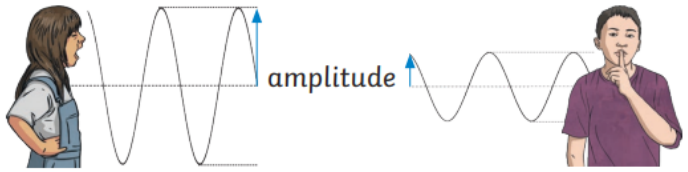
Scientific Vocabulary

Sound – noise created from vibrations of mediums such as air and water
Source – the place where the sound wave is first created
Vibration – is a very quick, continuous, invisible movement
Pitch – is a measure of how high or low a sound is
Volume – is a measure of how loud or quiet a sound is
Ear – an organ of the body that allows humans and animals to hear
Eardrum – the piece of thin, stretched skin inside the ear that is moved by vibrations
Sound waves – invisible waves that travel through the air, water and solid objects as vibrations
Frequency – a measure of how many times per second a sound wave cycles
Transmit – to pass from one place or person to another
Insulation – a material that stops the travel of energy (including sound)
Soundproof – objects and materials that do not allow sound to pass into or through them
Echo – is a reflected sound wave
Medium – something that allows the transfer of energy from one location to another
Amplitude – is a measure of how big a vibration is

Volume

The volume of a sound is how loud or quiet it is. Loud sounds are made by bigger vibrations and have a larger amplitude. Quiet sounds have smaller vibrations and a smaller amplitude.



Did you know?

Sounds get fainter (quieter) as the distance from the sound source increases.

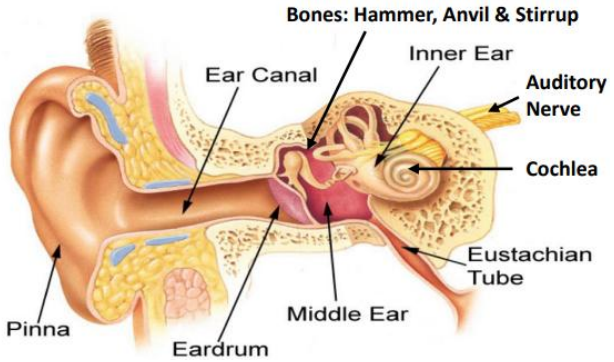
Sound

All sounds are created by **vibrations**. When an object vibrates the air around the object also vibrates. These vibrations travel through the air particles into our **ears**. When they reach the **eardrum** and **inner** ear sounds can be heard. These **vibrations** are called **soundwaves** and can travel through any medium, including **solids, liquids and gases.**

Solid **Liquid** **Gas**

SOUND
Year 4

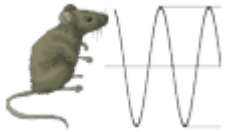
The Ear



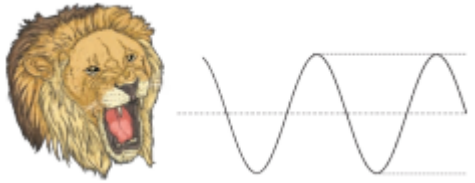
- Sound waves are collected by the outer ear (pinna) and travel along the ear canal
- The sound waves make the ear drum vibrate which in turn make the anvil, hammer and stirrup bones vibrate
- The vibrating bones cause vibrations in the cochlea which sends electrical messages to the brain via the auditory nerve, which then makes sense of the sound

Pitch

Sounds are created by vibrations. The quicker the vibration the higher the pitch.
The slower the vibration the lower the pitch.
The squeak from a mouse is a high-pitched sound.



The roar from a lion is a lower-pitched sound.

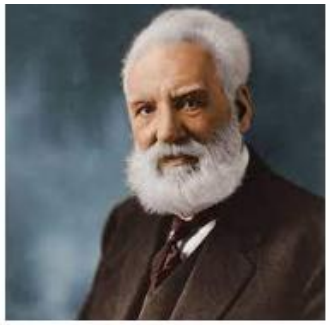


Top Takeaways

Having studied this topic you should be able to:

- Identify how sounds are made
- Recognise that vibrations from sounds travel through a medium to the ear
- Find patterns between the pitch of a sound and features of the object that produced it
- Find patterns between the volume of a sound and the strength of the vibrations that produced it
- Recognise that sounds get fainter as the distance from the sound source increases

Alexander Graham Bell (1847-1922) was a Scottish scientist. His research on hearing and speech led him to experiment with hearing devices and ultimately inventing the telephone in 1876.



Scientific Skills

- ask relevant questions and use different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations
- take accurate measurements using standard units
- gather, record, classify and present data in a variety of ways to help in answering questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- use results to draw simple conclusions, make predictions, suggest improvements and raise further questions
- identify differences, similarities or changes related to simple scientific ideas and processes
- use straightforward scientific evidence to answer questions and to support findings