

Name: \_\_\_\_\_

1. What is meant by the scientific method?
2. What is a hypothesis and how is it not just a question?
3. How is a hypothesis tested?
4. How are qualitative observations different from quantitative observations?

For each item in Column A, write the word of the matching from Column B.

Answer	Column A	Column B
	A procedure that tests a hypothesis by collecting information under controlled conditions	dependent variable
	In an experiment, the group in which all conditions are kept the same	experimental group
	In an experiment, the group in which all conditions are kept the same except for the one being tested	independent variable
	The condition that is changed by the experimenter	experiment
	The condition being observed or measured in an experiment	control group

Use each of the terms below just once to complete the passage.

**experimental results | experiment(s) | hypothesis | laws | scientific journals | theory | valid | verify**

When 5. \_\_\_\_\_ are reported in 6. \_\_\_\_\_, other scientists may try to 7. \_\_\_\_\_ the results by repeating the 8. \_\_\_\_\_.

Usually when a 9. \_\_\_\_\_ is supported by data from several scientists, it is considered 10. \_\_\_\_\_. Over time, a hypothesis that is supported by many observations and experiments becomes a 11. \_\_\_\_\_. Some well-established facts of nature, such as gravity, are recognized as 12. \_\_\_\_\_.

Name: \_\_\_\_\_

1. Anna decides to save money by switching to a generic brand of dog food for Schnookum and Shnoozer, her golden retrievers. After several days of eating the new food the dogs stop sleeping through the night. They whine and tug at Anna's blankets until she gets up to play with them. Anna wants to know if this behavior is caused by their new food. For one week, she gives the generic food to Shnookum, and she gives the original brand of food to Schnoozer. Schnookum continues to wake her up every night, but Schnoozer sleeps all night.

- a. Hypothesis \_\_\_\_\_
- b. Independent Variable \_\_\_\_\_
- c. Dependent Variable \_\_\_\_\_
- d. Controlled Variables \_\_\_\_\_
- e. Experimental Group \_\_\_\_\_
- f. Control Group \_\_\_\_\_
- g. What conclusion can Anna make? \_\_\_\_\_
- h. How can her experiment be improved? \_\_\_\_\_

2. Gabe loves running, but his feet develop terrible blisters. Some of his track teammates suggest that the blisters are caused by his cotton socks, which absorb moisture. Gabe borrows a pair of double-layer running socks made of a synthetic blend. For two weeks he wears the synthetic socks when running, and for the following two weeks he switches back to the cotton socks when running. During this month, Gabe counts the number of blisters he develops. He finds that he develops one blister while wearing the synthetic socks, but five blisters while wearing the cotton socks.

- a. Hypothesis \_\_\_\_\_
- b. Independent Variable \_\_\_\_\_
- c. Dependent Variable \_\_\_\_\_
- d. Controlled Variables \_\_\_\_\_
- e. Experimental Group \_\_\_\_\_
- f. Control Group \_\_\_\_\_
- g. What conclusion can Gabe make? \_\_\_\_\_
- h. How can his experiment be improved? \_\_\_\_\_