

How sound is made?

Sound is caused by vibration. Vibration means wobbling very quickly back and forth. When you pluck a guitar string, or hit a drumskin, you can see the material vibrate. This causes the air touching the string to vibrate, which causes air further away to vibrate, which causes the air near your ear to vibrate, which your brain experiences as sound.

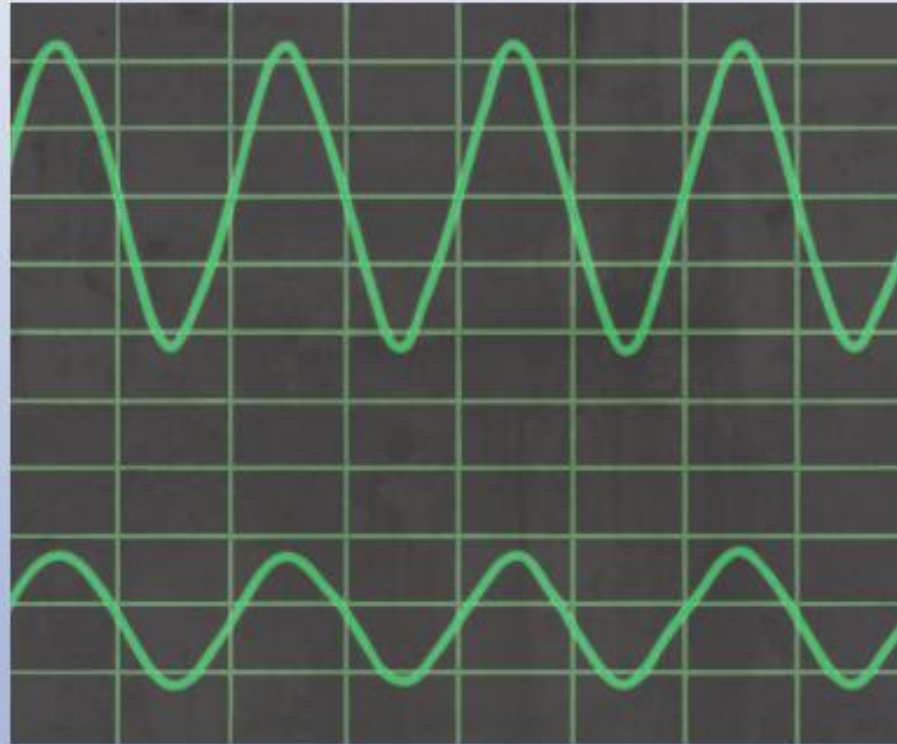
The moving vibration is called a sound wave.

Loud and Quiet

The louder the sound, the bigger the vibration. In the video, you should have noticed that the polystyrene balls vibrated more when she hit the drum harder, creating a louder sound.

The size of the vibration is called the amplitude.

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

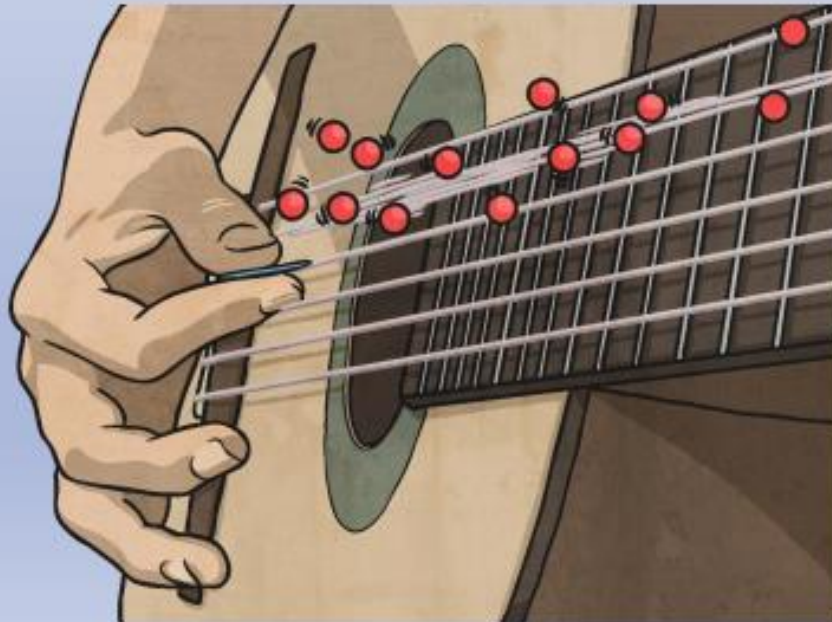


Different Sounds

Sounds can be loud or quiet. Bigger vibrations make louder sounds, and smaller vibrations make quieter sounds.

There are other ways sounds can be different.

Can you make a high sound? How about a low sound?

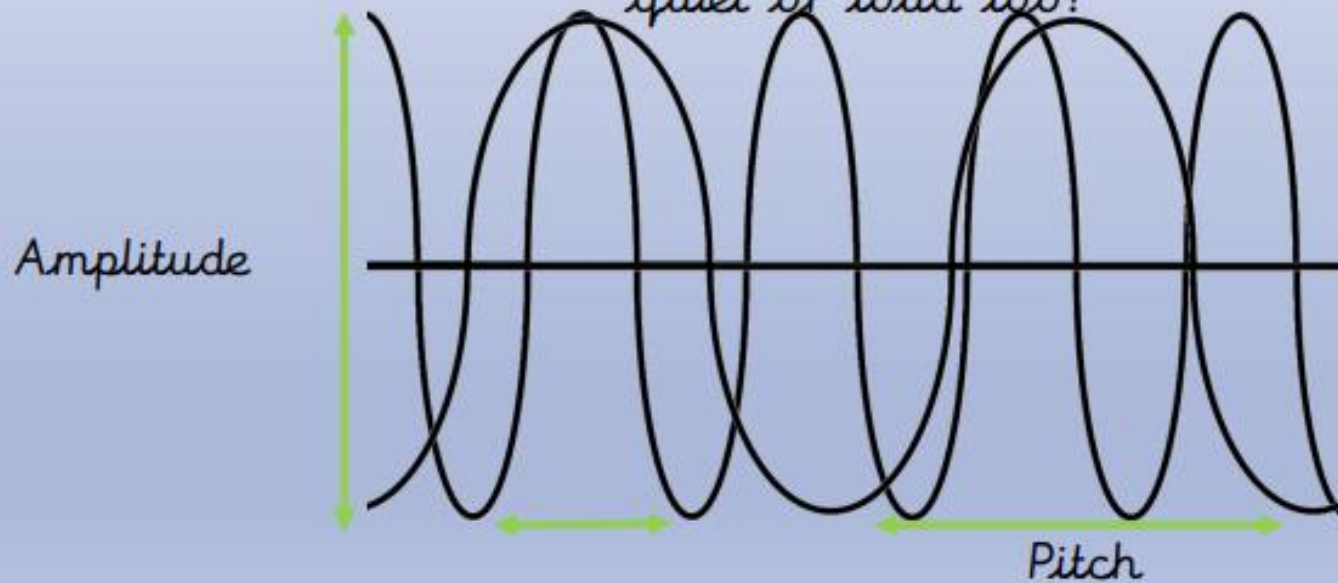


Different Sounds

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!



Different Sounds

Watch this clip to see if you can hear and identify how different musical instruments create different sounds.

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



Changing Pitch

Watch this clip explaining how the pitch of a sound can be changed.

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

Link is below



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.



Changing Pitch

In a percussion instrument, the surface or object that is struck is the thing that vibrates to create the sound.

The pitch of a percussion instrument can be changed in different ways.

There may be a series of different length bars or keys, such as in a xylophone. The shorter the bar or key, the higher the pitch will be.

There may be different instruments of different sizes. For example, when playing hand bells the musician will have a set of bells to play. The smaller the bell, the higher the pitch. The larger the bell, the lower the pitch.

In a drum, the tighter the skin, the higher the pitch will be.

A thinner skin will make a higher pitched sound and a thicker skin will make a lower pitched sound.



Changing Pitch

Do you notice anything in common with how the different instruments create sounds of different pitches?

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.

