

Investigating Sound: A Scientific Report

Learning objective: To explain how sounds are made, how they travel, and how we hear them, using appropriate scientific vocabulary.

Use this scaffold to structure your report. Ensure you use precise scientific terms such as 'vibrations', 'medium', 'pitch', and 'volume'. Refer to Nova's notes on sound waves to help you explain the process clearly.

Sound is a type of energy produced by vibrations that travel through a medium, such as air, water, or solids.

Word bank: vibrations · sound waves · medium · particles · pitch · volume · amplitude · frequency · eardrum · consequently · furthermore · in contrast · therefore

1. Introduction: How is sound created? Start by explaining the connection between vibrations and the production of sound... (2 marks)

2. Travel of Sound: How do sound waves move through different materials? Describe what happens to the particles in a medium... (3 marks)

3. Pitch and Frequency: What is the relationship between frequency and the pitch of a sound? Explain why some sounds are high-pitched and others are low-pitched... (3 marks)

4. Volume and Amplitude: How do we change the volume of a sound? Discuss the link between the size of the vibration and the loudness... (2 marks)

5. Hearing Sound: How does the human ear detect sound? Describe the journey of sound waves from the outer ear to the brain... (3 marks)

Extension challenge: Max the monkey has been experimenting with a guitar. Explain in a short paragraph why tightening the guitar strings changes the pitch of the note produced.