Name: _____ Date: _____

Conceptual Physics Pendulum Lab #2

Materials:

- Labquest
- Motion sensor
- Ring stand
- String
- Ruler
- 500 gram mass

Procedure:

1. Connect the motion sensor to the Labquest and turn the power on.
2. Set the graph to position vs. time with a window of $0 \le t \le 10$ seconds and $-3 \le p \le 3$ meters. Make sure the data collection is 10 seconds.
3. Tie one end of the string to the mass and the other end to the ring stand to make a pendulum.
4. Set the pendulum at equilibrium and place the motion sensor in line with the pendulum.
5. Zero the motion sensor.
6. Release the pendulum at a small amplitude and collect data for 10 seconds.
7. If the data looks jumbled (not a sine curve), repeat the procedure until accurate data is collected.
8. Print out the position vs. time graph.

Questions:

1. What is the amplitude of the graph? How did you calculate this?

2. What was the period of the pendulum?

3. Did the period change over time? Why or why not?

4. Measure the length of the pendulum and calculate the period of the pendulum.

5. Calculate the percent error of your first recorded period.

Name: _____ Date: _____
Physics Sound Waves Laboratory

Procedure:

1. Puncture a small hole in the bottom of two paper cups.
2. Cut a string approximately 10 feet long and push one end through the hole in each cup.
3. Tie a large knot in each end of the string so that it does not pull through the cups.
4. Have two group members stand almost 10 feet away from each other with the string hanging loose.
5. While one student holds one cup to his/her ear the other student should talk into the other cup.
6. Pull the string taut and repeat step five.

Questions:

1. When the string was loose, were you able to transmit a conversation? Why or why not?

2. When the string was taut, were you able to transmit a conversation? Why or why not?

3. Was the conversation sent via a transverse or longitudinal wave? Explain how you know.

4. Are sound waves usually transferred by a transverse or longitudinal wave?