

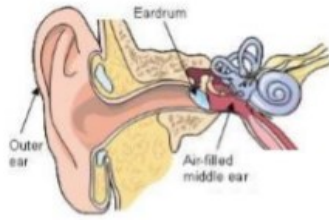


Knowledge Organiser

Science—Sound Year 4

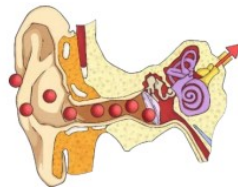
How is sound made?

Vibrations - Sounds are made when something vibrates. By placing rice on a drum, you can see the vibrations when you hit the drum, as well as hearing the sound



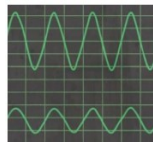
How do we hear sound?

- Sound can travel through solids, liquids and gases.
- Like light, sound travels through the air in waves.
- Sound is made by air molecules vibrating.
- When vibrations are made (e.g. when you clap your hands) the air around the object vibrates. This is the air molecules vibrating.
- The vibrations pass on from air particle to air particle until the ones near your ear vibrate.
- When air molecules inside the ear vibrate, they shake tiny hairs on the insides of the ears. The hairs are connected to nerves under the skin. These nerves send messages to your brain to tell you that you heard a noise.
- Sound travels much slower than light, whether in air or in water. You often hear things after you see them, for example you see the lightning before you hear the



Volume and Pitch

Volume: The louder the sound the bigger the vibration. The size of the vibration is called the amplitude. Quieter sounds have a smaller amplitude and louder sounds have a bigger amplitude.



Pitch: Is how high or low a sound is. On a stringed instrument: shorter, thinner and tighter strings produce a higher pitch. On a wind instrument: shorter columns produce a higher pitch.



Key Vocabulary

Vibration	Appliances are items that need to be plugged in in order to function.
Wave	A container containing cells, where electricity is stored as chemical energy.
Volume	Something that provides light using electricity.
Pitch	A device that makes a buzzing noise.
Tone	A continuous path of wires and devices through which electricity can flow.
Insulation	A machine that moves when electricity goes through it.
Amplitude	A measure of the strength of a soundwave.

What I can do at home

- Learn**
- Make a paper cup and string phone. You will need to paper cups and some string.
 - See how the sound travels through the cup and string. Investigate the difference between the string being loose and the string being taut.

Communicate

Talk to an adult at home about the things below. You don't need to record this.

Sound can travel through air and water.

How is sound heard differently through air and water?

Why do you think this is?