

What? (Key Knowledge)

Sound is a type of energy. Sounds are created by vibrations. The louder the sound, the bigger the vibration.

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 a low-pitched sound.

Faster vibrations
=
higher pitch

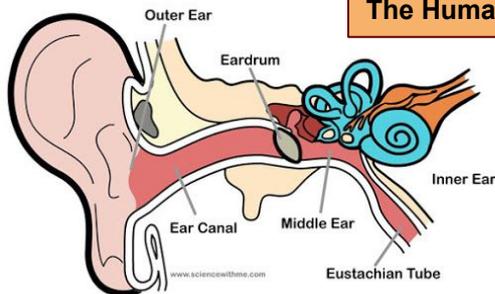
Slower vibrations
=
lower pitch

Sound can travel through solids, liquids and gases. Sound travels as a wave, vibrating the particles in the medium it is travelling in. Sound cannot travel through a vacuum.

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.

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.

Diagrams and Symbols

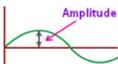


The Human Ear

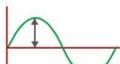
When you hit the drum, the drum skin vibrates. This makes the air particles closest to the drum start to vibrate as well.



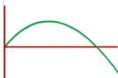
The vibrations then pass to the next air particle, then the next, then the next. This carries on until the air particles closest to your ear vibrate, passing the vibrations into your ear.



Quieter



Louder



Lower Pitch



Higher Pitch

Sound Waves

Key Vocabulary

Definition

vibration

A movement backwards and forwards.

sound wave

Vibrations travelling from a sound source.

volume

The loudness of a sound.

amplitude

The size of a **vibration**. A larger amplitude = a louder sound.

pitch

How low or high a sound is.

ear

An organ used for hearing.

particles

Solids, liquids and gases are made of particles. They are so small we are unable to see them.

soundproof

To prevent sound from passing.

vacuum

A **space** where there is nothing. There are no particles in a vacuum.

eardrum

A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear. Sound waves make the eardrum vibrate.