**AP Biology 12 – Enzyme Lab Day 1**

**Baseline** is a universal term for most chemical reactions.  We will use it to establish a standard for a reaction.  It is a reference to help us understand what occurred in a reaction after we manipulate components such as substrates and enzymes.  Different conditions can be compared and the effects of changing an environmental variable such as pH can be determined.

**Reaction Rate.**When comparing the change in a reaction, you can infer increase, decrease or no change in the rate of a product being produced.  This is called the *relative* rate of the reaction.  To measure the actual volume and time during a reaction, this is referred to as *absolute* rate of the reaction, ie. 97 mL per minute.

**Day 1 Goal:**

1. To establish a Baseline for Hydrogen Peroxide - H2O2 with and without a catalyst.

2. To propose an experiment for day 2



**Apparatus:**

Reaction: 2 H2O2 🡪 2H2O + O2

**Procedure Day 1** – **Establishing a Baseline**

Experiment 1: Decomposition *with* a Catalase

1. Set up apparatus.
2. Create a data table to record volumes of gas collected and time.
3. Put in 10mL H2O2 into flask and 1 mL Catalase.
4. Collect the gas and time how long it takes to reach a specific volume.

Experiment 2: Decomposition *without* Catalase

1. Set up apparatus.
2. Create a data table to record volumes of gas collected and time.
3. Put in 10mL H2O2 into flask and 1 mL H2O (to keep volume constant).
4. Collect the gas and time how long it takes to reach a specific volume.