

Vocabulary: Properties and Behavior of Sound



Vocabulary

sound wave: A mechanical longitudinal wave produced by a vibrating object and which is audible.

mechanical wave: A wave that requires a medium in which to travel.

- Most waves are mechanical waves
 - One important exception: electromagnetic waves

medium: Any matter (solid, liquid, gas, or plasma) that has molecules to transport a wave's energy.

longitudinal wave: A wave in which the particles of the medium move back and forth in the same direction as the wave. Sound waves are longitudinal waves.

loudness: Your perception of the energy of a sound. The loudness of a sound depends on two factors: the amount of energy it takes to make the sound and the distance from the source of the sound.

decibel: A unit of measurement for sound that measures the loudness, or volume, of the sound waves.

intensity: The rate at which a wave carries energy through a given area.

- A wave's intensity corresponds to its amplitude
- A sound wave of greater intensity sounds louder

amplitude, A The maximum distance a wave moves from its resting position, or undisturbed state.

pitch: The perceived highness or lowness of a sound, depending on the frequency of sound waves.

- Sounds with higher pitch have higher frequencies

frequency, f: The number of waves that pass a given point per second.

Doppler effect: The change in frequency of a wave as its source moves in relation to an observer.

- in sound waves, the change in frequency is heard as a change in pitch
 - when the source is moving toward the observer, the sound appears to have a higher pitch
 - when the source is moving away from the observer, the sound appears to have a lower pitch