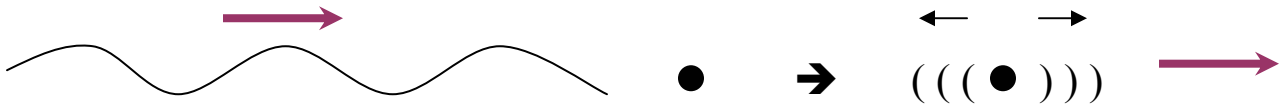
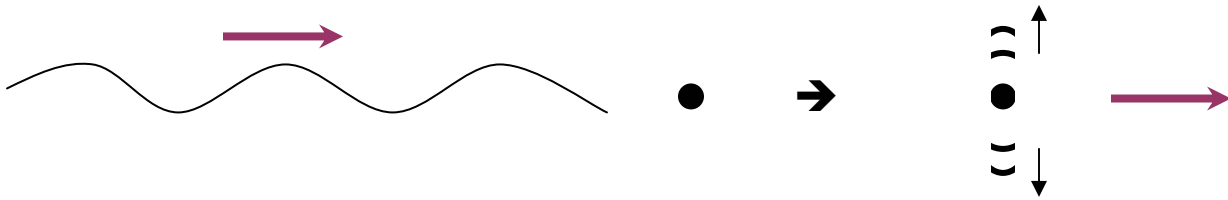


## Types of “Mechanical” Waves:

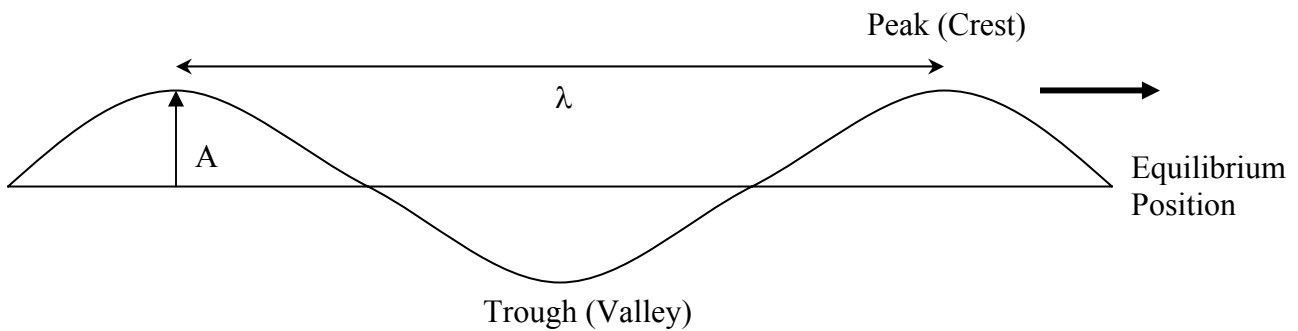
**Longitudinal Waves** – a wave that causes particles to vibrate in the same direction as (*parallel to*) the direction that the wave is traveling



**Transverse Waves** – a wave that causes particles to vibrate in a direction perpendicular to the direction that the wave is traveling



## Properties of Waves



**Equilibrium** – initial, undisturbed position of the particle/medium

**Amplitude (A)** – maximum displacement from equilibrium position

**Wavelength ( $\lambda$ )** – distance between like points on a wave (*typically peak to peak*) [*units are meters*]

**Period (T)** – time it takes to complete 1 vibration (*units are seconds*)

**Frequency (f)** - # of vibrations per second (*units are 1/s or Hz*)

## Wave Equation

$$v = \lambda f$$

**where**  $v$  = the speed of the wave  
 $\lambda$  = the wavelength of the wave  
 $f$  = the frequency of the wave