**Vocabulary: Waves**



**Vocabulary**

* Amplitude – the maximum distance a point is moved from its rest position when a *wave* passes through.
	+ For a *transverse wave*, the amplitude is the distance a point is moved up or down when a wave passes through.
	+ For a *longitudinal wave*, the amplitude is the distance a point is moved left or right as the wave passes through.
* Compression – a part of a longitudinal wave where the particles in the *medium* are pushed together.



* Crest – the highest part of a wave.
* Frequency – the number of times something occurs in a given period of time.
	+ The frequency of a wave is equal to the number of waves that pass a point each second.
	+ The unit of frequency is the hertz (Hz). One hertz is one event per second.
	+ If the speed is held constant, shorter *wavelengths* will correspond to higher frequencies, and longer wavelengths will correspond to lower frequencies.
* Linear mass density – the amount of mass per unit of length.
	+ Linear mass density is measured in kilograms per meter.
	+ For example, a 10-meter rope with a mass of 13 kilograms has a linear mass density of 1.3 kg/m.
* Longitudinal wave – a wave in which the motion of the medium is in the same direction as the wave.
* Medium – a substance through which waves can travel.
* Period – the time required for a single event to occur.
	+ The period of a wave is the time required for one full wave to pass a location.
* Power – the rate at which work is done.
	+ Power is equivalent to the amount of energy produced in a given time.
	+ The unit of power is the watt (W). One watt is equal to one joule per second.
* Rarefaction – a part of a longitudinal wave where the particles in the medium are spread apart.



* Transverse wave – a wave in which the motion of the medium is perpendicular to the direction of the wave.
* Trough – the lowest part of a wave.
* Wave – a repeating motion that travels through a medium.
	+ - Particles in the medium move up-and-down and/or back-and-forth as the wave passes through.
		- The particles in the medium do not move permanently when the wave passes through. After the wave passes, the particles eventually move back to their original rest positions.



* Wavelength – the distance between neighboring crests, neighboring troughs, or any other neighboring equivalent points of a wave.
	+ Wavelength is represented by the Greek letter *λ* (lambda).
* Wave speed – the distance a wave travels in a given amount of time.
	+ Wave speed (*v*) is equal to the product of a wave’s frequency (*f*) and its wavelength (*λ*): *v* = *λ* • *f*.