

Experimental Design

A. Scientific methods—ways, or steps to follow, to _____.

1. Steps to the scientific method:

- a. Recognize the _____.
- b. Do research and form a _____.
- c. Design an _____ and test your hypothesis.
- d. _____ your data.
- e. Draw _____ and _____ your results.

B. Experimental research design—

1. Form a **hypothesis**, which is a _____ that can be tested.

2. Plan the _____.

- a. **Independent variable**—the factor in the experiment that is _____.
- b. **Dependent variable**—the factor in the experiment that is being _____.
- c. **Constants**—variables that stay the _____.

3. Use a **control**—a sample that is treated like the other experimental groups except that the _____ variable is not applied to it.

4. Conduct several _____ of the experiment.

5. _____ your results and draw conclusions.