

Exploring Sound with Nova the Owl

Learning objective: To identify how sounds are made, associated with something vibrating, and to understand how sound travels to the ear.

Follow the drawing prompt to create your scientific diagram. Use the word bank to label the parts of your scene to show how sound travels from a source to a listener.

Draw: Create a clear, scientific diagram on the left side of your page. **Style:** clean lines with arrows showing direction. **Include:** A guitar being played by a generic character, wavy lines representing sound waves traveling through the air towards Nova the Owl, and a close-up cross-section bubble showing Nova's ear anatomy, specifically the eardrum.



Label words: vibration · sound wave · ear canal · eardrum · source of sound · particles

Steps:

1. Step 1: Draw a guitar being played as the 'source of sound' and label the part that is moving back and forth to create vibrations.
2. Step 2: Draw wavy lines moving away from the guitar. What do these lines represent in our study of sound?
3. Step 3: Draw Nova the Owl listening to the music. Label the 'eardrum' inside her ear where the sound waves arrive.

4. Explain why sound cannot travel in a vacuum where there are no particles. Use your knowledge of how sound moves.
5. If the guitar string is plucked harder, does the volume of the sound increase or decrease? Explain your answer.