

Summer 2 Week 9 Science

Lesson 3

Can I find patterns between the pitch of a sound and the features of the object that produced it?

This week we have been looking at how sounds are made and how they travel through different mediums to our ears.

Today we are going to be looking at the pitch of sounds and how these can be different.

Different sounds

We always think of sounds having a volume. A loud sound and a quiet sound is something we all know.

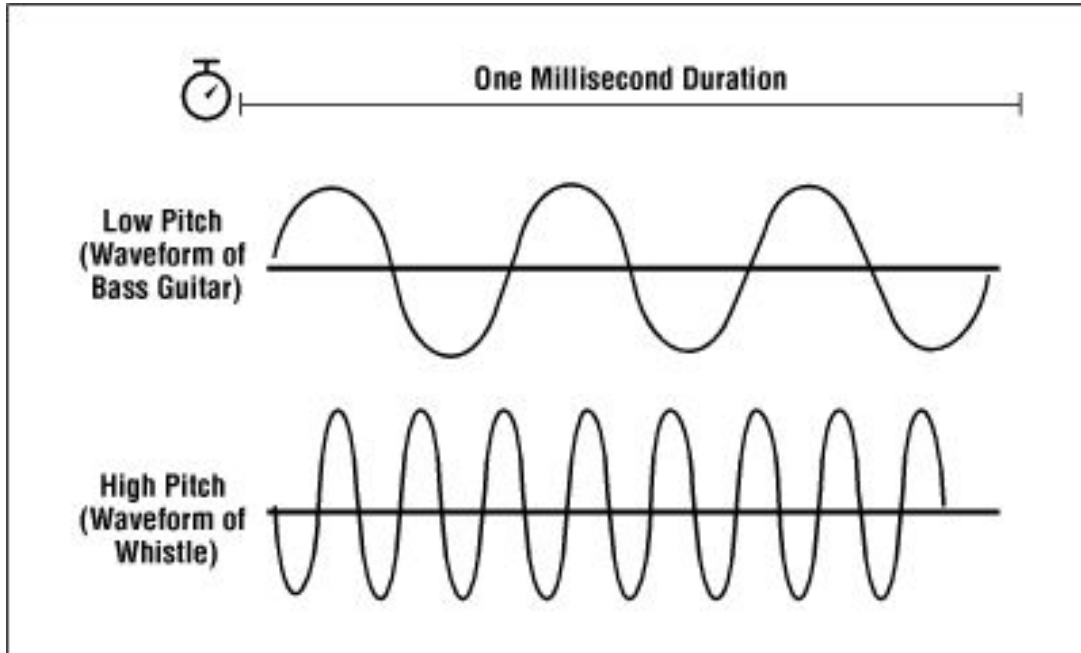
Sounds can be different pitches too, and this is nothing to do with their volume!

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!

We know that all sound travels at the same speed. Sound travels at 770 miles per hour in air. However the speed of the vibrations are different for every sound. This is called frequency.



These waves show the same amount of time, but they both show different frequencies of vibrations. This is because the vibrations produced by the whistle were much quicker than the vibrations from the bass guitar, meaning there were more vibrations per millisecond.

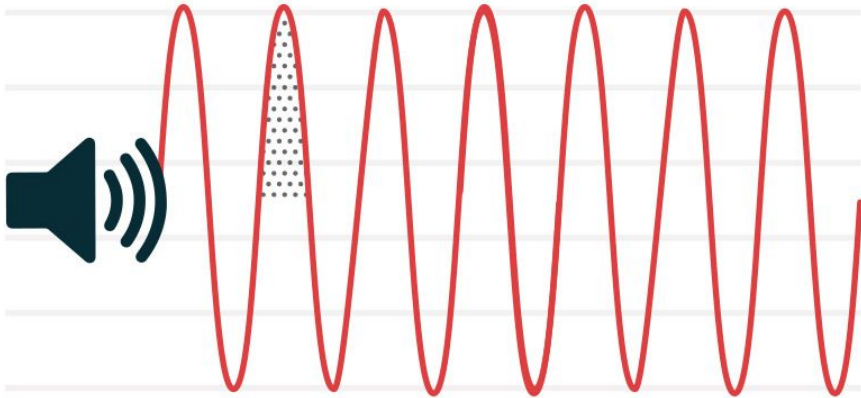
The video below shows how these waves look for different pitched sounds.

<https://www.bbc.co.uk/bitesize/topics/zgffr82/articles/z3j3jty>

High pitched sounds are made by fast vibrations.

Smaller, shorter, thinner, tighter and denser objects make more high pitched sounds.

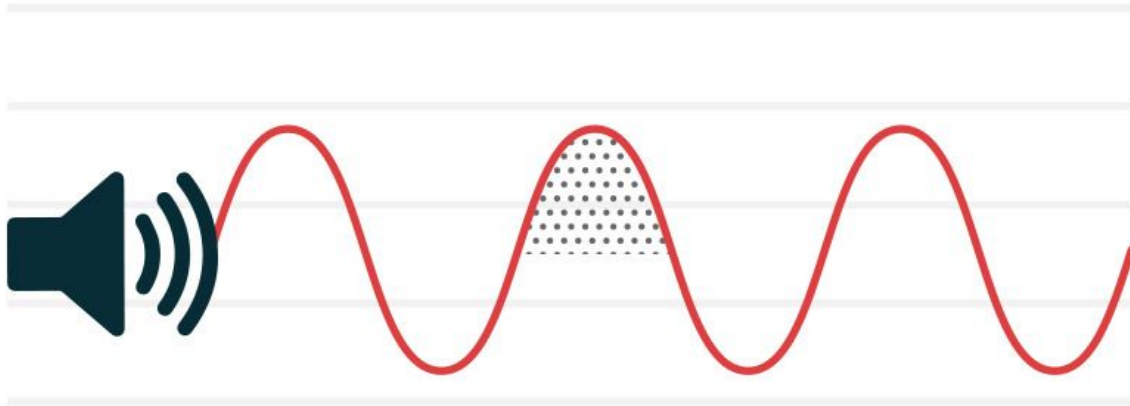
High Frequency = High Pitch



Low pitched sounds are made by slow vibrations.

Larger, longer, thicker, looser and less-dense objects make more low pitched sounds.

Low Frequency = Low Pitch



These two videos show about how to make high and low pitched sounds.

<https://www.bbc.co.uk/bitesize/clips/zsqw2hv>

<https://www.bbc.co.uk/bitesize/clips/ztptsbk>

Your task today is to fill in some missing pieces of information about sound and the pitch of sounds.