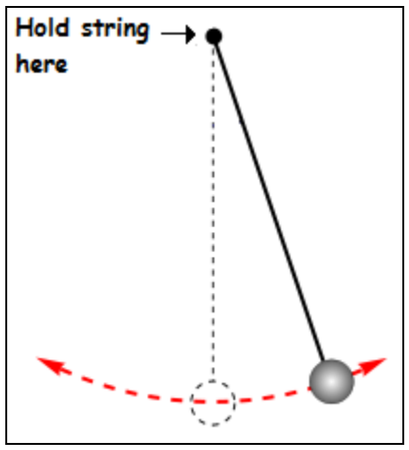
Pendulum inquiry

What you need: 1 m of string, two objects of different weight, stopwatch, meterstick

What you do:

1st

- Attach one object to the end of the string and let the object hang down from your hand.
- Pull the object to the side about two feet and let it swing freely…this is a pendulum.
- Observe the motion of the pendulum.
- Describe the motion of the pendulum (1) so that your friend would understand and (2) in terms of time, distance, direction, speed, and energy



2nd

- Make a data table on your paper with the following heading:

Pendulum Length	20 cm	55 cm	90 cm

- You will now swing the object as you did in the first part, but you will make some specific measurements and record your data:

  (a) Measure the time for ten complete back and forth swings at each of the 3 lengths. The pendulum length is the distance from the object to the bottom of the object as it hangs down from your hand.

  (b) Attach the extra weight to the object at the end of the string. Repeat (a) for the 55 cm length.

What you learned:

1. What is a pendulum?
2. Does the length of the pendulum dramatically affect its rate of swing?
3. Does the weight of the pendulum dramatically affect its rate of swing?