

Topic: Sound	Year 4 Age 8-9	Title: Investigating Pitch
Working Scientifically Plan: Ask relevant questions and use different types of scientific enquiries to answer them		Conceptual Knowledge Find patterns between the pitch of a sound and features of the object that produced it
Learning Objectives <ul style="list-style-type: none"> • Can children suggest how to alter the pitch? • Can children carry out simple tests of these ideas? 		
<p>Activity <i>Today we are acoustic scientists.</i></p> <p>Show children some homemade 'musical instruments': elastic bands over shoe box, 'straw flute', 'sound sandwich' (lolly stick and straw harmonica), stretched balloon 'drum skin' over tube, glass bottle containing water to blow or tap. Explore how to play them to make a sound and ask the children to suggest which parts are vibrating. Invite children to brainstorm and record questions that they could investigate, focusing on changing pitch. Give one example e.g. How does size of the elastic band affect pitch? Children then work in small groups investigating different ways of altering pitch.</p> <p>Adapting the activity Support: Provide question stems/scaffolded question cards, e.g. How does the -----affect the -----etc. Extension: Experiment with different instruments. Other ideas: Oscilloscope (borrow from local Secondary School / You Tube videos).</p> <p>Key Questions</p> <ul style="list-style-type: none"> • What are the differences between these sounds? • Which sound is the highest/lowest? • How could we alter the pitch? • Does your question include what you want to change and what you are going to notice? • How will you investigate your question? 		
<p>Assessment Indicators</p> <p>Not yet met: Can ask questions, e.g. <i>which makes the highest sound?</i> Makes some suggestions about what to do, but needs help in phrasing the question.</p> <p>Meeting: Can ask questions and turn them into a form that can be investigated. E.g. <i>How does the size of the drum affect the pitch?</i> Can say whether outcome was what they expected.</p> <p>Exceeding: Can use their results to make a prediction to set up further comparative fair tests, e.g. <i>I know that a small drum make a high pitch so will a small recorder make a higher pitch than a long one?</i></p>		