

Topic Name	Sound
Big Question	What would the world be like without sound?
Scientists to use as examples	Alexander Graham Bell. Aristotle,
Key Knowledge	<ul style="list-style-type: none"> • 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 <p>Pupils should explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.</p>
Key investigational skills	<p>Pupils might work scientifically by: finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.</p> <p>Q & A sessions at the beginning and end of each topic and relevant to each session of teaching. Big Questions displayed.</p> <p>Testing sound over distance.</p> <p>Testing different materials and effect on sound.</p> <p>Measuring sound over distance on playground.</p> <p>Building tables of different sounds and volume.</p> <p>Completing labelled diagram of experiments.</p> <p>Presenting findings in tabular and charts.</p> <p>Feeding back to class and explaining results and conclusions.</p> <p>Work displayed on working wall.</p> <p>Predicting the outcome of sound and distance experiments – discussing different ways to carry out tests.</p> <p>Testing materials as sound inhibitors</p> <p>Responses to Q & A sessions.</p>

Vocabulary	Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation
Prior learning – what children should know	Explore how things work. (Nursery – Sound) • Describe what they see, hear and feel whilst outside. (Reception – Sound) • 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)
Future learning – next time they will be learning	Waves on water as undulations which travel through water with transverse motion; these waves can be reflected, and add or cancel – superposition. (KS3) • Frequencies of sound waves, measured in Hertz (Hz); echoes, reflection and absorption of sound. (KS3) • Sound needs a medium to travel, the speed of sound in air, in water, in solids. (KS3) • 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) • Auditory range of humans and animals. (KS3) • Pressure waves transferring energy; use for cleaning and physiotherapy by ultra-sound. (KS3) • Waves transferring information for conversion to electrical signals by microphone.
Visits	Sound Man Visit by The School of Noise School nurse for hearing
Book links	The Magic Flute – Kyra Teis Jungle book