

# Scientific Method Practice Questions

Answer the following questions in your notebook

## Steps in the Scientific Method

1. Name the steps in the scientific method
2. Explain a scientist's first step in the scientific method.
3. Give an example of an observation that a scientist might make.
4. Scientists use their \_\_\_\_\_ to make observations.
5. What is a hypothesis?
6. A hypothesis must be \_\_\_\_\_ and it \_\_\_\_\_ an outcome.
7. Some hypotheses are written as \_\_\_\_\_ statements.
8. Write a hypothesis for the observation you wrote in question 3.
9. What is an experiment?
10. What part of an experiment is the independent variable?
11. How many independent variables should there be in a good experiment?

## Controls and Variables

12. An experimenter changes \_\_\_\_\_ factor(s) and then observes and \_\_\_\_\_ what happens.
13. Other factors in an experiment must be kept \_\_\_\_\_ so they won't affect the \_\_\_\_\_
14. What are these constant factors called?
15. What is the purpose of having a control in an experiment?
16. Name the two types of variables in an experiment.
17. What is the dependent variable?
18. What is the independent variable?
19. The best experiments make \_\_\_\_\_ trial(s) with the independent variable.

## Valid Experiments

20. What do you need to have a valid experiment.
21. What is data?
22. What are the TWO TYPES of data?
23. If the data is numbers, this is called what kind of data?

24. To be useful, collected data must be...?
25. Name 3 ways of organizing data.
26. What is the conclusion of an experiment?
27. What must be done to verify the results of an experiment?

## **Review**

28. To solve a problem, you should \_\_\_\_\_ the problem and state \_\_\_\_\_ you have made about it.
29. Next, you form a \_\_\_\_\_ or prediction and conduct an \_\_\_\_\_ to test the prediction.
30. During an experiment, \_\_\_\_\_ must be collected
31. Finally, a scientist forms a \_\_\_\_\_ based on the data.
32. To prove the experiment is correct, scientists \_\_\_\_\_ their results.