

Sound

Chapter 15: Sound · Topic 1

Key Concept

Sound is produced when an object vibrates, creating pressure waves that travel through air, water, or solids to reach our ears.

Sound cannot travel through a vacuum, as it requires a medium (like air, water, or solid) to transmit its vibrations.

The pitch of sound depends on frequency (higher frequency = higher pitch), while loudness depends on amplitude of the sound wave.

Understanding sound properties helps explain phenomena like echoes, musical instruments, and how our ears detect different sounds.

Quick Revision Notes

- Sound produced by vibrations.
- Creates pressure waves through a medium.
- Cannot travel through a vacuum.
- Needs air, water, or solid medium.
- Pitch depends on frequency.
- Higher frequency = higher pitch.
- Loudness depends on amplitude.
- This explains echoes, instruments, hearing.

Practice Questions

- 1 Discuss how a vibrating object produces sound.
- 2 Discuss why sound can't travel in a vacuum.
- 3 Compare high-pitched and low-pitched sounds.
- 4 Discuss the difference between pitch and loudness.
- 5 Research how echoes form.
- 6 Explain sound production in your own words.