



Established 1857

Runnymede St. Edwards Primary Catholic School - Knowledge Organiser

Topic: Science

Sound

Year 4

Term: Autumn 2

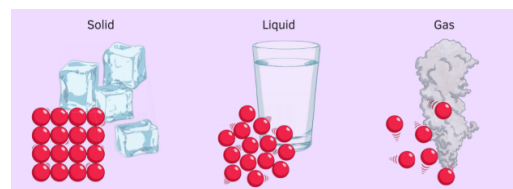
Key Vocabulary

Vibration	A movement backwards and forwards.
Sound Wave	Vibrations travelling from a sound source.
Particles	Solids, liquids and gases are made of particles . They are so small we are unable to see them.
Volume	The loudness of a sound.
Amplitude	The size of a vibration and a measure of how loud or quiet a sound is.
Pitch	A measure of how high or low a sound is.
Cochlea	A spiral-shaped snail shell deep in your ear which plays an important part in helping you hear.
Soundproof	To prevent sound from passing.
Vacuum	A space where there are no particles .

Sounds

Sounds are made when something **vibrates**.

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.



How Does Sound Travel?

When particles **vibrate** or collide with one another, they create sound.

Sound travels as a **wave**, **vibrating** the particles in the medium it is travelling in.

The air particles around the sound source **vibrate** and collide with other particles. The **vibrations** then pass to the next air particle, then the next, then the next. This carries on until the air particles closed to your ear **vibrates**, passing the **vibrations** into your ear.

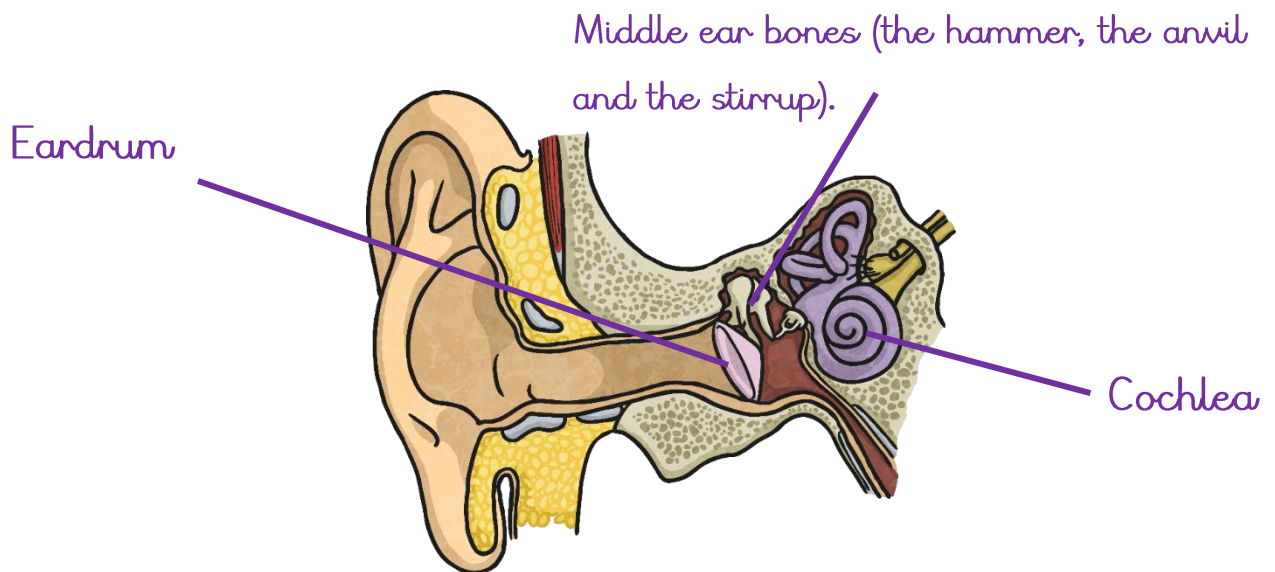


Hearing Sounds

Once in your ear, the **vibrations** travel into the ear canal until they reach the eardrum.

The eardrum passes the **vibrations** through the middle ear bones (the hammer, the anvil and the stirrup) into the inner ear.

The inner ear is shaped like a snail and is called the **cochlea**. Inside the **cochlea**, there are thousands of tiny hair cells. Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve. The brain tells you that you are hearing a sound and what that sound is.



Pitch and Amplitude

The size of the **vibration** is called the **amplitude**. Louder sounds have a larger **amplitude**, and quieter sounds have a smaller **amplitude**.

Pitch is a measure of how high or low a sound is. A whistle being blown creates a high-**pitched** sound. A rumble of thunder is an example of low-**pitched** sound.

