\_\_\_

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b. Will a rubber band or a string hold more weight without breaking?

IV: \_\_\_\_\_

DV: \_\_\_\_\_

Hypothesis: \_\_\_\_\_

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c. Does the amount of water affect plant growth height?

IV: \_\_\_\_\_

DV: \_\_\_\_\_

Hypothesis: \_\_\_\_\_

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d. What effect does light have on a plant's growth?

IV: \_\_\_\_\_

DV: \_\_\_\_\_

Hypothesis: \_\_\_\_\_

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3. Design your own experiment, listing the question, the independent variable, the dependent variable, and the hypothesis.

Experiment (explain what you are trying to find out): \_\_\_\_\_

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Question: \_\_\_\_\_

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Independent variable: \_\_\_\_\_

Dependent variable: \_\_\_\_\_

Hypothesis: \_\_\_\_\_

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