

Goal: To identify the aspects of a transverse wave.

Start by open the PhET model Wave on a string. Make sure the tension is set to high and with no end.

1. Set the wave to pulse, and send a pulse down the string. In what direction does the wave move? In what direction does the “beads” on the string move?

2. The word “transverse” is defined as “made at right angles to the long axis of the body”. Why is this type of wave referred to as a transverse wave, what is at right angles to what?

3. Increase and decrease the frequency of the wave, does the wavelength change? Does the amplitude of the wave change?

4. Increase and decrease the tension of the string, what effect does this have on the wave? Does it change the frequency? Does it change the Wave length? Does it change the wavelength?

5. The Speed of a wave is equal to the wavelength of the wave times its frequency. Does the wave move faster when the tension is increased or decreased? Does this make equation hold true?

6. In Simple Harmonic Motion, we looked at damped motion. A wave ongoing damped has a amplitude that behaves like Ae^{-bt} does our wave behave like this