Sound

Year 4

Knowing More, Remembering More

Remembering previous learning
This is the first time that the children have explored sound.

In this unit, children will:

- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from a sound travel through a medium to the ear
- Find patterns between the pitch of a sound and features of the object that produced it
- Find patterns between the volume of a sound and the strength of the vibrations that produced it
- Recognise that sounds get fainter as the distance from the sound source increases

Working Scientifically:

4.1 Ask relevant questions and use different types of scientific enquiry to answer them.
4.3 Make predictions based on simple scientific knowledge.
4.4 Identify what they will change, observe or measure and keep the same.
4.5 Set up simple practical enquiries, comparative and fair tests.
4.6 Make systematic and careful observations.
4.7 Take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
4.12 Use straight- forward scientific evidence to answer questions or to support their findings.
4.13 Use results to draw simple conclusions.
4.14 Begin to identify differences, similarities or changes related to simple ideas or processes.

Key Learning Steps

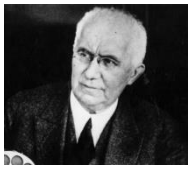
1. Vibrations
2. The ear
3. Investigate sounds
4. Explore volume
5. Explore pitch
6. Plan – volume experiment
7. Investigate – volume experiment
8. Evaluate – volume experiment

Key Vocabulary:

- vibration
- ear
- sound
- volume
- pitch
- outer ear
- ear bones
- cochlea
- ear canal
- ear drum
- decibel
- decibel meter
- insulate
- high-pitched
- low-pitched
- independent variable
- dependent variable
- controlled variable
- background noise
- conclusion

Key Scientists:

Classic
Heinrich Hertz
(1857-94)
German physicist who proved the existence of electromagnetic waves.



Classic
Emile Berliner
(1851 -1929)
German-American, who invented the microphone and gramophone.

Contemporary
Li-Huei Tsai
Neuroscientist using sound and light waves to treat Alzheimer's disease.

Knowing More, Remembering More

Knowing more in Y4

What is a vibration? A quick back-and-forth movement.
How are sounds made? Sounds are made when objects vibrate.
How do we hear sounds? Sounds (vibrations) travel from the object, through the air and to our ears.
What are the parts of the ear and what do they do?
How is sound measured? Using decibels.
The louder the sound, the _____ the vibration.
The quieter the sound, the _____ the vibration.
What is pitch? Pitch is how high or low a sound is.
What is volume? How loud or how soft a sound is.
The greater the distance from a sound source, the _____ the sound will be.