**Controlled experiment** (1 element changed at a time)

Groups:

--**experimental group**-receives the element being tested.

--**control group**-DOES NOT received element being tested.

**Constants (or controls)** are elements in experiment that are kept the

same.

2 types of variables:

--**independent** (manipulated) variable-always on x axis, what the

experimenter changes in experiment (has control over).

--**dependent** (responding) variable-always on y axis, measured

change (results) due to independent variable.

**placebo--**inert substance given to control group and should have no

effect on it (eliminates bias) Ex: medicine studies

**Handout 1B Examples of Experimental designs**

**1. A team of scientists wonder if the amount of vitamin A**

**given to laboratory white mice would affect the number of**

**offspring born. An experiment is set up using the same**

**species of white mice. Each mouse in the study gets the**

**same amount of food, daily exercise, and is kept at the same**

**temperature. One group of mice gets extra vitamin A**

**supplements added to their food. The number of offspring**

**are counted and recorded.**

**(a) Write a possible hypothesis for this experiment.**

**(b) What is the dependent variable?**

**(c) What is the independent variable?**

**(d) Which variables are being controlled in this study?**

**TEXAS MOSQUITO**

**1. Look at the Texas Mosquito.**

**2. Observe as many characteristics as you can about its**

**SHAPE, SIZE, COLOR, TEXTURE, OR ANY OTHER FEATURE**

**you can observe.**

**3. Write 2 QUESTIONS you have about the Texas Mosquito.**

**4. Write 1 HYPOTHESIS that you could test using the Texas**

**Mosquito.**

**5. How do you think your observations were similar to those**

**a scientist might make?**

**6. Explain how your observations led you to form a question.**