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TENDER HEART HIGH SCHOOL, SEC-33B, CHD
CLASS-VIII
Subject- PHYSICS

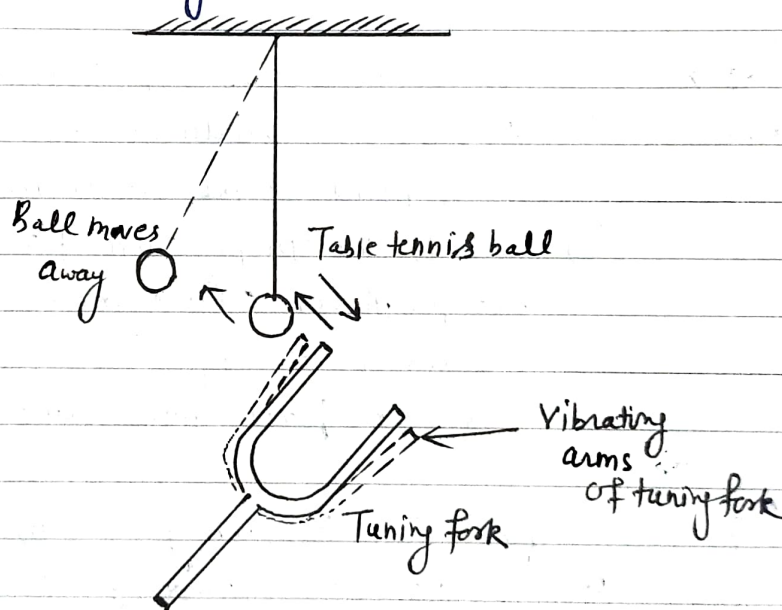
Page-1

CH-8 (Propagation of Sound Waves) CH-8(A)

Q1 How sound is produced? Explain it with an experiment or an example.

Ans Sound is produced when a body vibrates.

Experiment:- Take a tuning fork, strike its one arm on a rubber pad and bring it near a table tennis ball suspended by a thread as shown below. It is observed that as the arm of the vibrating tuning fork is brought close to the ball, the ball jumps to and fro and sound of the vibrating tuning fork is heard. When arm of tuning fork stops vibrating, the ball becomes stationary and no sound is heard.



Q2:- Can sound travel through solids and liquids? Can two persons hear each other on ^{the} moon and in space? Why?

Ans ^{yes}, Sound can travel through solids as well as liquids. Two persons cannot hear each other on the moon and in space because there is no atmosphere over there. Sound cannot travel in vacuum. It needs a medium for its propagation.

Q3:-
Ans

How does a sound wave propagate in a medium?
When a source of sound vibrates, it creates a periodic disturbance in the medium near it. This disturbance then travels in the medium in the form of waves.

Q4:-
Ans

How do sound waves travel in air medium.
The sound waves travel in air in the form of longitudinal waves.

Q5:-
Ans

How longitudinal waves travel in the medium?
Longitudinal waves travel in the medium in the form of compressions and rarefactions.

Q6:-
Ans

Write Characteristics of wave motion?

- (1) A wave is produced by the periodic disturbance at a point in the medium
- (2) Due to the propagation of a wave in a medium, the particles of the medium vibrate and transfer energy from one place of the medium to other place with same speed.

Q7:-
Ans

Define (a) Frequency (b) Time period in terms of wave motion.
Write relation between frequency and time period.

(a) Frequency :- The number of vibrations made by a particle of a medium in one second is called the frequency of a wave. It is denoted by letter f , n or ν (nu). The S.I unit of frequency is s^{-1} or Hertz (Hz).

Frequency and Time period are related as
$$f = \frac{1}{T}$$

(b) Time period :- The time taken by a particle of a medium to complete its one vibration is called the time period of a wave. It is denoted by letter T . The S.I unit of time period is second (s).