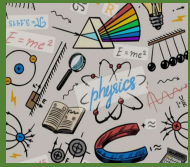


Sound



<u>EYFS</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>	<u>Year 7</u>
<p>Key concepts: Sound is a type of energy Pitch describes how high or low a sound is. Volume describes how loud or quiet a sound is. Identify how sounds are made, associating some of them with something vibrating.</p> <p>Pupils will:</p> <p>Sounds are made when objects vibrate.</p> <p>The vibration makes the air around the object vibrate.</p> <p>Recognise that vibrations from sounds travel through a medium to the ear.</p> <p>These mediums can be air, water, wood, metal for example.</p> <p>Can there be sound in a vacuum?</p> <p>Find patterns between the pitch of a sound and features of the object that produced it.</p> <p>Explore instruments from around the world</p>			<p>Understand the frequencies of sound waves, measured in Hertz (Hz) in echoes, reflection and absorption.</p> <p>Pupils will: Read the pattern of soundwaves.</p> <p>Identify different pitches and amplitudes from the soundwaves.</p> <p>Understand that sound needs a medium through which to travel. Understand the speed of sound in air, water and solids.</p> <p>Understand that sound is produced by vibrations of objects, and heard by their effects on the ear drum and microphone diaphragms in speakers.</p> <p>Sound waves are longitudinal.</p> <p>Understand that the auditory range is different in humans and animals.</p>

<p>made from wood, metal. How is the pitch and timbre (tone) different?</p> <p>Use log boxes to measure how the medium affects the pitch and volume.</p> <p>Look at different thickness of elastic bands, stretched around the same space. Look at the vibrations made and sound produced of different saucepan lids.</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it.</p> <p>Use log boxes to measure the decibels of sound created by different objects. What patterns and explanations can you see?</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p> <p>Use of log boxes.</p> <p>Fair test: independent variable: the distance from the sound source.</p> <p>Constant variables; Volume and pitch of sound. Same object making the sound.</p>			
<p><u>Scientist</u> Alexander Graham Bell</p>			
<p><u>Enrichment:</u></p>			

Possible Careers:			
Musician, Audiologist, events co-ordinator, environmental officer			
Common misconceptions:			
<ul style="list-style-type: none"> • Children do not always recognise that vibrations are the cause of a sound being produced. • Children may think volume and pitch of a sound are the same thing or mix them up. • Children may think that sound only travels through air, not solids or liquids. • Children may think sound is slowed down by physical obstructions. • Children may think that sound gets quieter as it travels further because it has 'faded out' or run out of 'energy'. 			

Year groups	Vocabulary/Statements
Birth to 3	• Repeat actions that have an effect
Nursery	sound, noise, loud, quiet, high, low, music, bang, blow, pluck, soft, hard, fast, slow, names of instruments
Reception	sound, noise, listen, hear, music, voices, bird song, traffic, sirens, thunder, high, low, loud, quiet, soft, volume, crackle, thunder, hum, buzz, roar
Year 1	senses, hear, ear (Y1 - Animals, including humans)
Year 2	
Year 3	
Year 4	sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, quiet, loud, insulation
Year 5	
Year 6	
KS3	<ul style="list-style-type: none"> • 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

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| | <ul style="list-style-type: none">• Pressure waves transferring energy; use for cleaning and physiotherapy by ultra-sound• Waves transferring information for conversion to electrical signals by microphone |
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