A Good Experiment

- Is ______________. The experimental procedure must test your hypothesis to see if it is correct.
- If the procedure does not test your hypothesis, the experiment is not valid and the data will make no sense!
- Has _________________. Repeating the trials in the experiment will reduce the effect of experimental errors and give a more accurate conclusion.

Variables

- A variable is anything in an experiment that can change or vary.
- It is any factor that can have an effect on the outcome of the experiment.

3 Kinds of Variables

1. Independent Variables (IV)
   - Something that is intentionally changed by the scientist
   - What is _______________
   - What is _______________
   - Also called a "_____________________________"
   - You can only change _______variable in an experiment!!
   - Located on the _____-axis when graphing
     Independent Variable (IV)
     To determine the independent variable, ask yourself:
     "What is being changed?"
     Finish this sentence...
     "I will change the ______________"

2. Dependent Variable (DV)
   - Something that might be affected by the change in the independent variable
   - What is _______________ and _______________
   - The data collected during the investigation
   - Also called a "_____________________________"
   - Located on the ___-axis when graphing
     Dependent Variable (DV)
     To determine the dependent variable, ask yourself:
     "What will I measure and observe?"
     Finish this sentence...
     "I will measure and observe ______________"

3. Controlled Variable (CV)
   - A variable that is not changed and is kept the same
   - Also called ________________
   - Allows for a "_____________________________"
   - Not the same as a "control" !!!
   - Any given experiment will have many controlled variables
     To determine the controlled variables, ask yourself:
     "What should not be allowed to change?"
     Finish the sentence...
     "I will not allow the ______________ to change."

Control

A group or individual in the experiment that is not tested, but is used for ______________ as a reference for what "normal" would be like.

Not all experiments have a control (though, all experiments have controlled variables).

Example: If you tested different pollutants to see their affect on plant growth, the control would only receive water.