






## Science Medium Term Plan

	<b>Year Group:</b>	<b>Term:</b>	<b>Topic/Unit :</b>		
	4	Autumn	Sound		
<b>National Curriculum Programme of Study</b>	<ul style="list-style-type: none"> <li>• Identify how sounds are made, associating some of them with something vibrating.</li> <li>• Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>• Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>• Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>• Recognise that sounds get fainter as the distance from the sound source increases.</li> </ul>				
<b>Prior Learning</b>	<ul style="list-style-type: none"> <li>• Explore how things work. (Nursery – Sound)</li> <li>• Describe what they see, hear and feel whilst outside. (Reception – Sound)</li> <li>• 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)</li> </ul>				
<b>Future Learning</b>	<ul style="list-style-type: none"> <li>• Waves on water as undulations which travel through water with transverse motion; these waves can be reflected, and add or cancel – superposition. (KS3)</li> <li>• Frequencies of sound waves, measured in Hertz (Hz); echoes, reflection and absorption of sound. (KS3)</li> <li>• Sound needs a medium to travel, the speed of sound in air, in water, in solids. (KS3)</li> <li>• Sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal. (KS3)</li> <li>• Auditory range of humans and animals. (KS3)</li> <li>• Pressure waves transferring energy; use for cleaning and physiotherapy by ultra-sound. (KS3)</li> <li>• Waves transferring information for conversion to electrical signals by microphone. (KS3)</li> </ul>				
<b>Links to other subjects</b>	Music				
<b>Enrichment</b>	Create your own musical instruments using recycled materials.				
<b>Working Scientifically</b>	<b>Comparative tests</b> 	<b>Identify and classify</b> 	<b>Observation over time</b> 	<b>Pattern seeking</b> 	<b>Research</b> 
	How does the volume of a drum change as you move further away from it?	Which material is best to use for muffling sound in ear defenders?	When is our classroom the quietest?	Is there a link between how loud it is in school and the time of day? If there is a pattern, is it the same in every area of the school?	Do all animals have the same hearing range?
<b>Working Scientifically Assessment Focus</b>	<p>Plan: Ask questions and plan enquiry: Sound: investigating pitch</p> <p><b>Working Scientifically: Plan: Ask relevant questions and use different types of scientific enquiries to answer them</b></p> <p><b>Assessment Focus</b></p> <ul style="list-style-type: none"> <li>• Can children suggest how to alter the pitch?</li> <li>• Can children carry out simple tests of these ideas?</li> </ul>				

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<b>Sticky vocabulary</b>	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation <b>Working Scientifically vocabulary:</b> develop, enquiry, relationships, accurate, chart
<b>End points</b>	<ul style="list-style-type: none"><li>• A sound produces vibrations which travel through a medium from the source to our ears.</li><li>• Different mediums such as solids, liquids and gases can carry sound, but sound cannot travel through a vacuum (an area empty of matter).</li><li>• The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound.</li><li>• The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium.</li><li>• Therefore, sounds decrease in volume as you move away from the source.</li><li>• A sound insulator is a material which blocks sound effectively.</li><li>• 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.</li></ul>