



Year 4



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
- Setting up simple practical enquiries, comparative and fair tests
- Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Key Vocabulary:

- Ways to create sound - bang, blow, shake, pluck
- Loudness – quiet, loud
- Pitch – low, high
- Vibrations, particles
- Sound source
- Sound wave
- Echo, reverb
- Energy

Key Knowledge:

What is sound:

Sound is a form of energy produced when objects vibrate. The vibrating object pushes the air out in waves, spreading outwards from the source. Particles of air knock into ones next to them. Each particle moves only a short way, with energy being transferred as a series of pulses.

The parts of the wave where the air pressure is increased (air molecules are bunched up) are called compressions. The parts where the pressure is decreased (air molecules are spread out) are called rarefactions.

Properties:

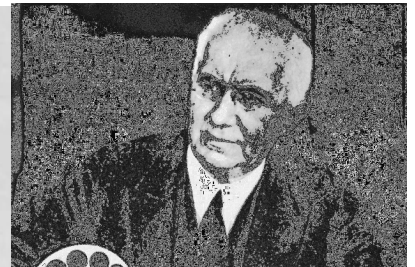
Pitch: Pitch refers to how high or low a sound is. The pitch of the sound is due to the frequency of the vibration. Frequency is the number of vibrations per second.

Loudness: Refers to the intensity of the vibrations and how much energy they have.

Key Scientists



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



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