ESS 200 Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experimental Design

Practice #1 – Reaction Time Experiment

**Experimental Question:**

**Manipulated Variable:**

**Responding Variable:**

**Hypothesis:**

**Procedure:**

**Controlled Variables (list at least three important ones):**

1.

2.

3.

**Results (Fill in the table below)**

|  |  |  |
| --- | --- | --- |
|  | **Responding Variable (and units of measurement) :** | |
| **Trial #** | **Test Group 1:** | **Test Group 2:** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |
| **5** |  |  |
| **6** |  |  |
| **7** |  |  |
| **Average** |  |  |

**Statistical Test Used (Circle all that apply):**

Mann-Whitney U T-Test for Independent Means T-Test for Paired Means

One-tailed test (a.k.a. one-sided) Two-tailed test (a.k.a. two-sided)

Significance level: 0.01 0.05 0.1

**P-Value Calculated by Statistical Test:**

**Conclusion:**

ESS 200 Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Experimental Design

Grading Sheet Practice #1 – Reaction Time Experiment

Does the experimental question have easily identified manipulated and responding variables?

Are the manipulated and responding variables correctly identified?

Does the hypothesis predict how changing the manipulated variable will affect the responding variable?

Does the hypothesis propose a logical reason for this prediction?

Does the procedure provide enough detail to allow you to repeat this experiment and expect similar results?

Does the procedure include a precise means of measuring the responding variable?

Are the controlled variables factors that would affect the responding variable if they were not controlled?

Did the experimenters list the most important controlled variables for this experiment?

In the results section, is the responding variable correctly entered, with correct units?

Are the two test groups labeled (titled) in a way that clearly demonstrates how the manipulated variable was varied?