

Name _____ Period _____

Introduction to waves:

1. In a separate window open this link:
<http://ionaphysics.org/classroom/Preview/TransverseWave/index.html>
2. If necessary, adjust the sliders so that the frequency is 10 Hz and the amplitude is 40 mm.
3. Note that you can freeze the motion by clicking on the PAUSE button. You can unfreeze it by clicking on the PLAY button.
4. Note also that the animation is in slow motion. Time is in the upper right corner. It does not correspond with your watch time.

Procedure:

1. Using the slider, adjust the amplitude and describe how the wave changes. You may use words (“When I reduce the amplitude the ...”) or you may draw diagrams.
2. Using the slider, adjust the frequency and describe how the wave changes. You may use words (“When I reduce the frequency the ...”) or you may draw diagrams.
3. Pause the wave. Record the frequency of the wave as set by the slider. _____ Hz.
4. Measure the wavelength of the wave on the screen _____ m.
5. Calculate the speed of the wave using the relationship $v = f \lambda$ _____ m.
6. Now change the frequency of the wave (you may either increase it or decrease it.)
7. Record the new frequency of the wave as set by the slider. _____ Hz.
8. Measure the new wavelength of the wave on the screen _____ m.
9. Calculate the speed of the wave using the relationship $v = f \lambda$ _____ m.