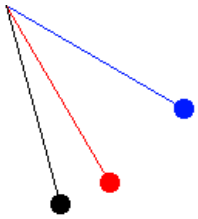

Title: Pendulum Lab

Purpose:

- To determine the relation among mass, length of string, height of release and period of a pendulum

Materials

- pendulum bob (metal washers)
- string
- ring stand
- stop watch
- paper clips
- protractor

Procedure:

1. Determine mass of one metal washer (record!)
2. Attach washer to a length of string measuring about 30 cm
3. Attach string to ring stand such that length is 25 cm
4. Bring pendulum to a vertical position and release.
5. Record the time (s) for 10 cycles (one partner counts, one times, one records!)
    a. calculate the time for 1 cycle!
6. Repeat the procedure by
    a. increasing the mass but keeping length of pendulum at 25 cm
    . you will need to increase the mass by adding an additional washer
    . do this several times until you have added 5—10 washers
    . remember to record the mass of each additional washer
    b. increasing the length of the string but keeping the mass the same
    . you will need to increase (or decrease) the length of the string by intervals of 5—10 cm
    . do this several times so you have changed the length of the string 5—10 times
    c. Repeat the original procedure by varying the height of release
    . use a protractor to estimate the angle of release!

7. Graph your data
    a. mass (x) vs period (y)
    b. length (x) vs period (y)
    c. release height (x) vs period (y)

Results:

Sample Data Chart

Mass (g)	Length of String (cm)	Period (s)	
		10 cycles	1 cycle

Discussion:

1. Summarize what you did.
2. Discuss your results…..remember to include data to support your statements.
3. Describe sources of error.
4. Suggest improvements.

Conclusion: (answer the questions)

What is the relation between mass and period of a pendulum?
What is the relation between length and period of a pendulum?
What is the relation between release height and period of a pendulum?

Reflection: Personal Statement