AP Biology – Fall 2017 Mr. Sprague

SUMMER ASSIGNMENT

Complete each of the following tasks before the first day of class on Thursday, September 7, 2017.

1. We will begin the course studying animal behavior, and along the way we'll discover why a change in DNA can make bees reluctant to clean out their hives, how genetics experiments can turn mice bisexual, why Darwin couldn't explain the selflessness of naked mole rats, and how researchers discovered that what we used to think was penguin suicide was really one penguin murdering another. To supplement our readings and discussions on this topic, you will be designing and carrying out an experiment to observe animal behavior (and learn a little statistics to make your claims even more convincing).

   The subject of our first laboratory experiment will be *Tenebrio obscurus*, a species of beetle that begins life as a worm-like larva before undergoing metamorphosis into the adult form. Your task is as follows:

   Design a scientific experiment to determine whether *Tenebrio obscurus* larva prefer light or dark environments. You are encouraged to consider using scientific terms (independent variable, dependent variable, control, constants, etc.) where appropriate, as well as what materials you will need to conduct the experiment (these should be things that you can bring in to school). You are not required to research any outside information, but if you do, be sure to write down the exact source where you found such information.

2. In addition to the notebook that you use for class notes, you will also need a laboratory notebook that will stay in our classroom lab—this must be a bound composition book with no pages turn out. Please purchase a new bound composition notebook and bring it to class.

3. During the last week of August, you will receive an email from Mr. Sprague via Pupil Path that you will be asked to carefully read and respond to. Please be sure to respond before the first day of class.

   Suggestion: change your Pupil Path settings so that emails sent to your Pupil Path account are automatically forwarded to the email address that you check regularly.

   Optional: think of a good biology joke that you can include in your response.