**Simple Pendulum Lab**

**Cycle 1**

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**Abstract**

In this lab, we investigated the relationship between period and the length of simple pendulum. A simple pendulum is a point suspended from a frictionless thread. Several different lengths of pendulums were found, and we charted their correlation.

**Introduction**

This experiment was conducted on a table in which many pendulum experiments was conducted. We used a balance, lab post, 1-meter string, 2-pendelum bobs, pendulum apparatus, timer w/gate.

**Data and Results**

**Table 1: Brass ball 62g.**

A screenshot of a cell phone

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To find acceleration we divided the length by the average period time squared.

Table 2: Brass ball 20g.

Table

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Table 3:

To find the length of each table, I used the equation 4(pie)^2l. To find the average, I squared the period.

Table

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Table 4:

Table

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Graph 1:

Chart, scatter chart

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This graph shows the acceleration of the ball due to gravity.

Graph 2:

Chart, line chart

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**Procedure**

The procedure used to collect the data present here is described at the Simple Pendelum experiment in Hayden-McNeil’s *“Physical Sciences - Student Lab Notebook”. University of South Carolina*

**Equations**

Equations we used were to find acceleration, average, period, length, slope, and time.

**Conclusion**

We found that when the length and period were directly correlated, and a shorter string would have a shorter period. Factors that could cause error in this experiment are human based errors. Setting up the timer by hand can never be directly accurate consistently, leading to false information.

**Questions**

1. The length and period are directly proportionate. When the length increases, the period increases.
2. Our calculated g value was not in the expected proximity to the average value of g, 9.81. This may show that this is not a good way to determine g.
3. The bob did not have an effect in the recorded times of the period.
4. The best way would to be to do many trials, and then take the average.

**References**

Hayden-McNeil *“Physical Sciences - Student Lab Notebook” University of South Carolina*