Auckland College Knowledge Organiser – Sounds

Sounds

This **'Sound'** unit will teach children about how sounds are made, how vibrations cause sounds and how sounds travel, as well as how sounds can change pitch and loudness.

Different Sounds

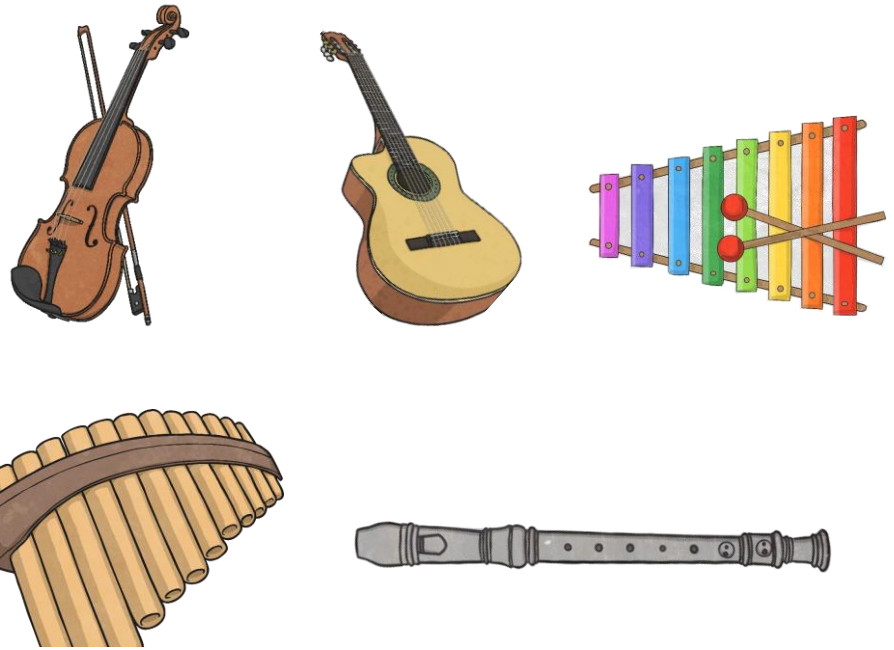
Sounds can be loud or quiet. Bigger vibrations make louder sounds, and smaller vibrations make quieter sounds.
High and low are words to describe the pitch of a sound. The pitch of a sound is different to the amplitude. Amplitude is a measure of how loud or quiet a sound is, and pitch is a measure of how high or low a sound is. High sounds can be quiet or loud, and low sounds can be quiet or loud too.

Changing pitch

On a string instrument, there are several ways to change the pitch. The tighter, thinner or shorter the string is, the higher pitched the sound will be and the looser, thicker or longer the string is, the lower the sound will be. Faster vibrations will make a sound higher, and slower vibrations will make a sound lower. The ways of changing the strings all change the vibrations, which in turn change the pitch of the sound.

Key Vocabulary

vibration	invisible waves that move quickly
pitch	how high or low a sound is
volume	how loud or quiet a sound is
amplitude	is a measure of how loud or quiet a sound is
source	where something comes from
frequency	a measure of how often something occurs
sound waves	invisible waves that travel through air, water, and solid objects as vibrations
decibel	a measure of how loud a sound is
travel	how something moves around



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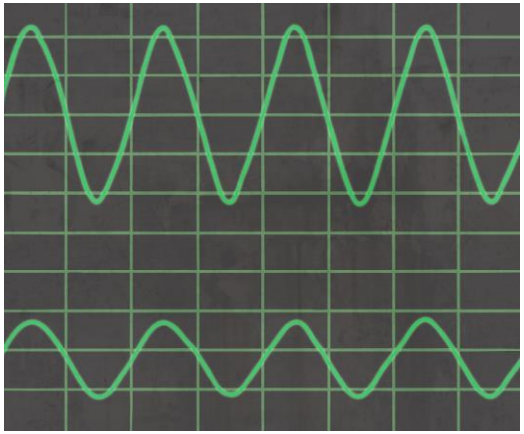


Vibrations

All the instruments are played in different ways, but they all have something in common. They all create sounds by vibrating.

The strings of the guitar and the gopichand vibrate when they are plucked.

The pan pipes and horn are filled with air, which vibrates when they are blown.

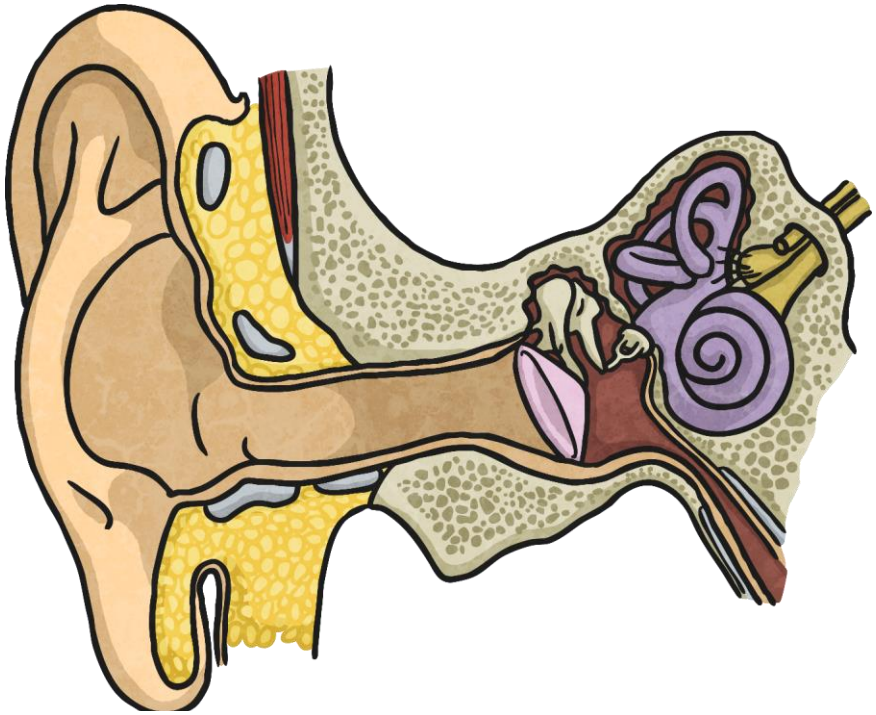
The balafon and the bongos make sounds when they are hit or banged, causing the blocks or the skin to vibrate.

Loud and Quiet

The louder the sound, the bigger the vibration.

The size of the vibration is called the **amplitude.**

Quieter sounds have a smaller amplitude, and louder sounds have a bigger amplitude.



Hearing Sounds

Once in your ear, the vibrations travel into the ear canal until they reach the **eardrum**.

The eardrum passes the vibrations through the middle ear bones (the hammer, the anvil and the stirrup) into the inner ear.

The inner ear is shaped like a snail and is called the **cochlea.**

Inside the cochlea, there are thousands of tiny hair cells.

Hair cells change the vibrations into electrical signals that are sent to the brain through the hearing nerve.

The brain tells you that you are hearing a sound and what that sound is.

How does Sound travel?

Sound can travel through solids, liquids and gases.

Sound travels as a wave, vibrating the particles in the medium it is travelling in.