Scientific Method

-Logical approach to the solution of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ problems

-Useful for solving many kinds of problems

Steps in the Scientific Method

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Information obtained through the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-Often involve a measurement

2. Hypothesis

-Proposed explanation for observations.

-Most contain both an\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ variable.

-Independent variable

-What \_\_\_\_\_\_\_\_ manipulate to test the reaction

-Dependent variable

-What changes as a result of your \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example:

It was hypothesized that as the temperature of a solvent increases, the rate at which a solute will dissolve in that solvent increases.

Independent variable= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dependent variable = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Experiment

- Carefully controlled, \_\_\_\_\_\_\_\_\_\_\_\_ procedure for gathering data to test a hypothesis.

-For the results of an \_\_\_\_\_\_\_\_\_\_\_\_\_ to be accepted, the experiment must produce the same results no matter how many times it is \_\_\_\_\_\_\_\_\_ or by whom.

Control group

-Group not exposed to the test condition.