The Knowledge

Supporting the National Curriculum

Knowing More **Remembering More** **Learning More**

Sound

ARDLEIGH GREEN
JUNIOR SCHOOL

Year 4
Science

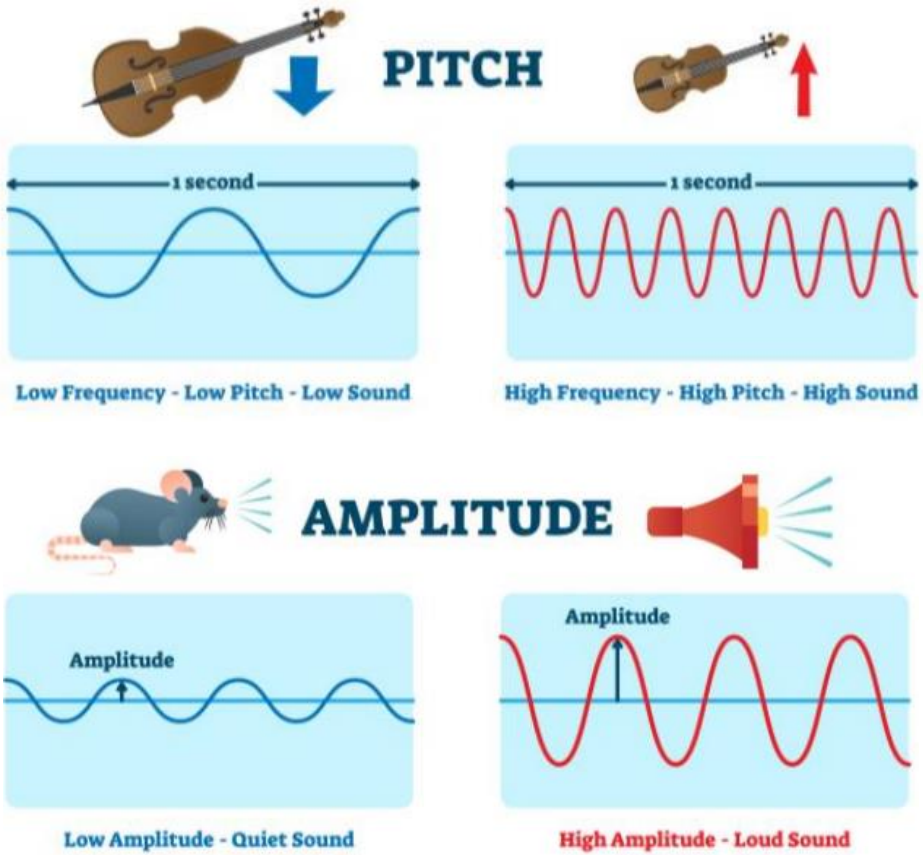
Key Facts

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

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

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.

Pitch & Volume (amplitude)



Key Vocabulary

Sound: When an object vibrates

Sound source: The object that starts the sound

Vibrate: Particles moving very quickly

Ear: An organ on each side of the head which hears sound

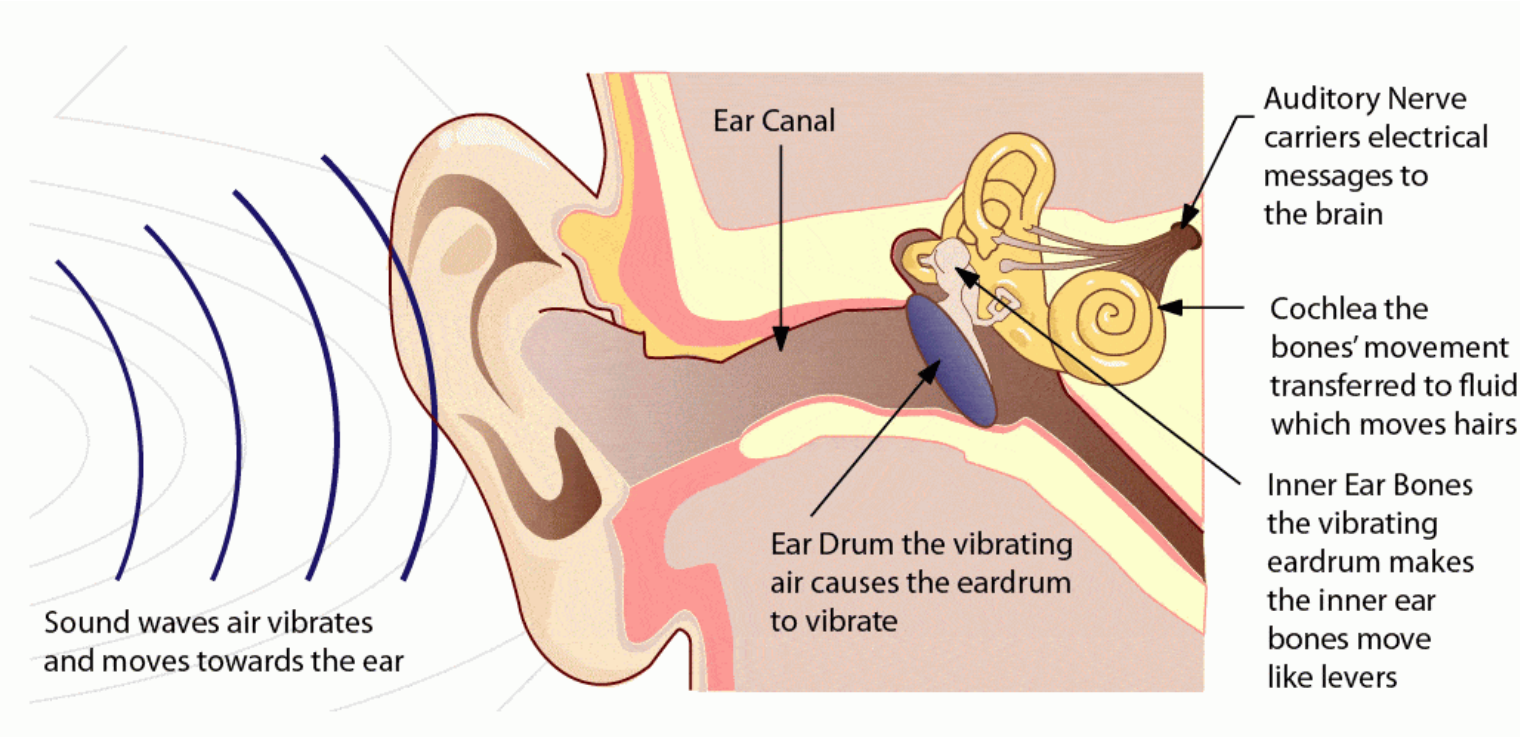
Faint: Not strong or clear

Volume: The level of sound produced (loud or quiet)

Decibels: The unit to measure loudness

Pitch: The degree to which a sound or a musical note is (high or low)

Inside The Ear



Test Yourself

- How are sounds made?
- How do sound vibrations travel through a medium to the ear?
- What materials absorb or reflect sound?
- What is volume?
- True or False - Quieter volumes have smaller amplitudes?
- What word describes how high of low a sound is?
- What happens to a sound when the distance from the sound source increases?