Scientific method Practice Quiz – Answers are at the end of the document.

**Matching**

a. Hypothesis f. Dependent variable

b. Control g. Experiment

c. Draw Conclusions h. Gather and Analyze Results

d. Gather information i. Independent Variable

e. Question

1. \_\_\_\_\_ What is being tested in an experiment. The only difference between the experimental groups. What

you control.

1. \_\_\_\_\_ What is being affected during the experiment. What you will look at to get the results of the

experiment.

1. \_\_\_\_\_ A detailed list of steps or procedures used to test the hypothesis.
2. \_\_\_\_\_ Statements that accepts or rejects the hypothesis based on analyzed data.
3. \_\_\_\_\_Test group that has nothing changed. It is what the experimental group is compared to.
4. \_\_\_\_\_ Obtaining information from research and observation to form a hypothesis.
5. \_\_\_\_\_The information obtained from the experiment and determining what they say.
6. \_\_\_\_\_ An educated guess to what the results of the question will be.
7. \_\_\_\_\_ What you will be solving through scientific experimentation.

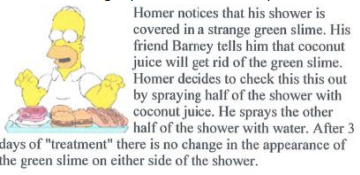
List three **variables** that would affect the number of apples that an apple tree produces.

10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the following experiment to answer questions 13-17



13 What do you think Homer’s experimental question was? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. What was the control group? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. What was the independent variable?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. What was the dependent variable?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. What would be a valid hypothesis for Homer’s experiment? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ANSWERS -

**Matching**

a. Hypothesis f. Dependent variable

b. Control g. Experiment

c. Draw Conclusions h. Gather and Analyze Results

d. Gather information i. Independent Variable

e. Question

1. \_\_i\_\_\_ What is being tested in an experiment. The only difference between the experimental groups. What

you control.

1. \_\_\_f\_\_ What is being affected during the experiment. What you will look at to get the results of the

experiment.

1. \_\_\_g\_\_ A detailed list of steps or procedures used to test the hypothesis.
2. \_\_\_c\_\_ Statements that accepts or rejects the hypothesis based on analyzed data.
3. \_\_\_b\_\_Test group that has nothing changed. It is what the experimental group is compared to.
4. \_\_\_d\_\_ Obtaining information from research and observation to form a hypothesis.
5. \_\_h\_\_\_The information obtained from the experiment and determining what they say.
6. \_\_a\_\_\_ A prediction about how variables are related and what the results of the question will be.
7. \_\_e\_\_\_ What you will be solving through scientific experimentation.

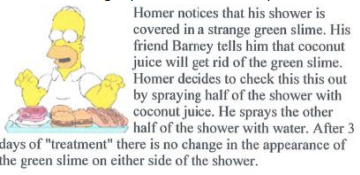
List three **variables** that would affect the number of apples that an apple tree produces.

10. \_\_\_\_\_\_\_\_*amount of water*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. \_\_\_\_\_\_\_\_\_*species of tree – its genetics*\_\_\_\_\_\_\_\_\_\_\_\_\_

12. \_\_\_\_\_\_\_\_\_\_*amount of sunlight it gets*\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the following experiment to answer questions 13-17



13 What do you think Homer’s experimental question was? *Will coconut juice get rid of green slime in a shower.*

14. What was the control group? \_\_\_\_*the half of the shower sprayed with water*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. What was the independent variable?\_\_\_\_*amount of coconut juice sprayed*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. What was the dependent variable?\_\_\_\_\_\_\_\_*whether green slime is present or not\_\_\_\_\_\_\_*

17. What would be a valid hypothesis for Homer’s experiment? *If the amount of coconut juice sprayed on a shower is related to the amount of green slime present, then if coconut juice is sprayed on a shower it will kill the green slime because coconut juice contains toxins. (the format, correct identification of variables, and that the variables are measurable are the only things important here. There are many correct answers.)*