

MULTIPLE CHOICE

SOUND - PRACTICE SET - ANSWER KEY

PROPOSED FOR REVIEW - questions are the author's verbatim Q&A; distractors are auto-selected from other answers in the same bank and must be checked by a subject-matter reviewer (a distractor could coincidentally be correct). Not authoritative assessment content.

1. What is another term for sound waves?

- A. Electromagnetic waves
- B. Static waves
- C. Thermal waves
- D. Acoustic waves**

2. What does rarefied mean in a sound wave?

- A. In phase
- B. At maximum pressure
- C. Squeezed together
- D. Spread apart**

3. What are appropriate units for density?

- A. Pa
- B. kg/m^3 or g/cm^3**
- C. W/cm^2
- D. m/s

4. What does compressed mean in a sound wave?

- A. Squeezed together**
- B. Out of phase
- C. At rest
- D. Spread apart

5. Which acoustic variable measures particle motion?

- A. Pressure
- B. Distance**
- C. Intensity
- D. Density

6. What occurs when multiple sound waves arrive at the same location at the same time?

- A. Interference**
- B. Refraction
- C. Range ambiguity
- D. Attenuation

7. What is the concentration of mass within a volume called?

- A. Intensity
- B. Amplitude
- C. Pressure
- D. Density**

8. What results when out-of-phase waves combine?

- A. Destructive interference with lesser amplitude**
- B. Reflection with a larger echo
- C. No interference and unchanged amplitude
- D. Constructive interference with greater amplitude

9. What are paired waves called when their peaks occur at the same time and location?

- A. Attenuated waves
- B. Out-of-phase waves
- C. Rarefied waves
- D. In-phase waves**

10. What is the concentration of force over an area called?

- A. Density
- B. Pressure**
- C. Intensity
- D. Power

11. True or False? Sound waves are transverse waves.

- A. False**
- B. True

12. What type of interference can occur when waves of different frequencies combine?

- A. Both constructive and destructive interference**
- B. Only constructive interference
- C. No interference
- D. Only destructive interference

13. What results when in-phase waves combine?

- A. Destructive interference with lesser amplitude
- B. Constructive interference with greater amplitude**
- C. No interference and unchanged amplitude
- D. Refraction with a changed direction

14. What do waves carry from one location to another?

- A. Vacuum
- B. Matter
- C. Energy**
- D. Density

15. What happens to the resulting wave amplitude during destructive interference?

- A. It increases
- B. It decreases**
- C. It stays the same
- D. It doubles

16. What types of units are used to measure distance?

- A. Length units such as cm, mm, feet, or miles**
- B. Square units such as cm^2 or ft^2
- C. Frequency units such as Hz or MHz
- D. Cubic units such as cm^3 or ft^3

17. Constructive interference occurs when waves have what phase relationship?

- A. Unrelated waves
- B. Fully attenuated waves
- C. Out-of-phase waves
- D. In-phase waves**

18. Destructive interference occurs when waves have what phase relationship?

- A. Out-of-phase waves**
- B. Unchanged waves
- C. Fully absorbed waves
- D. In-phase waves

19. What happens to the resulting wave amplitude during constructive interference?

- A. It becomes zero
- B. It increases**
- C. It decreases
- D. It stays the same

20. What are the units of pressure?

- A. Hertz (Hz)
- B. Watts (W)
- C. Pascals (Pa)**
- D. Meters per second (m/s)

21. How do particles move in a longitudinal wave?

- A. Perpendicular to the direction of wave propagation
- B. Parallel to the direction of wave propagation**
- C. Only along the surface of the medium
- D. Without compression or rarefaction

22. What is another name for in-phase waves?

- A. At rest
- B. In step**
- C. Out of range
- D. Out of step

23. Which three acoustic variables are commonly used to describe a sound wave?

- A. Period, frequency, and wavelength
- B. Power, intensity, and amplitude
- C. Reflection, refraction, and attenuation
- D. Pressure, density, and distance**

24. True or False? Light, sound, heat, and magnetism are forms of energy that can be described by waves.

- A. True**
- B. False

25. True or False? Sound generally travels in a straight line unless it is redirected by interaction with a medium.

- A. True**
- B. False