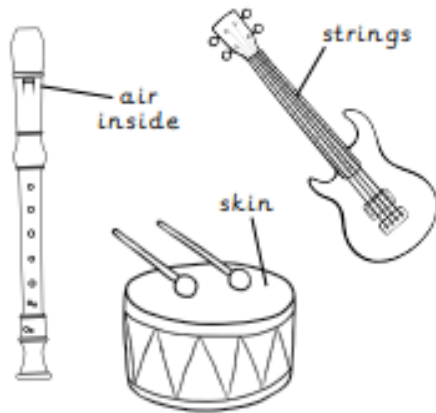


## Vibrations

Different musical instruments make vibrations in different ways:



## Sound waves

Sound is made by vibrations. When something vibrates, it moves the air around it, creating a sound wave. Sound waves can travel through different mediums to our ears.

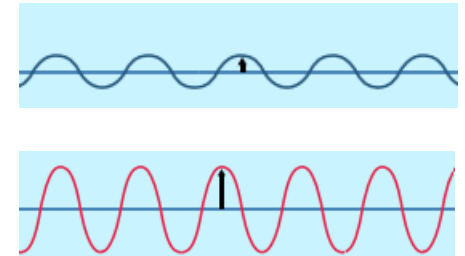


## Volume

The volume of a sound depends on the strength of the vibrations.

Weaker vibrations = smaller waves = quieter sounds

Stronger vibrations = bigger waves = louder sounds



## Volume and distance

The volume of a sound decreases as the distance from the sound increases. Volume can be measured in decibels using a decibel meter. Sounds above 80 decibels can be dangerous to the ear and cause hearing loss. Ear protectors can be worn to muffle loud sounds,

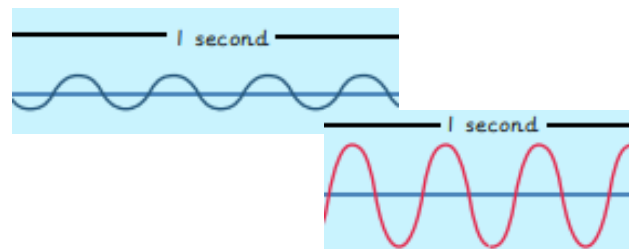


## Pitch

The pitch of a sound depends on the speed of the vibrations. Pitch can be measured in hertz.

Slower waves = lower pitch sound

Faster waves = higher pitch sound



## Sound insulation

Materials that do not let sounds pass through quickly are called insulators and can be used to muffle loud sounds.

