



Science Topic: Sound

Year: 4 **Term:** Spring 2

Key Knowledge/Content:

- Sound travels from its source in all directions and we hear it when it travels to our ears.
- Sound travel can be blocked.
- Sound spreads out as it travels.
- Changing the shape, size and material of an object will change the sound it produces.
- Sound is produced when an object vibrates.
- Sound moves through all materials by making them vibrate.
- Changing the way an object vibrates changes its sound.
- Bigger vibrations produce louder sounds and smaller vibrations produce quieter sounds.
- Faster vibrations (higher frequencies) produce higher pitched sounds

Scientist Focus:

Alexander Graham Bell (Inventor)

Known for inventing things useful things such as the telephone.

Links to:

Prior learning:

To learn about other forms of energy such as light and the changing seasons. They can use this to explore sound, a form of energy.

Future learning:

To continue to look at light and how the energy is formed.

Key vocabulary with definition:

Prior vocabulary:

- Energy- The ability to do work, normally throughout movement of particles.
- Volume- How loud or quiet a sound is.
- Loud- A lot of noise.
- Quiet- Little or no noise.
- Particles- A small unit of matter that takes up space.

New vocabulary:

- Pitch- How high or low a sound is.
- Amplitude- The measure of a wave's height.
- Vibrations- The rapid back and forth motion of a physical object.
- Instrument- An object used to create music.
- Wave- A transfer of energy from one place to another in a regular pattern.
- Cochlea- .Changes sound into nerve messages for your brain.
- Eardrum- A thin flap of skin stretched and vibrating when sound hits it.
- Stirrup- The smallest bone in the body, working to send vibrations to the ear.

By the end of this unit

All children can: **describe** how sounds moves from an object to the ear and **compare** the size of a sound's object and the volume of a sound.

Most children can: **explain** how vibrations work to create sound and **identify** how pitch is affected by the size or amount of an object making a sound.

Some children can: **name** the parts of the ear that support hearing and **explain** what can be used to muffle or stop the vibrations making sound.

Background understanding for teachers and parents:

This unit will look at how sound works, travelling in vibrations from an object to our ear. Children will explore sound in different ways such as comparing the size of objects, investigating the pitch of glasses of water and comparing materials used to block or muffle sound.

Curriculum Driver (one):

Communication

Evidence outcome:

Understand how sound moves between an object and our ear, leading to communication such as conversations and the appreciation of music.