SOUND

Sounds are vibrations that travel through the air or another medium and can be heard when they reach a person's or animal's ear. (oxfordictionaries.com, 2018) In other words, sound is the vibration of air particles which travel to our ears from the vibrating of the object making the sound. The vibrations of sound in the air are called sound waves.

Kinds of Sounds

We can say that there are two broad categories of sounds: musical sounds and non-musical sounds.

Non-musical sounds include the sounds we hear in our everyday life and noises. Sounds we hear in our everyday life include speeches, animal sounds, action sounds (e.g. football sounds), scream, etc. Noise is simply an unorganised sound that is not melodious and is usually loud. Both noise and our everyday sounds are not musical sounds, as they not rhythmic, harmonious and melodious.

Musical sounds are the sounds that are rhythmic, melodious, and harmonious. They are organised and are pleasant to the ears.

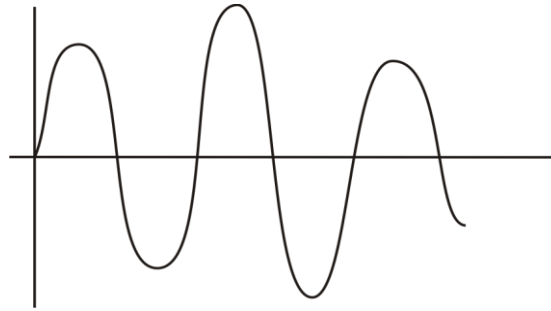
Understanding Sounds as Waves

When a door is slammed, the door vibrates sending sound waves through the air. When a guitar string is plucked, the string vibrates the soundboard, which sends sound waves through the air.

What makes one sound different from another could be seen through their waveforms. The waveform of sound of a slammed door is irregular and jerky while that of a plucked guitar is a continuous regular series of repeated cycles, which we hear as a smooth and constant musical tone.



Waveform of a slammed door (noise)



Waveform of a music

There are two main properties of a regular vibration – the amplitude and the frequency. Amplitude is the size of the vibration, and this determines how loud the sound is. Larger vibrations make louder sounds. It is also the origin of the word amplifier, a device which increases the amplitude of a waveform.

Frequency is the speed of the vibration and this determines the pitch of the sound. It is only useful or meaningful for musical sounds, where there is a strongly regular waveform. The unit for measuring frequency is Hertz (Hz). The note A which is above Middle C has a frequency of 440Hz. It is often used as a reference frequency for tuning musical instruments.