**Biology 1.3 Scientific Thining and Processes Krueger**

**What is a Control group?**

A control group is used to study the effects of the Independent variable.

**What is an Experimental Group?**

The experimental group is a group of subjects that are exposed to the variable in a controlled experiment.

**Like all science Biology is a process of Inquiry.**

* **Observation:** Scientists make care and systematic observations.
* **Hypothesis:** Scientists form an hypothesis as a possible answer to the questions posed.
* **Testing:** Doing an experiment to test the hypothesis
* **Analyzing:** Collecting data and comparing results
* **Evaluating:** Conclusion. Presenting the results of the experiment.

**What is an Experiment?**

A process used to test a hypothesis.

**What is data?**

Observation and information that can be recorded and analyzed.

**What are 2 types of data that can be gathered in a scientific experiment.**

**Qualitative:** Descriptions of phenomena (sight, smell, sound)

**Quantitative:** characteristics that can be measured or counted ( mass, volume, temperature, etc)

**Control Groups:**

**What is a Control Group?**

The thing that stays the same.

**Experimental studies allow scientist to determine what causes a phenomenon.**

* **Independent Variable.** Manipulated by the scientist.
* **Dependent Variable:** are observed and measured.

**The Independent Variable effects the dependent variable.**

**Constants are conditions that are kept the same.**

**Theories:** Explain a wide range of observations and experimental results.