

Sound

Chapter 7: Sound · Topic 1

Key Concept

Sound waves are longitudinal waves, meaning particles vibrate in the same direction the wave travels, unlike transverse waves like light.

The speed of sound varies by medium - fastest in solids, slower in liquids, and slowest in gases like air, since particles are more closely packed in solids.

Noise pollution, caused by excessive or unwanted sound, can harm hearing and cause stress, making sound level control important.

Understanding sound properties and behaviour explains musical instruments, hearing, echo formation, and noise control technologies.

Quick Revision Notes

- Sound waves are longitudinal waves.
- Particles vibrate in the wave's direction of travel.
- Sound travels fastest in solids.
- It's slower in liquids and slowest in gases.
- This is due to particle spacing.
- Noise pollution can harm hearing and cause stress.
- Sound level control is important.
- Understanding sound explains instruments and hearing.

Practice Questions

- 1 Discuss why sound travels faster in solids than air.
- 2 Research a source of noise pollution.
- 3 Explain how vibrations create sound.
- 4 Discuss a way to reduce noise pollution.
- 5 Research how musical instruments use sound principles.
- 6 Explain longitudinal waves in your own words.