

Year 4 Science Knowledge Organiser

Sound



Key Knowledge

Sound is an energy caused by **vibrations**. These vibrations make the air particles around it vibrate, which in turn vibrates the next particles and the next and the next! This is called a sound wave which is how sound travels.

When sound waves reach our ears, they cause our **ear drum** to vibrate. Our brains then interpret these vibrations as sounds.

Sound waves can travel through **solids, liquids and gases**. The sounds will sound different depending on what they travel through.

Sound is measured in **decibels**. The larger the number, the louder the sound. Human ears can be damaged by prolonged exposure to sounds over 85 decibels.

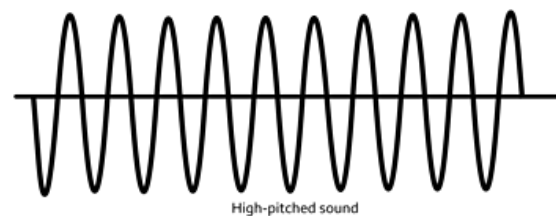
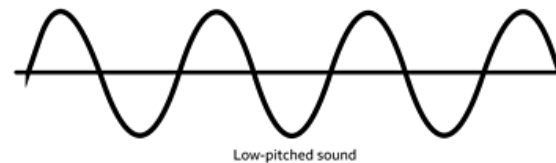
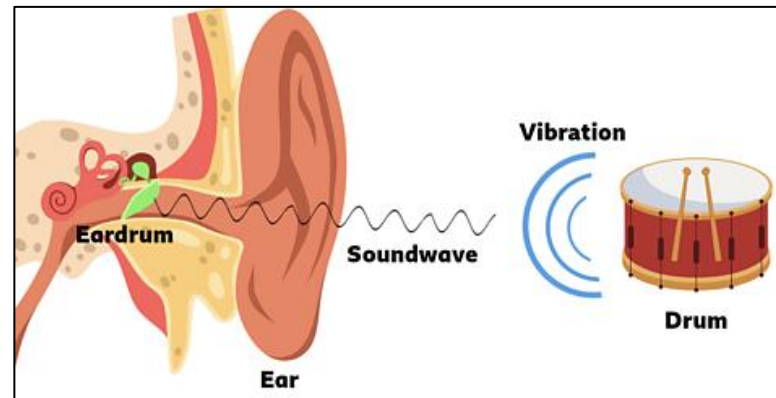
Pitch is how high or low something sounds. This can be altered. The **more** times something vibrates each second, the **higher** the pitch. The **less** times something vibrates a second, the **lower** the pitch.

Sound with a lot of energy will cause a strong vibration. This means it will have a louder **volume**. Weaker vibrations produce a quieter sound.

Vibrations lose energy as they travel so will sound quieter the further they are from the sound source.

Key Vocabulary

Vibrations	How sound travels. Something vibrating means it is moving.
Ear drum	A thin layer of skin inside the inner ear. Sounds vibrate through the skin, causing 3 tiny bones to vibrate.
Echo	When sound bounces back off of a surface.
Pitch	How high or low a sound is.
Volume	How loud or quiet a sound is.
Decibels	The unit of measure used for sound.



Some people have problems with their hearing. Depending on what the cause of the problem is, hearing aids can help improve how they hear.