Name_____ Pd _____ Date _____

Introduction to Waves

Wave - disturbance that transfers energy through a medium

Energy – the ability to do work

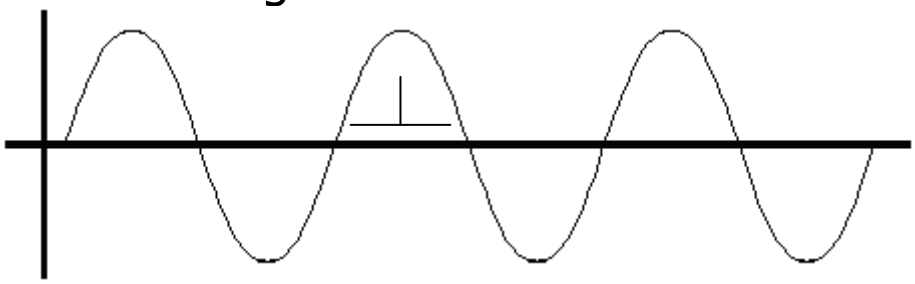
Medium – material through which a wave travels (Ex: gases, liquids, solids)

Mechanical Waves – waves that require a medium through which to travel

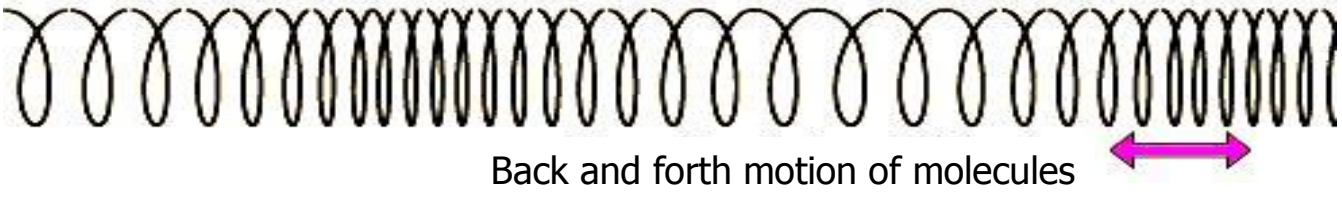
- *Mechanical waves are produced when energy causes a medium to **vibrate**.*

There are two types of mechanical waves…

Transverse Waves – waves that move the medium perpendicular (or at right angles) to the direction in which the wave is traveling.



Longitudinal Waves - waves that move the medium parallel to the direction in which the wave is traveling. = or ||



Back and forth motion of molecules

Electromagnetic Waves – waves that do NOT require a medium through which to travel.

- *Electromagnetic waves CAN travel through a medium, but they do not require one in order to exist.*

Frequency – the number of waves that pass a given point in a given time. (Measured in Hertz—abbreviated: Hz)

Example: You move a jump rope up and down to create waves. How many waves pass you per second? Let's say 2. The frequency of the wave is 2 Hertz, or 2 Hz.

Velocity – The speed and direction of a wave