

Doing Scientific Investigation

I. Choose the correct answer for the questions below

1. What is the first step of the scientific method?
 - a) Form a hypothesis
 - b) Ask a question
 - c) Analyze the data
 - d) Do an experiment
2. What is a hypothesis?
 - a) A random guess
 - b) A proven theory
 - c) An educated prediction
 - d) A type of experiment
3. What is the variable you change in an experiment?
 - a) Dependent variable
 - b) Controlled variable
 - c) Independent variable
 - d) Measured variable

4. What is a controlled variable?
 - a) The result of the experiment
 - b) Something kept constant
 - c) The main thing being tested
 - d) The hypothesis
5. What do you use to organize and interpret data?
 - a) Predictions
 - b) Tables and graphs
 - c) Hypotheses
 - d) Questions
6. Which step comes after conducting an experiment?
 - a) Form a hypothesis
 - b) Ask a question
 - c) Analyze the data
 - d) Communicate results
7. Which of the following is not part of the scientific method?
 - a) Guess randomly
 - b) Communicate results
 - c) Make observations
 - d) Test a hypothesis
8. What should a good hypothesis include?
 - a) A question
 - b) A graph
 - c) An "if...then..." statement
 - d) A conclusion

9. What is the purpose of repeating an experiment?
- a) To have fun
 - b) To get the same results
 - c) To improve accuracy and reliability
 - d) To test a new variable
10. Which tool is most likely used to measure temperature?
- a) Ruler
 - b) Thermometer
 - c) Stopwatch
 - d) Balance

II. Answer if the following questions are true or false

- 1. The dependent variable is the one that is changed by the scientist.
- 2. A conclusion explains whether the hypothesis was correct.
- 3. It is okay to skip steps in the scientific method.
- 4. Observations can be made using the five senses.
- 5. A fair test means changing many variables at once.

III. Fill in the Blanks (with Answers)

- 1. The first step of the scientific method is to
- 2. A possible explanation or prediction is called a.....
- 3. The variable that is changed on purpose is the..... variable.
- 4. The variable that is measured in an experiment is the..... variable.
- 5. The factors that are kept the same are called variables.
- 6. Data collected during an experiment can be shown in a table or a
- 7. The conclusion tells whether the..... was supported or not.

8. Observations can be made using the five
9. Repeating an experiment helps improve
10. A fair test only changes..... variable at a time.