

Science Subject Knowledge Bank

Year 4: Sound

<u>Vocabulary</u>	<u>Definition</u>
Vibration	When particles move rapidly up and down.
Pitch	How high or low a sound is.
Volume	How loud or quiet a sound is

Why does sound get fainter the further it has to travel?

- Sound spreads out as it travels which is why sounds get quieter the further away from the source you are.
- 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.



How are sounds made?

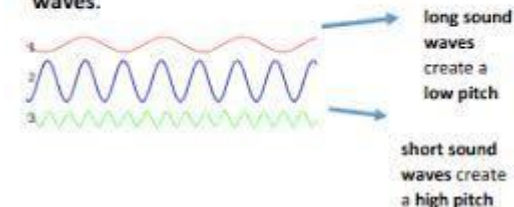
- When objects vibrate, a sound is made.
- The vibration makes the air around the object vibrate and the air vibrations enter your ear.
- The vibrations travel into the ear where they are carried down the ear canal and processed by the brain into sounds.
- If an object is making a sound, a part of it is vibrating, even if you cannot see the vibrations.

How does the speed of vibrations affect the pitch of the sound?

- Faster vibrations (higher frequencies) produce higher pitched sounds
- Slower vibrations (lower frequencies) produce lower pitched sounds.

Pitch:

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



How does sound travel through different materials?

- Sound moves through all materials (such as air, water, glass, stone, and brick) by making them vibrate.
- For example, if somebody is playing music in the room next door, the sound can travel through the bricks in the wall.
- Sound travel can be blocked by stopping the vibrations.

How is the volume of a sound connected to the vibrations?

- The volume of a sound is how loud or quiet it is.
- When a sound is created by a little amount of energy, the vibrations are smaller so the sound is quieter.
- A small tap of a hammer produces smaller vibrations so creates a quiet noise.
- When a sound is created by a large amount of energy, the vibrations are greater so the sound is louder.
- A powerful, smashing tap of a hammer produces greater vibrations and so creates a louder noise.
- The strength of the vibrations is measured in amps and the volume of the sound created by those vibrations is measured in decibels.