Year 4: Science — What is so special about sound? — Term – Autumn (2)

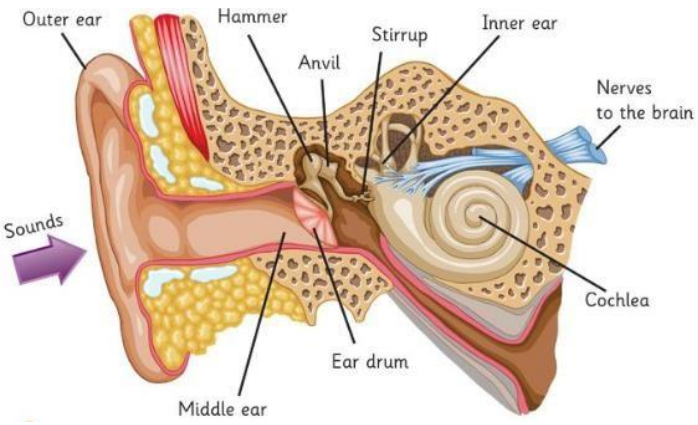
Key Information

- Sound is created when something vibrates and sends waves of energy into our ears.
- Sounds travel in waves.
- Sounds can travel through solids, liquids and gases.
- The size of the vibration is called the amplitude. Quieter sounds have a smaller amplitude, and louder sounds have a bigger amplitude.
- Sounds are fainter the further you get from the sound source.
- Different materials produce different pitches. If an object vibrates quickly, we hear a high-pitched sound, and if an object vibrates slowly, we hear a low-pitched sound.
- Generally, the shorter, tighter or thinner the object is, the higher the pitch of the sound will be. This is because the vibrations will be faster. The longer, looser or thicker the object is, the lower the pitch of the sound will be. This is because the vibrations will be slower.
- The middle ear bones are the hammer, the anvil and the stirrup.
- Generally, soft, flexible materials that have air pockets in, like a sponge or bubble wrap, will be the best at absorbing sound.

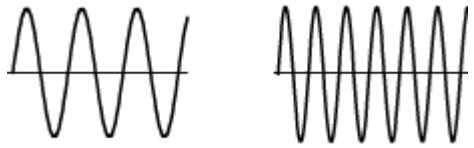
Vocabulary

Vibrations	When something moves rapidly to and fro
Pitch	How high or low a sound is.
Volume	How loud of quiet a noise is.
Amplitude	This is the size of the vibration
Ear canal	The part of the ear that sound waves travel down to reach the ear drum.
Ear drum	This is the part of the ear that separates the outer ear from the middle ear.
Cochlea	A part of the inner ear. Here, there are tiny hairs, which change the sound waves into electrical signals that are sent to the brain.
Absorbing	Takes in/soaks up.

Key Diagrams

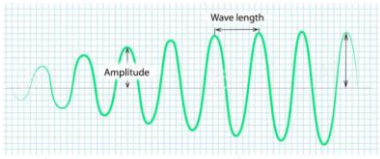


This is the inside of a human ear.



Lower Pitch — **Higher Pitch**

Sound travels in waves, this diagram demonstrates pitch. The faster the sound waves the higher the pitch.



The lower the amplitude the quieter the sound, the bigger the amplitude the louder the sound.