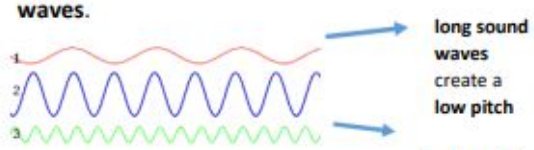
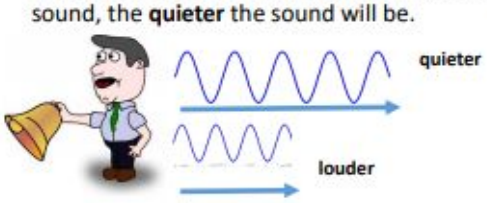
Goonhavern Primary School- Science		
TOPIC: Sound	**YEAR: 4**	**STRAND: Physics**

What should I know already?	What will I know by the end of the unit?	
● Hearing is one of my five senses. ● Sounds can be combined using musical instruments. ● What the word vibration means.	What is a sound?	A thing that can be heard. The object that makes the sound is called the source.
	How is sound made?	● 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. ● If an object is making a sound, a part of it is vibrating, even if you cannot see the vibrations.
	How does sound 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.
	How do we hear sounds?	● When an object vibrates, the air around it vibrates too. 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. **Volume:** ● The volume of a sound is how loud or quiet it is. ● When a sound is created by a little amount of energy, a weak sound wave is created which doesn't travel far. This makes a quiet sound. ○ A small tap of a hammer is used with small amounts of energy and so creates a quiet noise. ● A vibration with lots of energy makes a powerful sound wave and therefore a loud sound. ○ A powerful, smashing tap of a hammer is used with lots of energy and so creates a loud noise.
	How do we measure sound?	● Amplitude measures how strong a sound wave is. ● Decibels measure how loud a sound is. ● Frequency measures the number of times per second that the sound wave cycles.

Vocabulary	
Amplitude	A measure of the strength of a sound wave.
Decibel	A measure of how loud a sound is.
Energy	The power from sources such as electricity that makes machines work or provides heat.
Frequency	A measure of how many times per second the sound wave cycles.
Medium	Something that makes possible the transfer of energy from one location to another.
Pitch	How low or high a sound is.
Power	Power is energy, especially electricity, that is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery.
Sound waves	Invisible waves that travel through air, water, and solid objects as vibrations.
Source	Where something comes from.
Transmit	To pass from one place or person to another.
Travel	How something moves around.
Vibrations	Invisible waves that move quickly.
Volume	How loud or quiet a sound is.

Image/diagram that helps me to articulate my knowledge/understanding	Investigate!
Pitch: • **High pitch** sounds are created by short **sound waves**. • **Low pitched** sounds are created by long **sound waves**.  **long sound waves** create a **low pitch** **short sound waves** create a **high pitch** **Volume:** • 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.  **quieter** **louder**	• Fill identical jars with different volumes of water. Which one creates the highest pitch? • Which material would make the best sound defender? How can you investigate this? • Make musical instruments using different length strings. How do their pitches differ?

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Q1: How does sound travel?	**Start of Unit**	**End of Unit**
In a striaght line		
In a curvy line		
As a series of vibrations		
By making a noise		
Q2: Sound travels...,	**Start of Unit**	**End of Unit**
Slower than the speed of light		
At the same speed as light		
Faster than the speed of light		
Q3: The pitch of a sound describes	**Start of Unit**	**End of Unit**
How fast or slow a sound is		
How loud or quiet a sound is		
How high or low a sound is		
Q4: A pupil blows through two different length straws. Which statement is true?	**Start of Unit**	**End of Unit**

Q5: The volume of sound is measures in	**Start of Unit**	**End of Unit**
decibels		
centimetres		
kilograms		
miles		
Q6:The origin of the sound is called...	**Start of Unit**	**End of Unit**
noise		
source		
frequency		
Q7: When a sound hits the ear...	**Start of Unit**	**End of Unit**
Nothing vibrates		
The whole ear vibrates		
The eardrum vibrates		
Q8: Sound can travel through	**Start of Unit**	**End of Unit**

The shorter straw will make a higher-pitched sound.				The air		
The shorter straw will make a louder sound.				Water		
The longer straw will make a higher-pitched sound.				The floor		
The longer straw will make a louder sound.				All of the above		