

CLASS 9 SCIENCE

CHAPTER 8 • SOUND

MCQs • Multiple-Choice Practice

1. Sound is produced when an object:

- A. Melts
- B. Vibrates
- C. Freezes
- D. Becomes stationary

2. Sound generally needs a _____ to travel from one place to another.

- A. Vacuum
- B. Medium
- C. Light source
- D. Magnetic field

3. Sound waves in air are:

- A. Transverse waves
- B. Longitudinal waves
- C. Electromagnetic waves
- D. Stationary waves only

4. Which of the following can transmit sound?

- A. Air only
- B. Solids, liquids and gases
- C. Vacuum only
- D. Light only

5. In a longitudinal sound wave, particles of the medium vibrate:

- A. Perpendicular to the direction of wave travel
- B. Parallel to the direction of wave travel
- C. In a circular path only
- D. Without vibrating

6. A region of high pressure in a longitudinal sound wave is called a:

- A. Rarefaction
- B. Compression
- C. Crest
- D. Trough

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7. A region of low pressure in a longitudinal sound wave is called a:

- A. Compression
- B. Rarefaction
- C. Crest
- D. Node

9. The number of vibrations completed in one second is called:

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

11. The time taken for one complete vibration is called:

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

8. The distance between two successive compressions is called:

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

10. The SI unit of frequency is:

- A. Metre
- B. Hertz
- C. Second
- D. Decibel

12. The relationship between frequency f and time period T is:

- A. $f = T$
- B. $f = 1/T$
- C. $f = T^2$
- D. $f = T/2$

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13. The maximum displacement of a vibrating particle from its mean position is called:

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

15. If the frequency of a sound wave increases while its speed remains constant, its wavelength:

- A. Increases
- B. Decreases
- C. Remains the same
- D. Becomes zero

17. A high-frequency sound has a:

- A. Low pitch
- B. High pitch
- C. Low amplitude necessarily
- D. Zero intensity

14. The speed of a wave is related to frequency and wavelength by:

- A. $v = f\lambda$
- B. $v = f/\lambda$
- C. $v = \lambda/f$
- D. $v = f + \lambda$

16. Pitch of a sound is mainly related to its:

- A. Frequency
- B. Amplitude
- C. Speed only
- D. Wavelength only

18. Loudness of a sound is mainly associated with its:

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

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19. A sound wave with greater amplitude is generally perceived as:

- A. Louder
- B. Softer
- C. Higher pitched necessarily
- D. Slower

20. Which characteristic distinguishes a high-pitched sound from a low-pitched sound?

- A. Frequency
- B. Amplitude only
- C. Speed only
- D. Intensity only

21. The human ear detects sound because sound causes parts of the ear to:

- A. Vibrate
- B. Freeze
- C. Evaporate
- D. Stop moving

22. A sound that is pleasant and regular is generally called:

- A. Noise
- B. Musical sound
- C. Echo
- D. Reverberation

23. Unwanted and unpleasant sound is commonly called:

- A. Music
- B. Noise
- C. Pitch
- D. Ultrasound

24. The normal human audible range is approximately:

- A. 2 Hz to 200 Hz
- B. 20 Hz to 20,000 Hz
- C. 200 Hz to 2,000 Hz
- D. 2,000 Hz to 200,000 Hz

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25. Sound with frequency below the human audible range is called:

- A. Ultrasound
- B. Infrasound
- C. Audible sound
- D. Music

26. Sound with frequency above the human audible range is called:

- A. Infrasound
- B. Ultrasound
- C. Audible sound
- D. Echo

27. An echo is produced due to the:

- A. Refraction of light
- B. Reflection of sound
- C. Absorption of sound only
- D. Production of electricity

28. A reflected sound heard repeatedly in a large hall because of multiple reflections is called:

- A. Pitch
- B. Reverberation
- C. Frequency
- D. Amplitude

29. Echolocation is used by some animals to:

- A. Produce electricity
- B. Locate objects using reflected sound
- C. Change sound into light
- D. Measure temperature only

30. Which statement about sound in vacuum is correct?

- A. Sound travels faster
- B. Sound cannot propagate without a medium
- C. Sound becomes ultrasound
- D. Sound changes into light

ANSWER KEY

Chapter 8 • Sound

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	B	3	B	4	B	5	B
6	B	7	B	8	B	9	B	10	B
11	B	12	B	13	B	14	A	15	B
16	A	17	B	18	A	19	A	20	A
21	A	22	B	23	B	24	B	25	B
26	B	27	B	28	B	29	B	30	B

Quick Revision: Production of sound • Vibrations • Medium • Longitudinal waves • Compressions & rarefactions • Wavelength • Frequency • Time period • Amplitude • Speed of sound • Pitch • Loudness • Audible range • Infrasound • Ultrasound • Echo • Reverberation • Echolocation