Year 4 Science Lent Term: Physics - Sound

Key Learning

- Identify how sounds are made, associating some of them with something vibrating.
- Recognise that vibrations from sound 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 sound and the strength of the vibrations that produced it.
- Recognise that sounds get fainter as the distance from the sound source.

Key Vocabulary

Vibration	A quick movement back and forth.
Sound source	Where something vibrates to create a sound.
Sound wave	Vibrations travelling from a sound source.
Amplitude	The size of the vibration.
Pitch	How high or low a sound is.
Particles	Tiny amount of matter making up solids, liquids and gases.
Medium	A state of matter: solid, liquid or gas.
Transmit	Send out.
Absorb	To take in sound energy and muffle the sound.

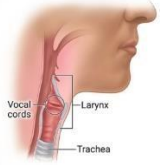
Vibrations

Sound is a type of energy. It is created by vibrations. The louder the sound, the bigger the vibration.

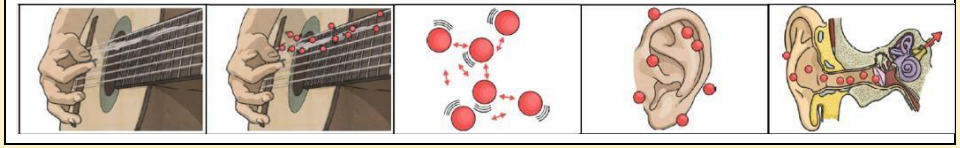
When plucked, a guitar string vibrates, making a sound.

When we clap, air particles vibrate, making a sound.

When we speak, our vocal cords vibrate, making a sound.



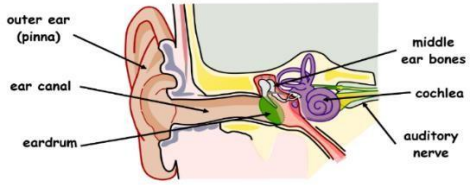
Vibrations travel from the sound source through a medium to our ear by moving from particle to particle. Sound gets quieter over distance because vibrations, moving as sound waves, spread out and lose energy.



Volume

Bigger vibrations will create louder sounds.
Smaller vibrations will create smaller sounds.

The Ear



Pitch

On string instruments, the tighter, thinner or shorter the string is, the higher pitched the sound will be.

On a xylophone, the shorter the bar or key, the higher the pitch will be. With bells, larger will give a low pitch.

For wind instruments, shortening the column of air will create a higher sound. This can be done by covering certain holes.