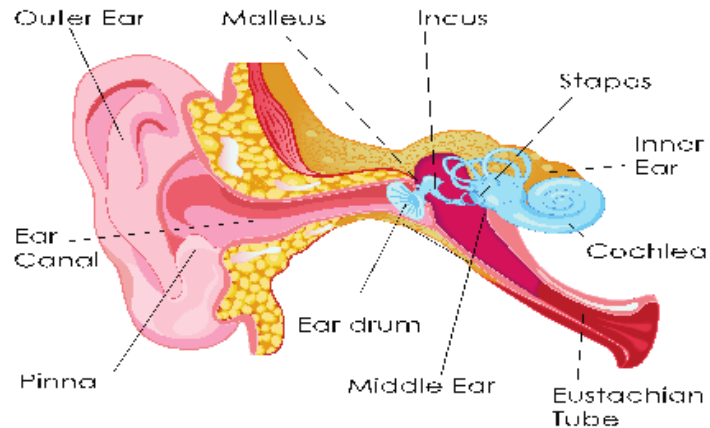


Year 4 – Spring Term: Sound

At the end of this topic, I will:

- find out that sounds are made when objects materials vibrate
- investigate whether sounds can travel through different materials
- explore the relationship between distance and volume
- find out that some materials are effective in preventing vibrations from sounds
- investigate how sound can be different pitches and volume
- find out how the length and thickness affects pitch
- find out how sounds can be made by air vibrating

human ear



Science Subject Knowledge Skills

In this topic, I will:

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds 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

Science Working Scientifically Skills:

In this topic, I will:

- ask relevant questions and using different types of scientific enquiries to answer them
- set up simple practical enquiries, comparative and fair tests
- make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- use straightforward scientific evidence to answer questions or to support their findings

Protecting your ears



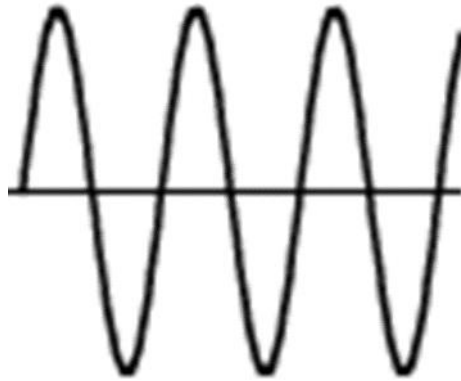
- If a sound reaches 85 decibels (dB) or stronger, it can permanently damage your hearing.
- Your ear drum can get perforated, or burst, if you don't protect your ears.
- Ear defenders are used by workmen and those who work in noisy environments to protect their ears from the sound.

Key Vocabulary

| Key Word | Definition |
|----------------|--|
| vibration | A movement back and forth to create a sound. |
| speed of sound | The distance travelled per unit volume by a sound wave. |
| soundproof | Something such a material that prevents the passage of sound through it. |
| sound wave | A form that sound takes as it moves through air, water etc. Recorded on a graph. |
| frequency | The number of cycles per second that a sound oscillates, recorded in Hertz (hz). |
| decibel | A unit measurement given to the loudness or intensity of a sound. |
| eardrum | The part of the ear that vibrates when receiving sounds. |
| pitch | The quality related who whether sounds are 'high' or 'low.' |

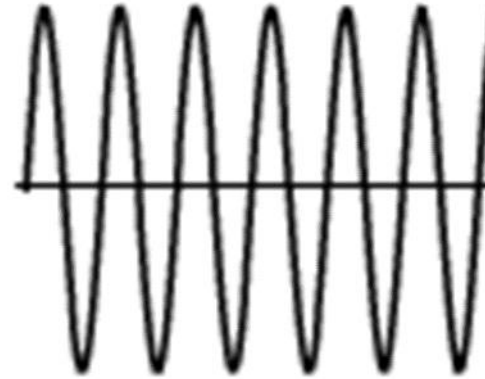
Year 4 – Spring Term: Sound

low pitch sound



- The sound waves are wider apart.
- Has a lower frequency in hertz (Hz)
- The sound wave moves slower.
- On a musical instrument, a thicker string will produce a lower sound.

high pitch sound



- The sound waves are closer together.
- Has a higher frequency in hertz (Hz)
- The sound wave moves quicker.
- On a musical instrument, a thinner string will produce a higher sound.



The softer the material, the more sound will be absorbed by it.

Sound waves can travel through solids, liquids and gases, but will sound differently depending on what they are travelling through.

