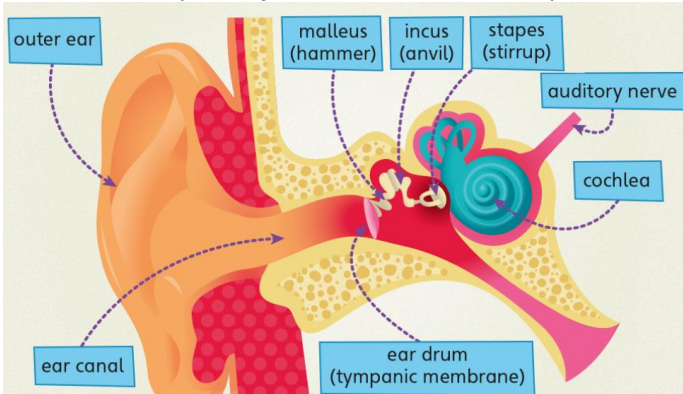


Year 4 – Sound	
Links made with other subjects	Computing media – producing and editing sounds
The BIG Question	How do we hear different sounds?
The BIG Outcome	Diagram and accompanying explanation
Science objectives (link to NC)	-Identify how sounds are made, associating some of them with something vibrating. - 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 knowledge What prior knowledge is needed for children to be successful in this unit?	Children already know: EYFS – Understanding the world - Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. Yr 1 – Senses Animals Including Humans
Future learning Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	This unit gives prior knowledge to: KS3 Waves on water as undulations which travel through water with transverse motion; these waves can be reflected, and add or cancel – superposition. • Frequencies of sound waves, measured in Hertz (Hz); echoes, reflection and absorption of sound. • Sound needs a medium to travel, the speed of sound in air, in water, in solids. • Sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal. • Auditory range of humans and animals. • Pressure waves transferring energy; use for cleaning and physiotherapy by ultra-sound. • Waves transferring information for conversion to electrical signals by microphone.
Science strands	Related Enquiry Questions
	Classifying
	-Based on the children’s own criteria, sort musical instruments.
	Observing over time
	Not relevant
	Pattern Seeking
	Not relevant
	Comparative testing
	-Measure volume from different instruments. - Measure how volume changes away from a source. - Investigate string telephones. -Explore pitch e.g. through a carousel of activities using milk bottles, straw pipes, rulers, elastic band guitars
	Researching
- Research, make and play their own instruments based on what they learned about pitch and volume.	
Vocabulary/ Glossary	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation

Science Scheme of Work

<p>Knowledge (see italics for knowledge to remember)</p>	<p>The knowledge that children will learn and remember:</p> <ol style="list-style-type: none"> <i>A sound produces vibrations which travel through a medium from the source to our ears.</i> <i>Different mediums such as solids, liquids and gases can carry sound, but sound cannot travel through a vacuum (an area empty of matter).</i> <i>The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound.</i> <i>To know some parts of the ear involved in the process:</i>  <ol style="list-style-type: none"> <i>The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium.</i> <i>Sounds decrease in volume as you move away from the source.</i> <i>A sound insulator is a material which blocks sound effectively.</i> <i>Pitch is the highness or lowness of a sound and is affected by features of objects producing the sounds. For example, smaller objects usually produce higher pitched sounds.</i> <i>E.g 2 tighter strings produce higher pitched sounds</i>
<p>SEND expectations</p>	<ol style="list-style-type: none"> <i>A sound produces vibrations which travel through a medium from the source to our ears.</i> <i>The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound.</i> <i>The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium.</i> <i>Sounds decrease in volume as you move away from the source.</i> <i>A sound insulator is a material which blocks sound effectively.</i> <i>Pitch is the highness or lowness of a sound and is affected by features of objects producing the sounds. For example, smaller objects usually produce higher pitched sounds.</i>
<p>Common misconceptions</p>	<p>-Pitch and volume are frequently confused, as both can be described as high or low. Some children may think:</p> <ul style="list-style-type: none"> -sound is only heard by the listener -sound only travels in one direction from the source -sound can't travel through solids and liquids -high sounds are loud and low sounds are quiet.