

Year 4: Knowledge Organiser

Big Question: How do we hear sound?



Subject Specific Vocabulary	
Vibration	A movement back and forwards
Particles	Solids liquids and gases are made up of particles. They are so small we cannot see them.
Sound wave	Vibrations travelling from a sound source.
Volume	How loud or quiet a sound is.
Pitch	How high or low a sound is.

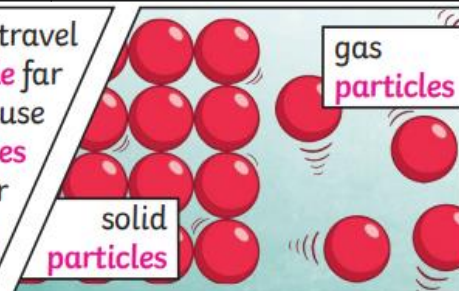
If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound **vibrations** spread out over a **distance**, the sound becomes quieter, just like ripples in a pond.



Faster **vibrations** = higher **pitch**

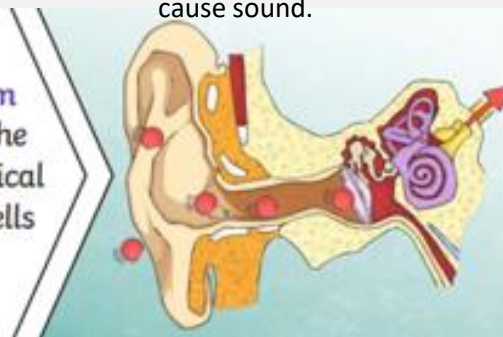
Slower **vibrations** = lower **pitch**

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.



Here is a guitar string vibrating. Vibrations cause sound.

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.



Sticky facts

Sound is a type of energy caused by vibrations.

Faster vibrations cause higher pitch sounds.

Larger vibrations cause louder sounds.

Sounds can travel through solids liquids and gases. Sounds cannot travel through a vacuum.

Vibrations travel into your ear and are changed into electrical signals which allows your brain to hear.

Did you know?

The smallest bones in the human body are in the ear and allow us to hear.

