



# Year 3/4 Science Knowledge Organiser: Sound



## Subject Specific Skills

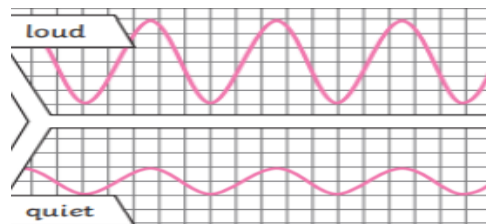
- Identify how sounds are made, associating some of them with something vibrating
- Recognise that vibrations from sounds travel through a medium to the ear
- Find patterns between the pitch of a sound and features of the object that produced it
- Find patterns between the volume of a sound and the strength of the vibrations that produced it
- Recognise that sounds get fainter as the distance from the sound source increases.

## Prior Learning

- Sound is one of the five senses.
- Sound can be combined using musical instruments

## Key Knowledge - What is Sound?

Sound is a type of energy. 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. You cannot always see the vibrations, but if something is making a sound, some part of it is always vibrating. The size of the vibration is called the amplitude. Louder sounds have a larger amplitude and quieter sounds a smaller amplitude.



## Key Individual: Leonardo Di Vinci



As a scientist, da Vinci was interested in how sound moves through different materials. He is often credited with discovering that sound travels in waves.

## Key Vocabulary

**Vibration** A movement backwards and forwards

**Sound wave** Vibrations travelling from a sound source

**Source** The beginning; where something comes from

**Volume** The loudness of a sound

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

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

**Ear** An organ used for hearing

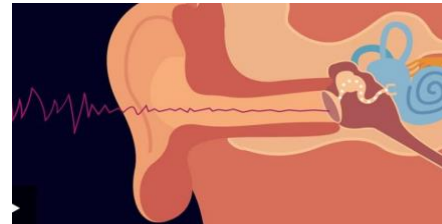
**Soundproof** To prevent sound from passing

**Absorb sound** To take in sound energy. Absorbent materials have the effect of muffling sound

**Eardrum** A part of the ear which is a thick, tough layer of tissue that is stretched out like a drum skin. Sound waves make the eardrum vibrate

## Key Knowledge – How do we hear sounds?

**Sound Waves** travel through the solids (such as metal, stone, wood) liquids (such as water) and gases (such as air). This vibrating air can also be known as 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.



## 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

## 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 bricks in the wall. Some materials are good at preventing vibrations from sound sources reaching the ear. These can be used to soundproof (absorb the sound) effectively.

