

## Key Vocabulary

<b>vibration</b>	Movement backwards and forwards.
<b>sound wave</b>	The vibrations travelling from a sound source.
<b>volume</b>	The loudness of a sound.
<b>amplitude</b>	The size of the vibration.
<b>pitch</b>	How high or low a sound is.
<b>distance</b>	A measure of length between two points.
<b>particles</b>	Solids, liquids and gases are made up of particles too small for the eye to see.
<b>vacuum</b>	A space where there is nothing (no particles).
<b>ear drum</b>	A part of the ear that vibrates once sound waves reach it.

## Sound

In Science this term, the children will learn that sound is made when an object vibrates and therefore causes the air/ water around it to vibrate too. These vibrations are carried in sound waves to their ear for them to be heard. They will manipulate volume and pitch further and recognise the effect distance has on these.

## Background Knowledge

Children should know sound is a type of energy. They will have discussed volume and pitch in KS1 music and will have investigated making different sounds with different instruments. They will know the ear is an organ for hearing.

## Key Facts

Sound comes from vibrations. These vibrations create sound waves which move through solids, liquids, or gases before reaching our ears.

The bigger the vibration (amplitude) the louder the sound.

When traveling through water, sound moves four times faster than when it travels through air.

Soundproofing is done to stop sound from passing through a material. Absorbent materials are used to take in the sound energy.

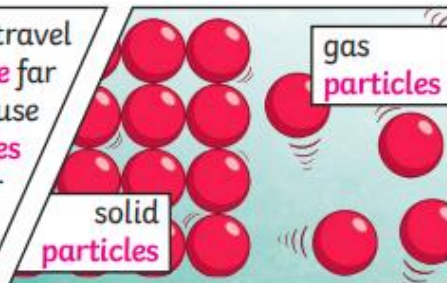
When sound vibrations spread out over a distance, the sound becomes quieter.



Inside your **ear**, the **vibrations** hit the **eardrum** and are then passed to the middle and then the inner **ear**. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.



Sound energy can travel from **particle to particle** far easier in a solid because the **vibrating particles** are closer together than in other states of matter.



If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound **vibrations** spread out over a **distance**, the sound becomes quieter, just like ripples in a pond.

