

Year 4 Flamingos Science



Spring 2

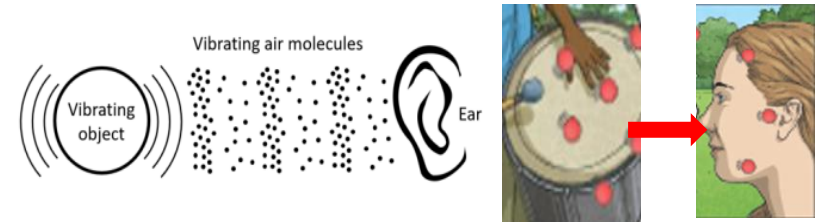


Sound



What is sound?

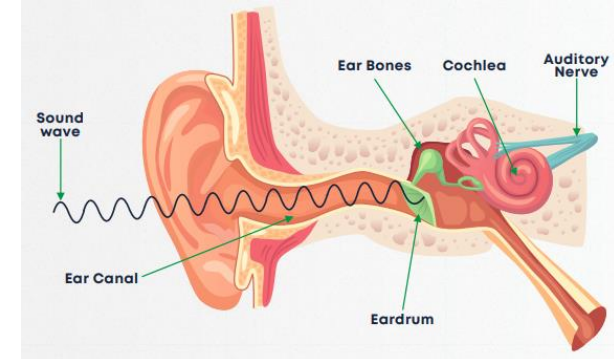
Sound can travel through solids, liquids and gasses. It travels in a wave, vibrating particles in the medium it is travelling in. Sound cannot travel through a vacuum. For example, when you hit a drum, the drum skin vibrates, making the air particles closest to it start to vibrate as well. These vibrations pass to the next particle, then the next and carries on until the air particles closest to your ear vibrate, passing the vibrations into your ear.



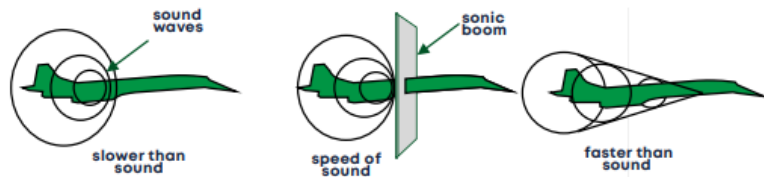
Key Vocabulary	Definition
absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
amplitude	The size of a vibration. A larger amplitude = a louder sound.
distance	A measurement of length between two points.
ear	An organ used for hearing.
ear drum	Skin barrier between the outer and inner ear.
larynx	Also called the voice box. It is in our throat. It vibrates to make sound.
particles	Solids, liquids and gasses are made of particles. They are so small we are unable to see them.
pitch	How high or low a sound is.
soundproof	To prevent sound from passing through.
soundwaves	A wave of vibrations that move through the air when a sound is made, carrying the sound to our ears.
supersonic	Travelling faster than sound. If an object travels faster than sound, it is said to "break the sound barrier".
vacuum	A space where there is nothing. There are no particles in a vacuum.
vibration	A back and forth movement; vibrations are essential in order to hear sound.
volume	How loud or quiet a sound is.

Cross-section diagram of a human ear

Inside the ear, the vibrations hit the eardrum and are then passed to the middle ear and then the inner ear. They are then changed into electrical signals and are sent to your brain which tells you that you are hearing a sound.



What does supersonic mean?



A sonic boom is created when an object travels through the air faster than the speed of sound. They generate enormous amounts of sound energy, sounding similar to an explosion or thunderclap to the human ear. Concorde was a supersonic aeroplane which could travel faster than sound. It was discontinued in 2003.

Sound Waves

The size of the vibration is called the amplitude. Louder sounds have a larger amplitude whilst quieter sounds have a smaller amplitude. Pitch is a measure of how high or low the sound is. A whistle creates a high-pitched sound. A rumble of thunder creates a low-pitched sound.

