

# HOLY SOULS RC PRIMARY SCHOOL



## Science

## Year 4

## Strand: Changing Sound

### What should I already know?

- I can hear sound with my ears.
- Sound travels so that I can hear it.
- Sounds can be loud or quiet; high or low.
- I can make different sounds.

**Cultural Capital - (including focused text / WOW moment / visitors / trips / fieldwork)**

Put a range of instruments on the table to find out how sound is made.

### What will I know by the end of this unit?

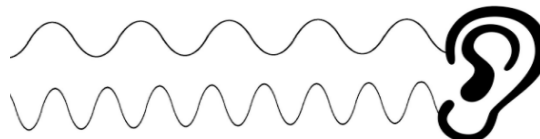
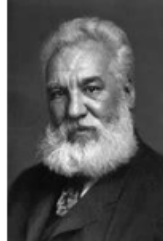
- I will find out that sounds are made when objects and materials vibrate.
- I will investigate whether sound can travel through different materials.
- I will explore the relationship between distance and volume.
- I will be able to find out that some materials are effective in preventing vibrations from sound sources reaching the ear.
- I will investigate how sounds can be different pitches and volumes.
- I will find out how the length, thickness and tightness of a string affects its pitch.
- I will find out how sounds can be made by air vibrating and how to change the pitch of notes produced by vibrating air.

### Diagrams



### Key Scientist - Alexander Graham Bell

Scottish born scientist (1847) who invented the telephone in 1876 at the age of 29. He formed the Bell Telephone Company in 1887.



### Vocabulary:

|              |                                                                                                                                                                                                 |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Absorb sound | To take in sound energy. Absorbent materials have the effect of muffling sound.                                                                                                                 |
| Ear          | An organ used for hearing.                                                                                                                                                                      |
| Eardrum      | A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear. Sound waves make the eardrum vibrate |
| Distance     | A measurement of length between two points.                                                                                                                                                     |
| Insulation   | A material that reduces or stops the movement of sound.                                                                                                                                         |
| Particles    | Solids, liquids and gases are made of particles. They are so small we are unable to see them.                                                                                                   |
| Pitch        | How high or low a sound is.                                                                                                                                                                     |
| Sound        | It is made up of vibrations, or sound waves, that we can hear.                                                                                                                                  |
| Soundproof   | To prevent sound from passing through.                                                                                                                                                          |
| Sound wave   | Invisible waves that travel through air, water and solid objects as long as there are particles to bounce off.                                                                                  |
| Source       | A starting point.                                                                                                                                                                               |
| Travel       | Sound vibrations travel in a wave pattern, and we call these vibrations sound waves.                                                                                                            |
| Vacuum       | A space where there is nothing. There are no particles in a vacuum                                                                                                                              |
| Vibrate      | Causes movement in the air particles to bump into each other.                                                                                                                                   |
| Volume       | How loud or quiet a sound is.                                                                                                                                                                   |

### Working scientifically

- To set up simple practical enquiries, comparative and fair tests.
- To ask relevant questions and use different types of scientific enquiries to answer them.
- To use scientific evidence to answer questions or to support their findings.
- To record findings using simple scientific language, drawings, labelled diagrams and tables.
- To report on findings from enquiries, including oral and written explanations.
- To identify differences, similarities or changes related to simple scientific ideas and processes.