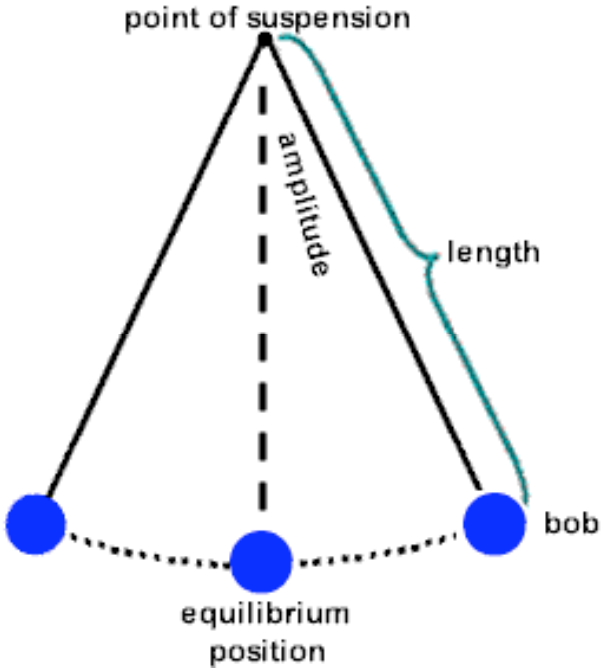
_Name_____

Date_____ Pd____

UNIT 1 CP LAB 3 - Period of a Pendulum (Prelab)

Purpose: To determine what factors affect the period of a pendulum and construct mathematical models for the relationship between these factors and the period. (you will rewrite this when you decide what factors you will be testing to make this statement more specific)

Background:



A **simple pendulum** consists of a string, cord, or wire that allows a suspended mass to swing back and forth. The categorization of "simple" comes from the fact that all of the mass of the pendulum is concentrated in its **"bob"**—or suspended mass.

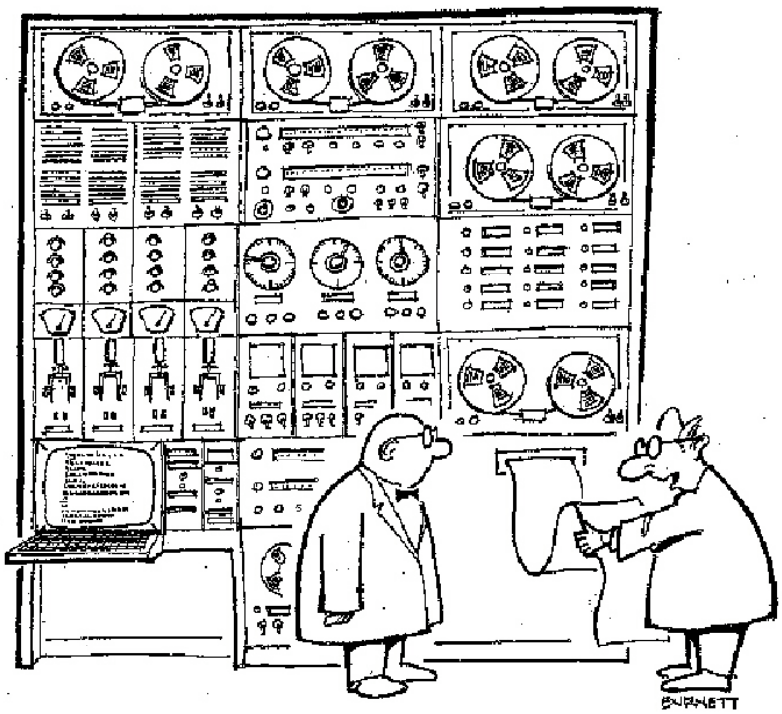
As seen in this diagram, the **length** of the pendulum is measured from the pendulum's point of suspension to the center of mass of its bob. Its **amplitude** is the string's angular displacement from its vertical or its equilibrium position. If a pendulum is pulled to the right side and released from rest, the time for one complete swing (the time for "bob" to return to its starting point) is called the **period** and is measured in seconds.

1. List all factors that you think could affect the period of a pendulum below.

2. To determine a mathematical model for the relationship between each factor and the period, you will need at least 6 data points (and 3 trials per point). Which of the factors in your list can you measure and assign numerical values to? Go back to your list and cross off all factors that cannot be quantified.

3. You will need to do a separate experiment for each factor you are going to test. What are your independent, dependent and control variables for each of these experiments?

exp. #	independent variable	dependent variable	control variables
1			
2			
3			



"It checks out OK on the computer, now let's confirm it with the pendulum."