

Nova's Night-time Sound Investigation

Learning objective: To understand that sounds are made when objects vibrate, and that they travel through a medium to the ear.

Read each question carefully and use your knowledge of how sound travels to provide your answers. Remember to use scientific vocabulary where possible.

Word bank: vibrate · medium · sound waves · pitch · volume · ear drum

1. Nova the owl is listening to the forest. Explain how a sound is first created when a twig snaps. (2 marks)

2. When a sound is made, it travels to our ears. What do we call the 'invisible' patterns that move through the air? (1 mark)

3. If Max the monkey hits a large metal drum, it makes a very loud sound. If he hits it gently, the sound is quiet. What do we call the 'loudness' of a sound? (1 mark)

4. Imagine you are underwater in a swimming pool. If you clap your hands, can you still hear the sound? Explain why sound can travel through water. (2 marks)

5. Look at these three instruments: a guitar string, a drum skin, and a whistle. Explain how they all produce sound using the word 'vibrate'. (3 marks)

Draw: Draw a diagram showing a drum being hit. Use arrows to show how the vibrations move away from the drum in waves towards an ear.



Extension challenge: Research how the distance from a sound source affects how loud we hear it. Write two sentences about why a sound gets quieter as you walk further away from it.