

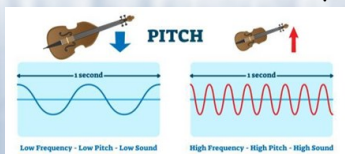
# SOUND

In this unit, I will:

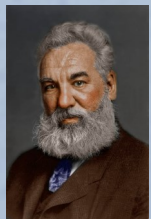
- ☐ Identify how sounds are made
- ☐ Find out how vibrations from sounds travel through a medium to the ear
- ☐ Explore sound insulation
- ☐ Investigate how sounds can be different pitches and volumes.
- ☐ Explore sounds from near and far

## Pitch

The pitch of a sound is how high or low it is. A squeak of mouse has a high pitch A roar of a lion has a low pitch.



A high pitch sound is made because it has a high frequency. The sound source vibrates many times a second.



## Key Scientist – Alexander Graham Bell

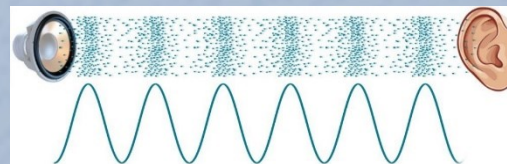
Scottish born scientist (1847) who invented the telephone in 1876 at the age of 29. He formed the Bell Telephone Company in 1887.

## Glossary

|              |                                                                                                   |
|--------------|---------------------------------------------------------------------------------------------------|
| amplitude    | A measure of the strength of a sound wave. The size of the vibration                              |
| decibels     | The unit to measure loudness                                                                      |
| energy       | The power to make something work, move or grow. Sound energy is a type of energy that we can hear |
| frequency    | How many vibrations are made in one second                                                        |
| insulation   | A material used to block sounds                                                                   |
| instruments  | Objects used to play music                                                                        |
| medium       | A substance such as air, water or a solid                                                         |
| materials    | Anything used in making something or building                                                     |
| particles    | Tiny pieces that make up something larger                                                         |
| pitch        | How high or low a sound is.                                                                       |
| reflect      | Bounce back from a surface                                                                        |
| sound source | Where sound comes from. A sound source will produce vibrations                                    |
| vibration    | Particles moving very quickly                                                                     |
| volume       | How loud or quiet a sound is.                                                                     |
| wave         | A sound wave is an invisible wave which moves through different medium                            |

## How do we hear?

The sound waves travel to the ear and make the ear-drums vibrate. Messages are sent to the brain which recognises the vibrations as sounds.

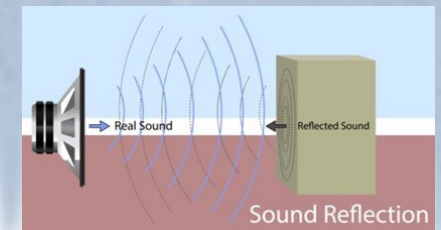


How are sounds made and how do they travel?

When objects **vibrate**, a sound is made. The vibration makes the air around the object vibrate and the air vibrations enter your ear. These are called **sound waves**.

If an object is making a sound, a part of it is vibrating, even if you cannot see the vibrations.

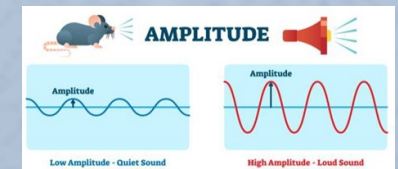
Sound waves travel through a medium (such as air, water, glass, stone, and brick).



## Volume

The volume of a sound is how loud or quiet it is.

Quieter sounds have a smaller amplitude and less energy (smaller vibrations) and louder sounds have a bigger amplitude and more energy.



The closer we are to a sound source the louder it will be. A train arriving at a station sounds loud.



The further away from a sound the fainter it will be. A train in the distance sounds quieter.