Buglawton Primary School

Be the Best We Can

Topic: Sound Subject : Science Year: 4 Term:

What should I already know?

Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)

What will I know by the end of the unit?

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.

What will I be able to do by the end of the unit?

Can name sound sources and state that sounds are produced by the vibration of the object
Can state that sounds travel through different mediums such as air, water, metal
Can give examples to demonstrate how the pitch of a sound are linked to the features of the object that produced it
Can give examples of how to change the volume of a sound e.g. increase the size of vibrations by hitting or blowing harder
Can give examples to demonstrate that sounds get fainter as the distance from the sound source increases
Can explain what happens when you strike a drum or pluck a string and use a diagram to show how sounds travel from an object to the ear
Can demonstrate how to increase or decrease pitch and volume using musical instruments or other objects
Can use data to identify patterns in pitch and volume
Can explain how loudness can be reduced by moving further from the sound source or by using a sound insulating medium

Agreed Real-life Outcome

Research, make and play their own instruments based on what they learned about pitch and volume.

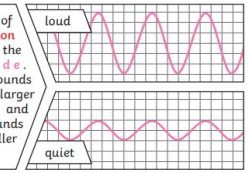
Key Vocabulary

vibration	A movement backwards and forwards.
sound wave	Vibrations travelling from a sound source.
volume	The loudness of a sound.
amplitude	The size of a vibration. A larger amplitude = a louder sound.
pitch	How low or high a sound is.

Key Knowledge

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

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



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.

You can change the pitch of a sound in different ways depending on the type of instrument you are playing.

For example, if you are playing a xylophone, striking the smaller bars with the beater causes faster vibrations and so a higher pitched note. Striking the larger bars causes slower vibrations and produces a lower note.

Key Vocabulary

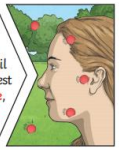
ear	An organ used for hearing.
particles	Solids, liquids and gases are made of particles. They are so small we are unable to see them.
distance	A measurement of length between two points.
soundproof	To prevent sound from passing.
absorb sound	To take in sound energy. Absorbent materials have the effect of muffling sound.
vacuum	A space where there is nothing. There are no particles in a vacuum.
eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the outer ear from the middle and inner ear. Sound waves make the eardrum vibrate.

Key Knowledge

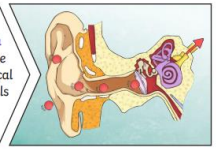
Sound can travel through solids, liquids and gases. Sound travels as a wave, vibrating the particles in the medium it is travelling in. Sound cannot travel through a vacuum.

When you hit the drum, the drum skin vibrates. This makes the air particles closest to the drum start to vibrate as well.

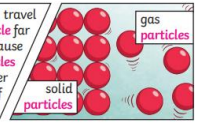
The vibrations then pass to the next air particle, then the next, then the next. This carries on until the air particles closest to your ear vibrate, passing the vibrations into your ear.



Inside your ear, the vibrations hit the eardrum and are then passed to the middle and then the inner ear. They are then changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound.



Sound energy can travel from particle to particle far easier in a solid because the vibrating particles are closer together than in other states of matter.



If you throw a stone in a pond, it will produce ripples. As the ripples spread out across the pond, they become smaller. When sound vibrations spread out over a distance, the sound becomes quieter, just like ripples in a pond.

Assessment:		
Assessment: Cold task: go through vocabulary: What do they know? Record on post it notes and add to group books Hot task: update what they know regarding the vocabulary. Complete Headstart topic test and add in a pocket of group books. Complete Headstart term tests: end of Autumn, Spring and Summer. Add data to DC PRO