Nar	ne

Period \_\_\_\_\_

Biology

Date \_\_\_\_\_

## **GENERATING HYPOTHESES & EXPERIMENTAL DESIGN 1**

## 1. General Idea

## 2. Hypothesis Development

- a. Factors that you think may have a relationship:
- b. Describe the type of relationship (positive, negative, neutral):
- c. Prediction of how a **<u>change</u>** in one factor affects the **<u>change</u>** in the other.
- d. If that relationship is accurate, then predict the specific changes that you will be able to *measure* during the experiment.

e. Restate as a hypothesis: specific, includes a prediction & is testable (try to put it in an *"lf..., then..."* format):

## 3. Experimental Design

- a. Which is your *measured* (dependent) variable?
- b. Which is your *manipulated* (independent) variable? \_\_\_\_\_\_

c. List three <u>confounding variables</u> that you would have to keep constant to isolate your tested variable.

(*Confounding* means *confusing*, so confounding variables would be other factors that could affect the results and therefore confuse your interpretation of the results)

d. Describe your experimental groups for your experiment.

e. Describe the control group(s) for your experiment (the treatment you are going to compare others to).

f. Suggest a sample size for your test groups in this experiment.

g. What result would cause you to conclude that your hypothesis is <u>supported</u>? (notice I didn't say "prove"!)

h. What result would cause you to **reject** your hypothesis? (notice I didn't say "disprove"!)

i. Design a data table that you would use to collect your data.