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

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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

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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.

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8. Observations can be made using the five ……..

9. Repeating an experiment helps improve …….

10. A fair test only changes…… variable at a time.

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