



Testing Your Hypothesis Worksheet

Designing and conducting an experiment is a key occurrence in your project. When conducting your experiment(s), you and your team need to ask yourselves, "What makes a good experimental procedure?"

Step 1. Read the following questions carefully, answering "Yes" or "No" for each.

Have you included a description and size for all experimental and control groups?	Yes / No
Have you included a step-by-step list of all procedures?	Yes / No
Have you described how to change the independent variable and how to measure that change?	Yes / No
Have you explained how to measure the resulting change in the dependent variable or variables?	Yes / No
Have you explained how the controlled variables will be maintained at a constant value?	Yes / No
Have you specified how many times you intend to repeat the experiment, and is that number of repetitions sufficient enough to give you reliable data?	Yes / No
The ultimate test: Can another individual duplicate the experiment based on the experimental procedure you have written?	Yes / No

Every good experiment compares different groups of trials with each other. Such a comparison helps ensure that the changes you see when you modify the independent variable are in fact caused by the independent variable. There are two types of trial groups: experimental groups and control groups.

Step 2. Identify the experimental group(s) for an experiment. Remember, the experimental group consists of the trials where you change the independent variable.

Example Hypothesis: *If I add fertilizer to my plants, then they will grow bigger.*

What is the experimental group? _____

Step 3. Now that you have identified the basis of experimental groups, use the following hypothesis to identify the controlled variables:

Example Hypothesis: *If I add fertilizer to my plants, then they will grow bigger.*

What are the control groups?

1. _____
2. _____
3. _____