

Nova's Guide to the Science of Sound

Listen Up! Explore the Vibrating World of Sound with Nova the Owl!

- **Sound is created when an object vibrates. These vibrations cause the air particles around the object to push against each other, creating invisible sound waves.**
- **The pitch of a sound depends on how fast the source vibrates. Fast vibrations create a high pitch, while slow vibrations create a low pitch.**
- **Volume is how loud or quiet a sound is. A larger vibration (with more energy) produces a louder sound, whereas a smaller vibration produces a quieter sound.**
- **Sound travels through different materials at different speeds. It generally travels faster through solids than it does through liquids or gases.**
- **When sound waves reach our ears, they travel down the ear canal and cause our eardrum to vibrate, which our brain then turns into the sounds we recognise.**
- **As sound travels further away from the source, the vibrations lose energy and the sound becomes quieter until it eventually fades away.**

Did you know? Did you know? Sound cannot travel through a vacuum, which is why space is completely silent! Sound needs a medium, like air, water, or solid objects, to travel through by vibrating its particles.

Key vocabulary: vibration · sound wave · volume · pitch · medium · ear canal · eardrum