

Study Guide: Nature of Science - Test 1

Directions: Complete this study guide for a homework grade.

Study Guide is due on Tuesday, 9/20 - all classes

Your test will be on Wednesday, 9/21 - all classes

1. Write all the steps of the Scientific Method in order (problem statement all the way to abstract).

2. Write the definitions of the following terms:
 - a. Problem statement

 - b. Background research

 - c. Bibliography

 - d. Hypothesis

 - e. Independent Variable

 - f. Dependent Variable

 - g. Constants

 - h. Control Group

 - i. Materials

 - j. Procedures

3. What is the purpose of background research?
4. What is the purpose of identifying the four variables in an experiment?
5. What is the purpose of completing 3 trials in an experiment?
6. How many factors can be changed in an experiment (in other words, how many independent variables can there be?)
7. Why is it important to have as many constants as possible?
8. Why is it important to be as detailed as possible when writing the materials and procedures?
9. Matilda is testing if tomato plants can be grown by watering them with the water used to cook pasta. She grows three tomato plants with regular tap water. She grows another three tomato plants with pasta water.
 - a. Independent variable
 - b. Dependent variable
 - c. Constants
 - d. Control group
10. Does Matilda (from the previous question) have three trials?
11. Can scientific knowledge be changed to include new findings/evidence?