

Design an experiment (due 3/12/18)

You are going to do a thought experiment. You will come up with an experiment, describe all the components of the experiment as the first part of a larger proposal, ensure that, if you were to have it performed it would be valid data, but you are not actually going to do it. This assignment will be used and revised for a larger written assignment later.

For the first part of your written assignment, you will submit a proposal describing the design of a biological experiment that is connected to a topic that has been (or will be) covered in class.

In the proposal, you will describe 1) what you are planning on testing; 2) why you plan on testing it; 3) what you hope your experiment will show; 4) what your dependent and independent variables are; 5) and all necessary controls.

Organize your submission using the following headings:

1. Title of Experiment
2. Statement of your hypothesis
3. Description of your independent variable
4. Description of your dependent variable
5. Description of your control group(s)
6. A brief description of how the experiment will be performed

Things to keep in mind: your hypothesis and experiment should be extremely focused and clearly defined; you should have adequate number of replication of the experiment as part of the description; your sample size in your controls and treatment groups should be adequate; make sure your dependent variable actually addresses your hypothesis; make sure you have enough controls to eliminate other alternate explanations for possible results.

Recommended steps:

- Brainstorm a list of topics covered in class. Use your notes, or resources posted on iLearn, or your book to help you.
- Choose a few that you are most interested in and brainstorm some experiments that could be done.
- Of the one you like best, start to craft what the experiment might look like.
- Isolate all the conditions you need to control for.
- Think about what your data might look like, if you were to run the experiment.

Your written proposal does not require that you do any outside research or gather any references. Not at this point.

The proposal should not be more than 300 words.

Grading will be based on clarity of thought, practicality of the experiment, and how well thought out it is.