

## WAVES UNIT VOCABULARY

Word	Definition	Examples
<b>Oscillation</b>	Consistently repeating vibration or motion.	
<b>Medium</b>	A physical substance that carries the wave. The wave medium always returns to its original position after the wave passes through it.	
<b>Transverse Waves</b>	Bouncy waves when the medium vibrates up and down.	
<b>Longitudinal Waves</b>	Stretchy waves when the medium expands (stretches) and compresses (squeezes).	
<b>Wave Pulse</b>	A short duration vibration that creates a single displacement traveling through the medium.	
<b>Driven Wave</b>	A constant oscillation that creates a continuous displacement or vibration of the medium.	
<b>Velocity</b>	The speed that something travels at. If we know the speed something is traveling at and the total time the object was traveling, we can determine the distance it traveled.	
<b>Wavelength</b> $\lambda$ "lambda"	The horizontal distance between the start and end points of one full wave cycle.	

Word	Definition	Examples
<b>Amplitude</b> <b>A</b>	The vertical height of a wave, measured from the center line to the top of a peak or the bottom of a trough.	
<b>Frequency</b> <b>f</b>	The number of wavelengths that passes a fixed point in one second.	
<b>The Wave Equation</b>	Velocity = Frequency · Wavelength  <ul style="list-style-type: none"> <li>• Velocity is represented by a V.</li> <li>• Frequency is represented by <i>f</i>.</li> <li>• Wavelength is represented by <math>\lambda</math>, which is the Greek letter "lambda."</li> </ul>	
<b>Triangle of Power</b>	Visual representation of equations to calculate velocity, frequency, and distance of wavelengths.	
<b>Inverse Relationship</b>	For two interconnected quantities, as one gets bigger, the other gets proportionally smaller, and vice-versa.	
<b>Interference</b>	When two or more waves combine additively.	
<b>Constructive Interference</b>	Waves combine <u>peak + peak</u> or <u>trough + trough</u> to produce a wave of larger amplitude.	

Word	Definition	Examples
<b>Destructive Interference</b>	Waves combine <u>peak</u> + <u>trough</u> so that amplitudes cancel one another.	
<b>Interference Patterns</b>	When two or more freely traveling waves interfere and merge via constructive and destructive interference.	
<b>Reflection</b>	When a wave bounces off a barrier and changes direction of travel. A wave that encounters a hard barrier is flipped on itself.	
<b>Phase</b>	The position of one wave in relation to another.	
<b>In Phase</b>	Peaks and troughs directly line up.	
<b>Out of Phase</b>	Peaks and troughs do not line up.	
<b>180° Out of Phase</b>	Peaks and troughs are exactly opposite.	
<b>Resonance</b>	When a system vibrates at a single frequency, we call this a standing wave. Only wavelengths that fit within an object will resonate.	
<b>Refraction</b>	The fact or phenomenon of light, radio wave, etc. being deflected in passing obliquely through the interface between one medium and another through a medium of varying density.	
<b>Absorption</b>	The process or action by which one thing soaks up or blots out another.	
<b>Emission</b>	Something that has been emitted, released, or discharged.	