Testing your hypothesis

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_

**Variables and hypothesis**

When designing a test for a hypothesis you should always have your hypothesis and variables listed upfront. If you get stuck while designing your test, you should take a second look at both your hypothesis and your variables.

Hypothesis to test:

Null hypothesis:

Independent variable:

Dependent variable:

Controlled variables: These are variables that can either be kept constant. List at least 2 variables. You should also give a short description of how you could control each one.

Other variables: These are variables that cannot be fully controlled and can impact your procedure. List at least 1. You should also give a short description of how the effects of the variable can be reduced.

**Overview**

Answer the following questions in 2 - 3 sentences each.

What evidence would prove your hypothesis? How would you find it?

Will your test be done in a lab, a zoo, or in the natural environment of the chimps? Why or why not?

**Procedure**

List the materials required for your test(at least 3);

Procedure:

How long would your test take? Days? Weeks? Months?

What conditions would your test be done in (weather, time of year, etc)? Why?

**Concerns/Limitations**

Are there any ethical Concerns with your hypothesis/experiment? If so, how could you address them?

Could your experiment be inconclusive? If so, how?

**Rubric**

|  | **1** | **2** | **3** | **4** |
| --- | --- | --- | --- | --- |
| Hypothesis  40% | The hypothesis is incomplete.  The null hypothesis is incomplete. | The hypothesis is untestable and/or unfalsifiable.  The null hypothesis is written incorrectly. | The hypothesis is testable and falsifiable but unclear and/or overly general.  The null hypothesis is written correctly. | The hypothesis is testable, falsifiable, clear, and precise  The null hypothesis is clear, precise, and written correctly. |
| Variables  20% | The independent and dependent variables are incomplete.  Less than 2 controlled variables were listed.  No other variables listed. | The independent and dependent variables are vague, imprecise or not connected.  Controlled variables were given, but they do not connect to the experiment, or the explanation about how to control them were incomplete.  Other variables were given but they do not connect to the experiment, or the explanation about how to address their effects were incomplete. | The independent and dependent variables are connected to each other and the hypothesis.  Controlled variables connect to the experiment and their method of control is explained.  The other variables connect to the experiment and a method for limiting their effect was given. | The independent and dependent variables are clear, precise, and connected to each other and the hypothesis.  Controlled variables are clear. concise, and connected to the experiment. The method for controlling the variable is also clear and accurate.  The other variables are clear, precise, and connect to the experiment. The method for limiting their effect was clear and accurate |
| Experimental design  25% | Not enough materials listed.  Procedure is incomplete. Or the procedure does not follow from the hypothesis or variables.  Conditions and timespan of experiment not considered. | Materials are listed but vague or unrelated to the experiment .  Procedure is vague, too general, and unclear.  Conditions and timespan of experiment are vague | Materials are clear and related to the experiment.  Procedure is clear and logical.  Conditions and timespan of experiment are clear. | Materials are clear, specific, and related to the experiment.  Procedure is clear, logical, and detailed.  Conditions and timespan of experiment are clear and precise. |
| Ethical concerns and potential flaws  15% | Ethical concerns were not addressed.  Limits of the test were not discussed. | Ethical concerns were overlooked and not properly addressed.  Limits of the test were overlooked and not properly addressed. | Ethical concerns were clearly stated and addressed.  Limits of the test were clearly stated and addressed. | Ethical concerns were clearly stated, well considered, and well addressed.  Limits of the test were clearly stated, well considered, and well addressed. |