

Name \_\_\_\_\_

[http://phet.colorado.edu/simulations/sims.php?sim=Wave\\_on\\_a\\_String](http://phet.colorado.edu/simulations/sims.php?sim=Wave_on_a_String)

Mini-lab: Computer simulation

Main goals: See the effect of different frequencies, amplitudes, damping and reflections (note: changing the end from loose, to fixed to “open”.. has a huge impact on whether or not interference occurs or not)

Play with the “wiggle wrench”..

Change the damping..

What do you see? Please draw a picture and explain the effects..

Set the end to fixed.. then loose.. the open window..

What do you see? Please draw a picture and explain the effects..

Try and create situations in which you generate standing waves.. (use the meters and timers)..

Can you create standing waves with only nodes at the ends? (this is called the “fundamental” mode of vibration in music)

What was the period, wavelength, frequency and wave speed? (draw a labeled picture)

Can you create a mode of vibration which has one “node” in the middle?

What was the period, wavelength, frequency and wave speed? (draw a labeled picture)

Can you create a mode of vibration which has two or three “nodes” in the middle?

What was the period, wavelength, frequency and wave speed? (draw a labeled picture)