

Nova's Guide to the Symphony of Sound

Tune in to the invisible world of vibrations – let's explore how sound travels!

- **Sound is created when an object vibrates. These vibrations cause particles in the surrounding medium (like air, water, or solids) to bump into each other, creating a wave.**
- **The pitch of a sound depends on the frequency of the vibration. A high-frequency vibration produces a high-pitched sound, while a low-frequency vibration produces a low-pitched sound.**
- **Sound travels at different speeds depending on the material. Generally, sound travels fastest through solids, then liquids, and slowest through gases like air.**
- **The loudness of a sound, or its volume, is determined by the amplitude of the vibration. A larger vibration creates a louder sound, measured in decibels.**
- **When sound waves reach your ear, they cause your eardrum to vibrate, which sends signals to your brain to interpret as the sounds you recognise.**

Did you know? Did you know? Sound cannot travel through the vacuum of space because there are no particles to vibrate! While science fiction films often feature loud explosions in space, in reality, outer space is completely silent.

Key vocabulary: vibration · medium · frequency · amplitude · decibel · vacuum · oscillation · pitch