

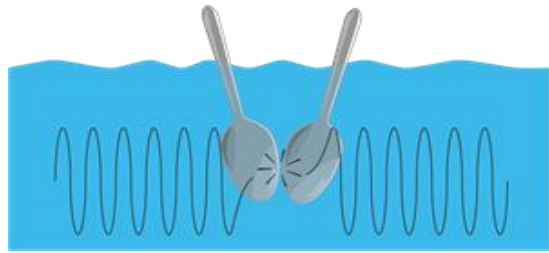


Year Four Science: Sound and Hearing



Can sound only travel through air?

Sounds can travel through liquids and solids as well as air but it can't travel through space (because there is no material that can pass on the sound waves in a vacuum).



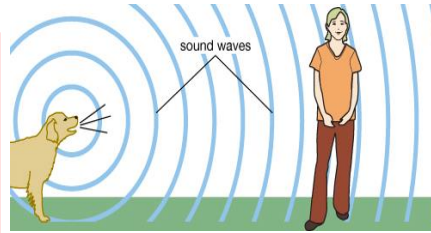
What is the difference between pitch and volume?

Pitch describes how high (squeaky) or low (like a lion's roar) a sound is. Volume describes how quiet or loud a sound is. High pitched sounds make fast vibrations and low pitched sounds make slow vibrations. To make a loud sound the vibrations are huge and to make a quiet sound vibrations are much smaller (try banging a drum and you will understand).



How do animals and people hear sounds?

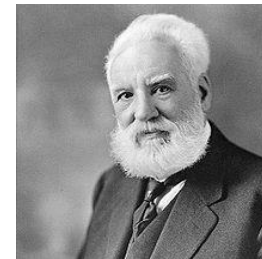
1. Firstly there are things that make sounds by creating vibrations such as a bird song or a drum
2. The sounds travel through the air in invisible sound waves
3. Our ears catch the waves which create vibrations in our eardrums.
4. Our ear then messages our brains to tell us what kind of sound we have heard.



How is sound produced?

Sound is made by vibrations from a source. When a person talks, a dog barks or a guitar is strummed they makes vibrations.

Alexander Graham Bell is most famous for his invention of the telephone in 1876. He first became interested in the science of sound because both his mother and wife were deaf. His experiments in sound eventually led him to want to send voice signals down a wire.



Source



Ear



Dame Evelyn Glennie was born in Scotland in 1965. She is a very famous percussion musician despite being profoundly deaf since the age of 12. Her lack of hearing did not inhibit her ability to perform music though and she now regularly plays barefoot during live performances and studio recordings to feel the music better through the vibrations up through the floor.



Key vocabulary

sound	Sound is what we hear in our ears. Sound is caused by vibrations in a material.
vibration	When an object makes tiny, very fast back-and-forth movements.
sound waves	Vibrations that travel through the air, liquid or a solid, ears.
pitch	How high or low the sound is.
volume	How quiet or loud a sound is.
medium	Sound can travel through different mediums (solids, liquids and gases).
insulation	Material that stops the travel of sound. You might need insulation over your ears to protect them from very loud noises.