

Resonant Pendulum Lab

Hang 4 pendulums from a board that can roll. Have the lengths of two of the pendulums be the same. Have the other two pendulums be of two other lengths. Swing a pendulum that has no matching length hanging from the board in the direction that rolling movement is allowed and observe the movement of the other pendulums.

Then swing a pendulum with a matching length, and observe the motion of the other pendulums.

Before trying this, predict what will happen.

In earth quakes, some buildings fall apart, and others survive. If the frequency of the vibrations of the earth quake matches the natural frequency of a building, the vibrations will add to the swaying, and the swaying will continue to increase and cause damage. If the frequency of the vibrations of the earth quake does not match the natural frequency of a building, the vibrations will interfere with the swaying, and the building will not suffer too much damage.

Write up your procedures and observations in word and e-mail to Mr. Shumway for a student that had pneumonia and had to stay home, but wants to learn.