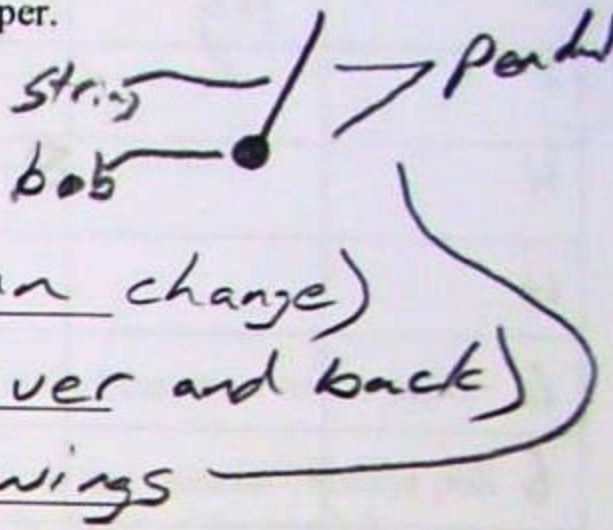
Physics
Periodic Motion

Name_____
Date_____
Block_____

Academic Honesty Guidelines: You are permitted to collect data as a group. You must make your own graph and answer questions on your own—do not copy someone else's paper.
Problem: Which **variable(s)** affect the **period** of a **pendulum**?
We will investigate **mass** and **length of string**



Vocabulary:

Variables: a thing that varies (can change)

period: time for 1 full cycle (over and back)

pendulum: a weighted string that swings

Materials: washers, string, large paper clip, masking tape, a pencil, straw, graph paper, stopwatch, and metric ruler

Procedure:

A. How does changing **the mass** of the pendulum affect **the period** of a pendulum?

What is the independent variable (what you change)? mass

What is the dependent variable (the one that might depend on the indendent variable)?

period

Write a hypothesis: If we add mass, then the period [what you think].

1. Attach a paper clip to one end of a piece of string.
2. Slide the string through a straw and attach the straw to the table.
3. Find the mass of two washers (record this in the data table) and then put them on the paper clip.
4. Adjust the length of the string so it is 30 cm long from the end of the straw to the paper clip. Secure the string.

Periodic Motion Lab

Conclusions:

Part A: Changing the pendulum mass does not affect the pendulum's period.

Part B: Lengthening the pendulum string does lengthen the pendulum's period.