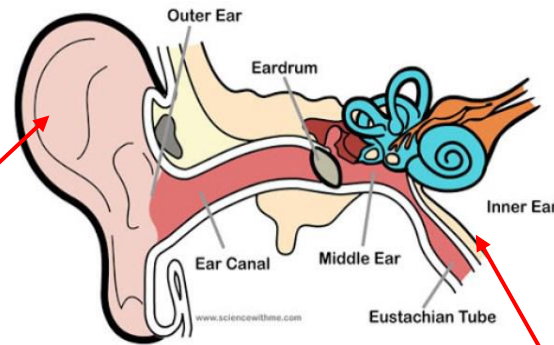


Year 4 Science Knowledge Organiser - Sound

Word	Definition
Amplitude	A measure of strength of a sound wave.
Decibel	A measure of how loud a sound is.
Ear	The organ of hearing and balance. It has an outer part, a middle part and an inner part.
Frequency	A measure of how many times per second a sound wave cycles.
Insulation	Material that stops the travel of energy (sound).
Medium	Something that makes it possible to transfer energy from one location to another.
Pitch	How high or low a sound is.
Sound	A type of energy made by vibrations
Sound Waves	Invisible waves that travel through air, water and solid objects as vibrations.
Source	Where something comes from.
Vibration	Invisible waves that move quickly.
Volume	How loud or quiet a sound is.



VIBRATIONS:

Sound is made when an object vibrates and therefore causes the air around it vibrate too. These vibrations are carried to your ear for you to hear them.

Sound vibrations can travel through different mediums:

SOLIDS: metals, stone, wood.

LIQUIDS: water

GASES: air

Sound travels better through some mediums than others. It travels very well through pipes for example.

Sounds travel in waves. The vibrations make air particles closest to the object vibrate, which then passes the vibrations to the particle next to it and so on.

Sticky Knowledge is in red!

Sound - what do we need to know?

What is sound?

- Sound is a thing that can be heard.
- The object that makes the sound is called a source.

How is a sound made?

- 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.

How do we hear sounds?

- Sound waves travel to the ear and make the ear drum vibrate.
- Messages are sent to the brain which recognises the vibrations as sound.

How do sounds travel?

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

How do we measure sound?

- **Amplitude** measures how strong a sound wave is.
- **Decibels** measure how loud a sound is.
- **Frequency** measures the number of times per second that the sound wave cycles.



A significant Scientist - Linked to the topic of Sound:

Christian Doppler (1803 - 1853)

Christian Doppler was an Austrian mathematician and physicist. He is celebrated for his principle known as the Doppler effect. This describes how noises sound different as you move towards or away from a noisy object.