Name _____ Date _____

AP Physics Lab Activity #19 (15 pts)

Period _____ Mrs. Nadworny

Partners: Due Date _____

Sound Waves

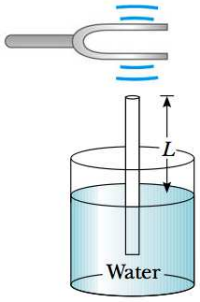
NO Lab Write-Up Required
must be neatly written in pencil

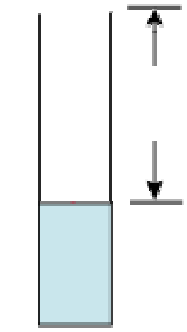
Purpose

To produce standing waves in a pipe.

Background

A tuning fork is struck and held above a tube that is partially submerged in water. The amount of the tube that is above the water level, L, can be varied by moving the tube up and down. The tube is moved up and down until a standing wave is heard to resonate in the tube.





First resonance

1. On the diagram at left, sketch the standing wave for the first length of the tube for which the fundamental standing wave will resonate. Label with the appropriate wavelength amount. (2 pts)

2. Perform this experiment and use your data to determine an experimental value for the speed of sound in the classroom.

Data Collection (4 pts)

Make a clearly labeled table for organizing the raw and processed data that you expect you will collect.