

# Year 4 – Science - Terms 1: Sound



**Curriculum Key Question:**  
Where are we going?

**Topic:** How rotten were the Romans?

**Learning Intentions:**  
To explain and describe sound sources.

**Learning Intentions:**  
To know that sound can be changed by changing vibrations.

**Learning Intentions:**  
To explore ways to change the pitch and volume of a sound.

**Learning Intentions:**  
To investigate ways to absorb sound.

**Learning Intentions:**  
To learn about how the human ear works.

**Learning Intentions:**  
To experiment with making our own sounds with instruments.

## What should I already know?

- No science teaching about sound but children will have some understanding from music lessons.

## Scientific Skills I will develop:

- Carry out simple fair tests with increasing confidence investigating the effect of something on something else.
- To notice / find patterns in their observations and data (e.g. as I lengthen the ruler I notice that the pitch gets lower).
- To use relevant scientific language and vocabulary to begin to say / explain why something happened.

**The sound source begins to vibrate.**

**The vibrations reach your ear.**

**The vibrations travel along your ear canal.**

**The vibrations are changed to electrical signals and sent to your brain.**

**Vibrations pass from the sound source to particles in the air around it.**

**The vibrations pass from particle to particle.**

**The vibrations reach your eardrum.**

**Your brain tells you that you have heard a sound.**

**How are sounds made?**

Sounds are made when objects vibrate. The vibration makes the air around the object vibrate and the air vibrations enter your ear. You hear them as sounds.

**The size of the vibration is called the amplitude.** Louder sounds have a larger amplitude, and quieter sounds have a smaller amplitude.

**loud**

**quiet**

**Pitch** is a measure of how high or low a sound is. A whistle being blown creates a high-pitched sound. A rumble of thunder is an example of a low-pitched sound.

**Faster vibrations = higher pitch**

**Slower vibrations = lower pitch**

**How cochlear implants help some people to hear sounds.**

## Key Vocabulary (including definition: (see parts of digestive system in previous box).

**Vibrations:** Moving very quickly back and forth.

**Pitch:** How high or low a sound is.

**Volume:** How loud or quiet a sound is.

**Sound wave:** How sound/vibrations travel through the air.

**Anvil, stirrup and hammer:** The three small bones in the ear.

**Cochlea:** in the inner ear, translates vibrations to electrical signals.

**Ear drum:** A thin sheet in the ear

**Soundproofing:** A way to reduce the movement of sound.

**Condensation:** Change in state from gas to liquid.

**Amplitude:** The size of a vibration. A larger amplitude = a louder sound.

**Particles:** Solids, liquids and gases are made of particles. They are so small we are unable to see them.

**Decibel:** A measure of how loud a sound is.

