

Nova's Sound Science Flashcards

Learning objective: To identify how sounds are made, how they travel, and how they change in pitch and volume.

Use these flashcards to test your knowledge of sound. Nova the owl suggests saying the answer out loud before flipping the card to check if you are correct!

What is sound caused by?

Sound is caused by vibrations, which are rapid back-and-forth movements of an object.

What do we call the 'highness' or 'lowness' of a sound?

Pitch.

If a sound has a high frequency, what does that mean for the pitch?

The pitch will be high.

What happens to the volume of a sound as you move further away from the source?

The volume decreases (gets quieter) because the sound energy spreads out.

Can sound travel through a vacuum (empty space)?

No, sound needs a medium—like air, water, or solids—to travel through.

How does the size of an instrument affect its pitch?

Generally, smaller or shorter objects vibrate faster, creating a higher pitch, while larger or longer objects vibrate slower, creating a lower pitch.

What is the unit used to measure the intensity or loudness of sound?

The decibel (dB).

Explain the role of the ear in hearing sound.

The ear collects sound vibrations, which travel down the ear canal to vibrate the eardrum, sending signals to the brain.

What is an echo?

An echo is a sound wave reflecting (bouncing) off a hard surface and returning to the listener.

Compare how sound travels through air versus solids.

Sound waves generally travel faster and more efficiently through solids because the particles are packed more closely together.

Why do sounds get quieter as they travel?

As sound waves travel, the energy is absorbed by the medium or spreads out over a larger area, causing the amplitude to decrease.

Justify why soundproofing materials are usually soft and porous.

Soft, porous materials absorb sound energy rather than reflecting it, which prevents echoes and reduces noise transfer.