

Wave Basics

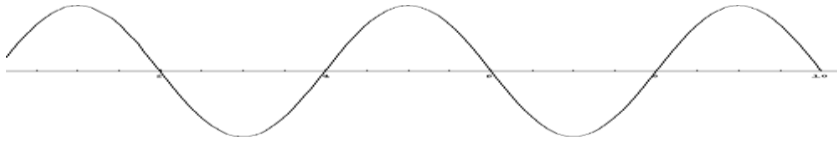
Name: _____

Use the PhET sim "Wave on a String" for the next questions. <http://PhET.colorado.edu>

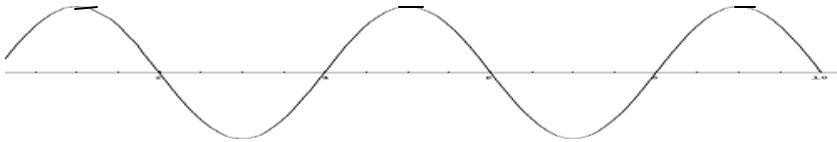
Play around and get familiar with the sim first. Be sure to try out all the buttons.

1. Are you familiar with longitudinal and transverse waves? Which type of wave is being shown by this sim?

2. Use arrows, or draw on the wave, to show what will happen when the **amplitude** is increased:



3. Use arrows, or draw on the wave, to show what will happen when the **frequency** is increased:



2. What direction does each individual part of the string move when a wave travels along it?
3. What direction does the actual wave move (hint, try pulse)?
4. The speed of the wave is how fast it travels from the oscillator/wrench to the clamp/window/loose end. Does the speed vary depending on Amplitude, Frequency, damping or tension? Make a table showing how/if it changes with **each**?

Watch the video on "Types of Seismic Waves":

http://www.iris.edu/hq/programs/education_and_outreach/videos#M

5. What are the three different types of waves mentioned?

6. What is different about each?

7. When the class did "the wave" (Transverse wave),
 - a. what direction did you move?

 - b. What direction did the wave move?

8. How about when you made the compression wave (standing in a line and pushing).
 - a. which direction did you move?

 - b. Which direction did the wave move?