Science- Sound- Year 4 Summer Term

Prior Learning:
You should know…

The five senses and which parts of the body are used for them.

Key Vocabulary	
Faint	A quiet sound. When a source creates a sound with smaller vibrations.
Insulation	Stopping or slowing sound vibrations to make a quieter sound.
Loud	When a source creates a sound which has large vibrations.
Pitch	How high or low a sound is.
Sound	Vibrations which travel through the air (or other materials) into a person (or animal's) ear.
Sound wave	A wave of sound vibrations which travel into a person (or animal's ear).
Source	A source is where the sound originally begins. These can be split into natural and man made sources.
	g quickly forwards and ds.

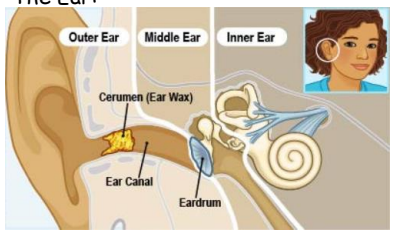
Graeme Clark- The first person to use a cochlear implant.

Some people struggle to hear. A cochlear implant is placed into the ear to help people with hearing difficulties.

How is sound made?
Sound is caused by vibration. When you pluck a guitar string or bang a drum, you can see the material vibrate. This causes the air around it to vibrate. These vibrations travel through our ears where our brains recognise them as sounds. These are known as sound waves.

How sounds travel:
Sounds can travel through solids, liquids and gases- air being an example of this. Some materials do not carry sound vibrations well- this means that they make sounds quieter. This is normally heavier and harder materials.

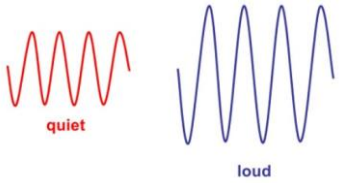
The Ear:



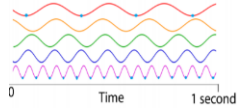
Natural Sources:

Man Made Sources:

Volume
The loudness (volume) of the sound depends on how well they travel from the source to the ear. Therefore bigger vibrations cause louder sounds and sounds decrease in volume the further they have to travel. This can be shown by how tall or short a sound wave is.



Pitch
Pitch is the highness or lowness of a sound and is. Normally, smaller objects usually produce higher pitch sounds. Pitch can be shown by how often a sound wave goes up and down. The more it goes up and down, the higher the pitch and the less it goes up and down, the lower the pitch.



In this example, the different coloured waves are the same height telling us they are the same volume. The number of waves increases as we look down the graph so the pitch is getting higher.

Key Learning

Sounds are caused by vibrations

Sounds travel through air, water and other materials. Some materials do not carry sound as well as others.

We use our ears to hear sounds. The vibrations enter our ears and send signals to our brains which then tells

Louder sounds have larger vibrations and can travel further.

The pitch of a sound is how high or low it is.

Can I answer?

- How are sounds made?
- How do vibrations change when a sound gets louder or quieter?
- What is volume?
- What is pitch?
- Which type of materials absorb sound the best?