



Sound

Statutory Requirements:

- 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:

- Asking relevant questions and using different types of scientific enquiries to answer them
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units using a range of equipment, including thermometers and data loggers
- Setting up simple practical enquiries, comparative and fair tests
- Identifying differences, similarities or changes related to simple scientific ideas and processes
- Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

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

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.