

Nova's Sound Investigation Report

Learning objective: To identify how sounds are made, associating some of them with something vibrating, and to explain how sound travels to the ear.

Help Nova the owl investigate how sounds behave! Use this experiment record to document your findings after conducting a sound-based activity, such as plucking a ruler on a desk or tapping a drum. Write clearly and ensure your explanations describe the movement of particles or vibrations.

Word bank: vibration · sound waves · ear drum · medium · pitch · volume · travel · particles

1. The Sound Source: Describe the object you are investigating and explain how you are making it produce a sound. (2 marks)

2. The Observation: When you make the sound, what can you see or feel happening to the object? Use the word 'vibration' in your answer. (3 marks)

3. The Travel: How does the sound travel from the object to your ear? Think about the air particles between the source and your ear. (3 marks)

4. The Pattern: If you change how hard you hit or pluck the object, what happens to the volume? Why do you think this happens? (2 marks)

5. Conclusion: Nova wants to know if sound can travel through a solid object (like a desk). How could you test this and what would you expect to hear? (3 marks)

Extension challenge: Nova challenges you to find three different materials in the classroom. Predict which material will carry sound the best and write a short sentence explaining your reasoning using your knowledge of vibrations.