

Sound

1. What is sound?

Sound is energy that travels in waves from a sound source through a medium to our ears.

2. What is a sound source?

A sound source is something that vibrates and creates a sound, such as human vocal cords, part of a musical instrument or a piece of machinery.

3. What can sound waves travel through?

Sound waves have to travel through a medium. This can be a solid, such as string, a liquid, such as seawater, or a gas, such as air.

4. Is there sound in space? yes ☐ no ☒

Explain your answer.

There is no sound in space because there is no medium, such as air, for sound waves to travel through.

5. Sound and light travel at different speeds. Why do you see a flash of lightning before you hear thunder?

When lightning flashes, you see the light first because it has travelled quickly to your eyes, but you have to wait longer for the sound waves to reach your ears because they are travelling more slowly.

6. What happens when sound waves reach our ears?

When sound waves enter our ears, the vibrations cause our eardrums and bones called ossicles in our middle ears to vibrate. These vibrations are turned into electrical signals in the cochlea that travel to the brain, where they are interpreted as sounds.

7. Volume is:

Tick one

how loud or quiet a sound is.

☒

how high or low a sound is.

☐

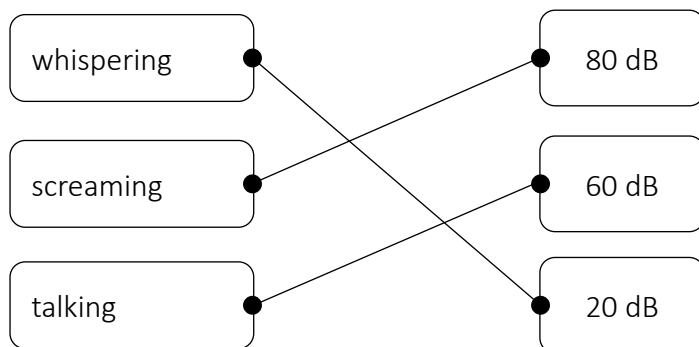
how long a sound lasts.

☐

8. The volume of a sound is measured in units called: Tick one

millimetres	<input type="checkbox"/>	decibels	<input checked="" type="checkbox"/>
hertz	<input type="checkbox"/>	grams	<input type="checkbox"/>

9. Draw a line to match the sound source to its volume.



10. Pitch is:

Tick one

how loud or quiet a sound is.	<input type="checkbox"/>
how high or low a sound is.	<input checked="" type="checkbox"/>
how long a sound lasts.	<input type="checkbox"/>

11. Pitch is measured in: Tick one

millimetres	<input type="checkbox"/>	decibels	<input type="checkbox"/>
hertz	<input checked="" type="checkbox"/>	grams	<input type="checkbox"/>

12. Can humans hear all pitches of sound? yes ☐ no ☒

13. What damage can be done to hearing from exposure to loud noises?

Loud or continuous noise can cause damage to the delicate parts inside the ear, leading to hearing problems or even hearing loss.

14. What can people do to help prevent ear damage from loud noises?

Some people who work with loud noises wear ear defenders to protect their hearing. Ear defenders muffle sound because they absorb sound waves, making the sound quieter and safer to listen to.