

PHYSICS

CLASS NOTES FOR CBSE

Chapter 05. Sound

Sound is that form of energy which makes us hear. A wave is a vibratory disturbance in a medium which carries energy from one point to another without there being a direct contact between the two points. There are two types of waves : longitudinal waves and transverse waves.

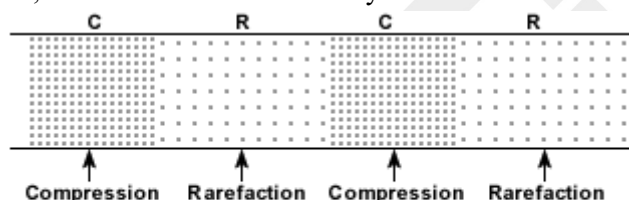
01. Sound Waves are Longitudinal Waves

A wave in which the particles of the medium vibrate back and forth in the 'same direction' in which the wave is moving, is called a longitudinal wave. Longitudinal waves can be produced in all the three media : solids, liquids and gases.

The waves which travel along a spring (or slinky) when it is pushed and pulled at one end, are longitudinal waves.

The waves produced in air when a guitar wire (*sitar* wire, *tanpura* wire or violin wire) is plucked are longitudinal waves.

A rarefaction is that part of a longitudinal wave in which the particles of the medium are farther apart than normal, and there is a momentary increase in the volume of the medium.



Compression Rarefaction Compression Rarefaction of a longitudinal wave.

A rarefaction is that part of a longitudinal wave in which the particles of the medium are farther apart than normal, and there is a momentary increase in the volume of the medium.

02. Characteristics of a Sound Wave

A sound wave can be described completely by five characteristic : Wavelength, Amplitude, Time-period, Frequency and Velocity (or Speed).



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