

# Dog Kennel Hill Primary School - Science

**Topic: Sound**

**Year: 4**

**Strand: Biology**

### What should I already know?

- Hearing is one of my five senses.
- Sounds can be combined using musical instruments.

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

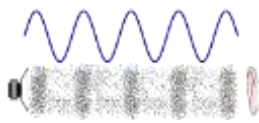
**What is a sound?** A thing that can be heard.  
The object that makes the sound is called the **source**.

**How is a sound made?** 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**.



**How do sounds travel?** **Sound waves** travel through a **medium** (such as air, water, glass, stone, and brick).  
For example, if somebody is playing music in the room next door, the sound can travel through the

**How do we hear sounds?** When an object **vibrates**, the air around it **vibrates** too. This **vibrating** air can also be known as **sound waves**.  
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 do sounds change?** **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**.

**Volume:**  
The **volume** of a sound is how **loud** or **quiet** it is.  
When a sound is created by a little amount of **energy**, a weak **sound wave** is created which doesn't **travel** far. This makes a **quiet** sound.  
A small tap of a hammer is used with small amounts of **energy** and so creates a **quiet** noise.  
A **vibration** with lots of **energy** makes a powerful **sound wave** and therefore a **loud** sound.  
A powerful, smashing tap of a hammer is used with lots of **energy** and so creates a **loud** noise.

**How do we measure sound?** **Amplitude** measures how strong a **sound wave** is.  
**Decibels** measure how **loud** a sound is.  
**Frequency** measures the number of times per second that the **sound wave** cycles.

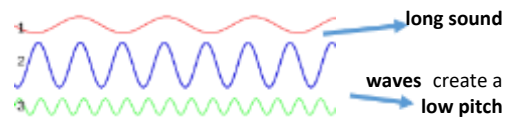
### Vocabulary

Amplitude	a measure of the strength of a <b>sound wave</b>
Decibel	a measure of how loud a sound is
Electricity	a form of <b>energy</b> that can be carried by wires and is used for heating and lighting, and to provide power for devices
Energy	the <b>power</b> from <b>sources</b> such as <b>electricity</b> that makes machines work or provides heat
Frequency	a measure of how many times per second the <b>sound wave</b> cycles
Medium	something that makes possible the transfer of <b>energy</b> from one location to another
Pitch	how <b>high</b> or <b>low</b> a sound is
Power	<b>Power</b> is energy, especially electricity, that is obtained in large quantities from a fuel <b>source</b> and used to operate lights, heating,
sound waves	invisible waves that travel through air, water, and solid objects as <b>vibrations</b>
Source	where something comes from
Transmit	to pass from one place or person to another
Travel	how something moves around
Vibrations	invisible waves that move quickly
Volume	how <b>loud</b> or <b>quiet</b> a sound is

### Diagrams

#### Pitch:

- **High pitch** sounds are created by short **sound waves**.
- **Low pitched** sounds are created by long **sound waves**.



short sound      waves create      a high pitch

#### Volume:

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

