

Knowledge Organiser Science Year 4

Sound

How are sounds made and how do they travel?

When objects **vibrate**, a sound is made.

The vibration makes the air around the object vibrate and the air vibrations enter your ear. These are called **sound waves**.

If an object is making a sound, a part of it is vibrating, even if you cannot see the vibrations



Sound waves travel through a medium (such as air, water, glass, stone, and brick).

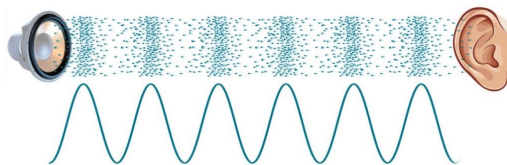


Key Vocabulary

amplitude	A measure of the strength of a sound wave. The size of the vibration
energy	Sound energy is a type of energy that we can hear
frequency	How many vibrations are made in one second
insulation	A material used to block sounds
medium	A material that allows the transfer of energy from one place to another, eg solids, liquids and gases
pitch	How high or low a sound is. It depends on the frequency of the sound
sound source	Where sound comes from. A sound source will produce vibrations
vibrations	Something moving backwards and forwards very quickly
volume	How loud or quiet a sound is. It depends on the amplitude of the sound wave
wave	A sound wave is an invisible wave which moves through different medium

How do we hear?

The sound waves travel to the ear and make the eardrums vibrate. Messages are sent to the brain which recognises the vibrations as sounds.



Pitch

The pitch of a sound is how high or low it is.

A squeak of mouse has a high pitch
A roar of a lion has a low pitch.



A high pitch sound is made because it has a high frequency. The sound source vibrates many times a second.

Volume

The volume of a sound is how loud or quiet it is.

Quieter sounds have a smaller amplitude and less energy (smaller vibrations) and louder sounds have a bigger amplitude and more energy.

The closer we are to a sound source the louder it will be.



A train arriving at a station sounds loud

The further away from a sound the fainter it will be.



A train in the distance sounds quieter