

1. A sound wave is produced when an object ...

- | | |
|-----------------------|--------------------------|
| A. accelerates | <input type="checkbox"/> |
| B. decelerates | <input type="checkbox"/> |
| C. vibrates | <input type="checkbox"/> |
| D. remains stationary | <input type="checkbox"/> |

2. The wavelength of a wave is measured in ...

- | | |
|-------------|--------------------------|
| A. metres | <input type="checkbox"/> |
| B. hertz | <input type="checkbox"/> |
| C. seconds | <input type="checkbox"/> |
| D. decibels | <input type="checkbox"/> |

3. An echo occurs when a sound wave is ...

- | | |
|----------------|--------------------------|
| A. absorbed | <input type="checkbox"/> |
| B. transmitted | <input type="checkbox"/> |
| C. refracted | <input type="checkbox"/> |
| D. reflected | <input type="checkbox"/> |

4. Another name for the unit hertz is ...

- | | |
|----------------------|--------------------------|
| A. cycles per second | <input type="checkbox"/> |
| B. seconds per cycle | <input type="checkbox"/> |
| C. metres per second | <input type="checkbox"/> |
| D. decibels | <input type="checkbox"/> |

5. Sound travels fastest in ...

- | | |
|-------------------|--------------------------|
| A. a vacuum | <input type="checkbox"/> |
| B. the sea | <input type="checkbox"/> |
| C. the atmosphere | <input type="checkbox"/> |
| D. a broom stick | <input type="checkbox"/> |

6. Which of the following does **not** describe a sound wave?

A. transverse wave	<input type="checkbox"/>
B. longitudinal wave	<input type="checkbox"/>
C. compression wave	<input type="checkbox"/>
D. push-pull wave	<input type="checkbox"/>

7. An animal that can hear sound frequencies higher than a human child is ...

A. a human adult	<input type="checkbox"/>
B. a cod fish	<input type="checkbox"/>
C. a bat	<input type="checkbox"/>
D. an eagle	<input type="checkbox"/>

8. Hitting a drum harder makes the sound ...

A. higher	<input type="checkbox"/>
B. lower	<input type="checkbox"/>
C. louder	<input type="checkbox"/>
D. softer	<input type="checkbox"/>

9. The part of the ear that responds to sound waves like a microphone's diaphragm is the ...

A. lobe	<input type="checkbox"/>
B. eardrum	<input type="checkbox"/>
C. bones of the middle ear	<input type="checkbox"/>
D. fluid in the inner ear	<input type="checkbox"/>

10. Sounds above 20000Hz are called ...

A. ultracool	<input type="checkbox"/>
B. ultrasound	<input type="checkbox"/>
C. infra-audio	<input type="checkbox"/>
D. infrasound	<input type="checkbox"/>

Revision questions – sound waves

1. What type of movement sets up a sound wave?
2. In what units are the following measured?

(a) frequency (b) wavelength (c) loudness
3. If a tuning fork has a frequency of 250Hz, how many cycles per second does it vibrate?
4. Why does sound travel faster in a solid than in a gas or liquid?
5. Describe a longitudinal wave.
6. Describe a transverse wave.
7. What type of wave is a sound wave?
8. What happens when a sound wave hits the eardrum?
9. Who is most likely to hear a bat; an adult or a child?
10. Draw an oscilloscope trace to show a note starting low and getting higher.
11. Draw an oscilloscope trace to show a note starting soft and getting louder.
12. How can you make a drum sound louder
13. How can you make a guitar string sound higher? (2 methods)
14. What is meant by ultrasound?
15. Why should we not stand too close to the band at an outdoor event?

Teaching notes and answers

There is a PowerPoint version of the multiple choice quiz which would make a useful starter or plenary activity.

The revision questions could be used in a variety of ways such as;

- A straightforward test, quiz or homework activity
- Give each student an answer or a question and get them to find their partner
- Use with one of our revision games such as 'Science Ludo' (22540) or 'Science challenge track' (22541).

Multiple choice quiz answers

1C; 2A; 3 D; 4A; 5D; 6A; 7C; 8C; 9B; 10B

Revision questions answers

1. A vibration
2. a) hertz b) metres c) decibels
3. 250
4. Because particles are closer together in a solid
5. This is a push-pull wave
6. This is a shake wave
7. Longitudinal
8. The eardrum vibrates
9. A child
10. Drawing showing bunching of waves increasing; wavelength decreasing
11. Drawing of wave getting taller; increasing in amplitude
12. Hit it harder
13. Tighten the string; shorten the string
14. Sound above 2000Hz; sound above human hearing
15. Damage to our hearing