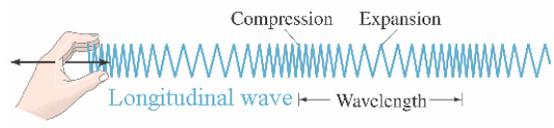
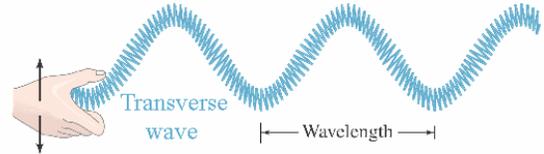


All About Waves—Notes Outline

A _____ is a disturbance that carries _____ from one place to another. _____ is NOT carried with the wave! A wave can move through matter (a _____). If it must have a medium, it is called _____ wave. If it can travel without a medium (such as in space), it is called _____ wave.

Wave Types

- _____ waves: Waves in which the medium moves at _____ angles to the wave direction.
Parts of a transverse wave:
 _____: the highest point of the wave
 trough: the _____ point of the wave
- _____ (longitudinal) wave: Waves in which the medium moves _____ in the same direction as the wave.
Parts of a compressional wave:
 _____: where the particles are close together
 _____: where the particles are spread apart



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Comparing transverse and longitudinal waves.

Wave properties depend on what _____ makes the wave.

- _____: The distance between one point on a wave and the _____ on the next wave.
- _____: How many waves go past a point in _____; measured in _____ (Hz). The higher the frequency, the more _____ in the wave.
- _____: How far the medium (crests and troughs, or compressions and rarefactions) moves from _____ (the place the medium is when not moving). The _____ energy a wave carries, the _____ its amplitude. Amplitude is related to energy by _____.
- _____: Depends on the medium the wave is traveling in. This varies in _____, _____ and _____.

Equation for calculating wave speed:

$$\text{wave speed} = \text{_____ (in m)} \times \text{_____ (in Hz)}$$

Problem: So- if a wave has a wave speed of 1000 m/s and a frequency of 500 Hz, what is its wave length? Answer: wavelength= _____

Changing Wave Direction

- _____: When waves _____ off a surface. If the surface is _____, the angle at which the wave hits the surface will be the _____ as the angle that the wave _____ the surface. In other words, the angle _____ equals the angle _____. This is called the _____.
- _____: Waves can _____; this happens when a wave enters a _____ and its _____; the amount of bending depends on the medium it is entering
- _____: The bending of waves _____ an object. The amount of bending depends on the _____ and the _____.
 _____ obstacle, _____ wavelength = low diffraction
 _____ obstacle, _____ wavelength = large diffraction



A demonstration of refraction.