

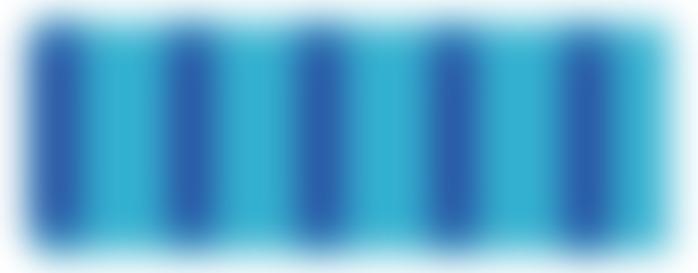
# Sound Waves

## Longitudinal and Transverse Waves

In longitudinal waves, the waves **"pile up"** in the same direction that they are moving. Sound waves are longitudinal waves, but they are often pictured as if they were transverse, because its easier to picture.

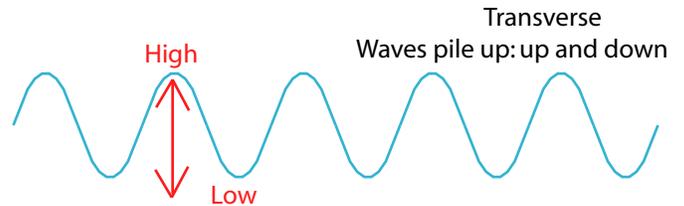


Longitudinal Waves pile up: left to right



In transverse waves, the waves **"pile up"** in a different direction from the direction that they are moving. Light waves and water waves are transverse waves.

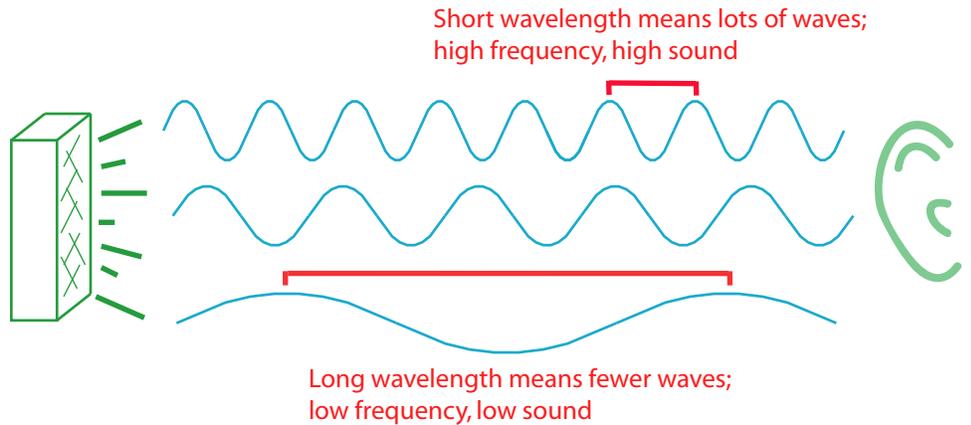
All waves are moving from left to right →



The waves are all travelling at about the same speed, so this is the number of each wave that will reach the ear in a hundredth of a second.

## Frequency

The **longer the wavelength**, the lower the frequency, and the **lower the sound**.



## Amplitude

The **bigger the difference** in the highs and lows of the waves, the **louder the sound**.

