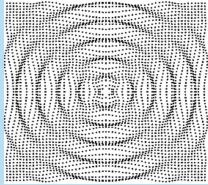


What is Sound

Sounds are vibrations that pass through the air.

When something makes a sound, the particles in the air wobble and vibrate.



Sound can be made in many ways:

Hitting

Plucking

Blowing



Frequency

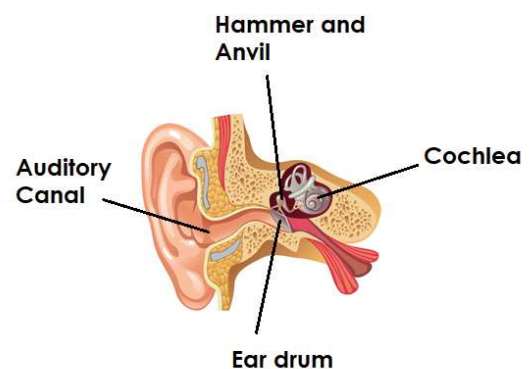
Definition	How quickly the air is vibrating
Measured in...	Hertz (written as Hz)
High frequency	(same as high pitched) means a fast vibration
Mouse's squeak	Example of a high pitched sound
Low frequency	(same as low pitched) means a slow vibration
Cow's moo	Example of a low pitched sound

Amplitude

Definition	How much force air particles are moving with
Measured in...	Decibels (written as dB)
High amplitude	A loud sound – a lot of force is used to make this sound
Whisper	Example of a low-amplitude sound
Low amplitude	A quiet sound – little force is used to make this sound
Shout	Example of a low-amplitude sound

How we hear

1	An object produces sound
2	The sound vibrations spread through the air
3	The outer ear funnels the sound into the middle ear
4	Sound causes the eardrum to vibrate
5	Hearing receptors turn vibrations into signals
6	Signals get sent to the brain



Acoustics – the science of sound

Use of sound	Job of the sound scientist (Acoustician)
Recording studio	To block out sound from outside the room
Concert hall	To make sound be heard from a long way away
Sports stadium	To make the sound as loud as possible
Headphones and speakers	Make the best quality sound possible

Loudspeakers and microphones

