

## Prior knowledge/key knowledge

### Prior knowledge

- This is a new Science topic this year for all the children.

### Key knowledge for Y3/4

### Sound Travels to the Ear

Sounds are made when objects **vibrate**. The vibration makes the air around vibrate, and the air vibrations enter your ear. Our brain hears the vibrations and turns this into a sound.



### How Sound is Made

- Sound travels through the air in waves.
- When you clap your hands, the air around your hands shakes. This is the air molecules vibrating.



When air molecules inside the ear vibrate, they shake tiny hairs on the insides of the ears. The hairs are connected to nerves under the skin.



- These nerves send messages to your brain to tell you that you heard a noise.



## Science Knowledge Organiser

### Year: 3/4 Term: Summer

### 1 Topic: Sound

### Vocabulary

amplitude	A measure of the strength of a sound wave
decibel	A measure of how loud a sound is
pitch	How high or low a sound is
sound waves	Invisible waves that travel through air, water and solid objects as vibrations
vibration	Invisible waves that move quickly
volume	How loud or quiet a sound is

### Big Questions/Challenging Perceptions

If you lived near a noisy building site, you would not want to hear the sounds of the machines! You would need to find a way to absorb the sounds so your house remained quiet and peaceful. What would you do?

## Key skills /investigative focus

### How Does Sound Travel ?

Sound can travel through solids, liquids and gases. Sound travels as a wave, vibrating the particles in the medium it is travelling in.

Sound travels much slower than light, whether in air or in water. You often hear things after you see them, for example, you see the lightning before you hear the thunder.

### Volume of a sound

The louder the sound, the bigger the vibration.

The closer you are to the source of a sound, the **louder** the sound will be.  
The further away you are from the source of a sound, the **quieter** the sound will be.



The size of the vibration is called the **amplitude**.

Quieter sounds have a smaller amplitude, and louder sounds have a bigger amplitude.

### Pitch of A Sound

The pitch of a sound is how high or low it is. The shorter the object the higher the pitch. The longer the object the lower the pitch. With stringed instruments, the tighter the string the higher the pitch of the sound.

### 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.

