



Science Unit Planner Year: 4 Title: Sound

<b>Unit Overview</b>	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. 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.	
<b>Prior Learning/ Links</b>	EY – children will have explored different sounds in communication and through musical instruments. Year 1 – 3 children will have listened to sounds in music and talked about differences in the sounds instruments make. They will have explored how to make sounds louder and quieter and higher and lower.	
<b>Unit Title:</b>	<b>Substantive Knowledge</b>	<b>Disciplinary Knowledge</b>
<b>Key Questions:</b>  A builder has forgotten their ear defenders for work. What material do you think would be best to cover their ears?  How can we make the guitar sound different? Can you explain it?	<ul style="list-style-type: none"> <li>• Children know that when a sound is created it creates vibrations in the air that we cannot see.</li> <li>• When a sound is made it travels through the air or a material to our ears.</li> <li>• They know that even if we cannot see the vibrations, if we hear a sound, they are there.</li> <li>• To know that after a sound has travelled through a medium, it enters our ears where the ear drum vibrates and the brain then recognises the sound being made.</li> <li>• That sounds can change: The volume and pitch of a sound can be recorded using a diagram.</li> <li>• Children know pitch is how high or low a sound is, volume is how loud or quiet a sound is.</li> <li>• Children will be able to explain how a sound on a guitar can be made to be higher or lower/ louder or quieter.</li> <li>• Children know that loud sounds over long periods can damage ears.</li> <li>• Some materials are good at muffling sound, and these can be used for protection.</li> <li>• Children will be able to explain how to conduct simple experiments using sound - using data logging resources to see which materials muffle sound best.</li> </ul>	<b>Questioning and Planning</b> Ask relevant questions and set up an enquiry Set up a fair test stating what the variable is Make simple predictions  <b>Observation and Measurement</b> Make careful observations. Use data loggers to measure.  <b>Recording and Presenting</b> Record using charts and graphs Use data loggers to collect data Present information clearly for others <b>Analysing and Evaluating</b> Compare findings with predictions Evaluate the accuracy of the test.
<b>Vocabulary</b>	<b>Trips/ Visits/Useful Websites/ Resources</b>	<b>Key Misconceptions:</b>
<b>Substantive:</b> Waves Amplitude Decibel	<a href="#">Sound - Year 3/4 - P4/5 - Science Collection - Home Learning with BBC Bitesize - BBC Bitesize</a>	



<p>Electricity Energy Frequency Medium Pitch Power Sound waves Source Transmit Travel Vibrations Volume <b>Disciplinary:</b> Enquiry Equipment Accurate Results Fair test variable Diagram Table Chart Conclusion Evaluate evidence</p>	<p><a href="#">Sound - KS2 Science - BBC Bitesize</a>  <a href="#">Year 4: Sound   STEM</a></p>	
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