

Nova's Guide to the Science of Sound

Listen Up! Explore the invisible world of sound vibrations with Nova the Owl.

- **Sound is created when an object vibrates; these vibrations travel as waves through a medium like air, water, or solid materials.**
- **The volume of a sound depends on the size of the vibration; larger vibrations create louder sounds, while smaller vibrations create quieter ones.**
- **Pitch is determined by how fast an object vibrates; fast vibrations create a high pitch, while slow vibrations create a low pitch.**
- **When sound waves reach our ears, they cause our eardrums to vibrate, which our brains then interpret as the sounds we hear.**
- **Sound waves travel at different speeds depending on the material; generally, sound travels faster through solids than it does through air.**

Did you know? Did you know? Sound cannot travel through a vacuum, such as outer space. Because there are no particles for the sound waves to bump into, space is completely silent, no matter how loud a blast might be!

Key vocabulary: Vibration · Sound waves · Medium · Pitch · Volume · Eardrum