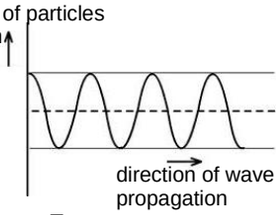
Class-IX(Cancept Map)

Wave Motion

- Mechanical waves
- Non mechanicalwaves
- Longitudinal waves
- Transeverse waves



Transeverse waves

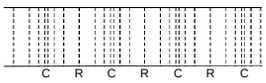
sound

Sound is a form of energy which is produced by a vibrating body. It travels in the fom of waves

Propagation of sound : Sound transmitted in the form ofmechanical Waves.Thus sound needs amedium to travel

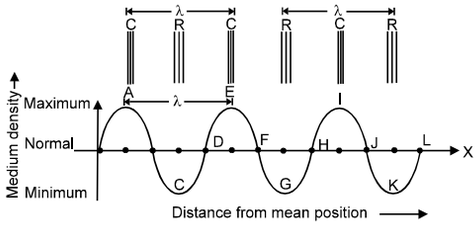
Terminologies

- Wave length(λ)
  It is the distance between two consecutive compressions or rarefractions.



C=region of max. density
R=region of min. density

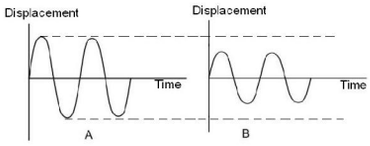
- Amplitude (a)
  The maximum displacement of vibrating body is known as amplitude



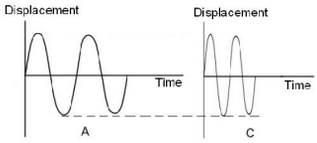
- Frequency (u)
  The number of oscillations produced per second.
  It is measured in hertz (Hz).
  The speed of sound wave is given by speed =frequency × wavelength.
- Time period
  Time taken to complete one vibration
- Wave velocity:
  Distance travelled in one vibration

Terminologies related to sound

- Loudness or Softness
- Pitch
- Timber or Quality



Graph B shows the smaller wave than A, so we will sense lower volume of sound in B.

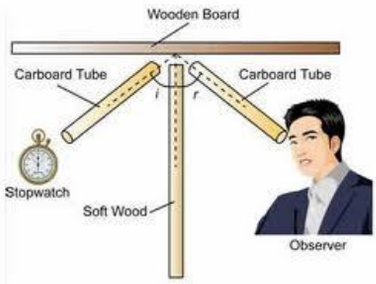


The frequency of graph C is twice as much as graph A.
which means C is higher pitch than A.

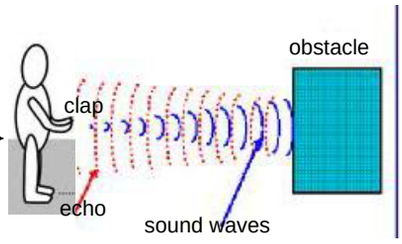
Range of Hearing : 20Hz-20KHz
less than 20Hz : Infrasonic sound or infra sound
More than 20 Hz : Ultrasonic sound or ultra sound

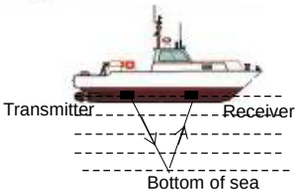
Ultrasound : Produced by quartz crystal oscillator → High frequency, small wavelength and high energy content

Reflection of sound



- Echo
- Sonar





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