



Class 9 Science | Sound Waves: Characteristics And Applications

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Sound in air is mainly a:

- A. Transverse electromagnetic wave
- B. Longitudinal mechanical wave
- C. Wave needing no medium
- D. Stream of light particles

2. A ringing bell in an evacuated jar becomes faint because:

- A. Light cannot escape
- B. Vacuum amplifies sound
- C. The bell loses all mass
- D. Sound needs a material medium

3. The pitch of a tone depends primarily on its:

- A. Source distance
- B. Frequency
- C. Amplitude
- D. Loudness

4. A louder tone of unchanged pitch has greater:

- A. Amplitude
- B. Time period
- C. Frequency
- D. Wavelength necessarily

5. A wave has frequency 200 Hz and wavelength 1.7 m. Speed is:

- A. 201.7 m/s
- B. 117.6 m/s
- C. 340 m/s
- D. 0.0085 m/s

6. A 50 Hz vibration has time period:

- A. 0.02 s
- B. 2 s
- C. 0.5 s
- D. 50 s

7. An echo returns after 0.6 s. Reflector distance at 340 m/s is:

- A. 56.7 m
- B. 204 m
- C. 102 m
- D. 510 m

8. Ultrasonic sound has frequency:

- A. Exactly zero
- B. Between 20 and 200 Hz
- C. Below 20 Hz
- D. Above 20,000 Hz

9. Which frequency is infrasonic?

- A. 120 Hz
- B. 12 Hz
- C. 12000 Hz
- D. 1200 Hz

10. Sound normally travels fastest through:

- A. Carbon dioxide gas
- B. Steel
- C. Vacuum
- D. Air

11. In a compression, air pressure is:

- A. Higher than the mean
- B. Always zero
- C. Unrelated to density
- D. Lower than the mean

12. The separation of adjacent compressions equals one:

- A. Wavelength
- B. Frequency
- C. Time period
- D. Amplitude

13. Persistent sound caused by repeated indoor reflections is:

- A. Refraction alone
- B. Infrasound
- C. Reverberation
- D. Polarisation

14. Curtains in an auditorium mainly reduce:

- A. Sound frequency at its source
- B. Reverberation
- C. Speed of light
- D. Vocal-cord vibration

15. A bat estimates prey distance chiefly from the:

- A. Brightness of the echo
- B. Mass of air
- C. Delay of reflected ultrasound
- D. Colour of sound

ANSWER KEY — check after completing all 15 questions

1.B 2.D 3.B 4.A 5.C 6.A 7.C 8.D 9.B 10.B 11.A 12.A 13.C 14.B 15.C