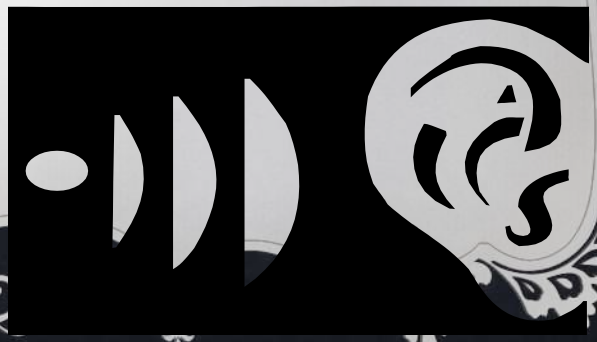
# Sound

- Sound is a form of energy.
- It comes from a vibrating source.
- Sound travels in invisible waves.
- Sound can travel through solids, liquids, and gases.

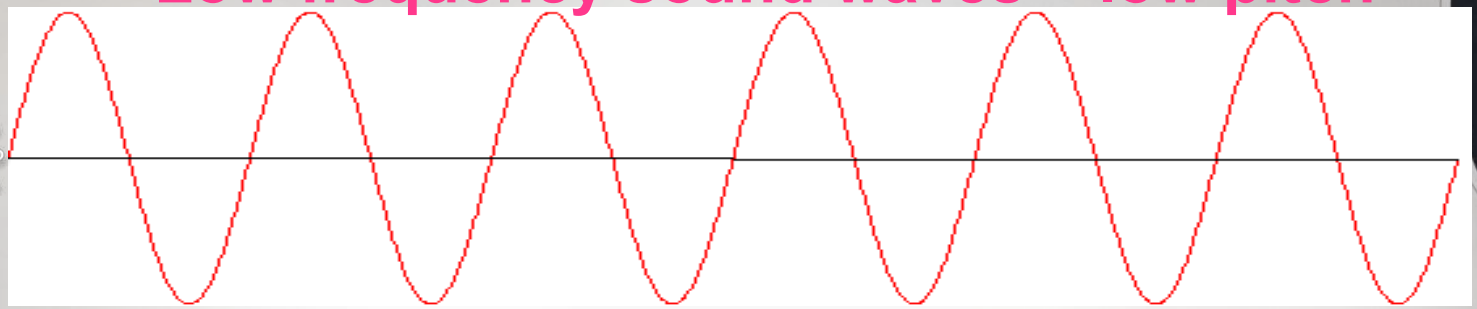
Click on clock for sound



# Sound Characteristics

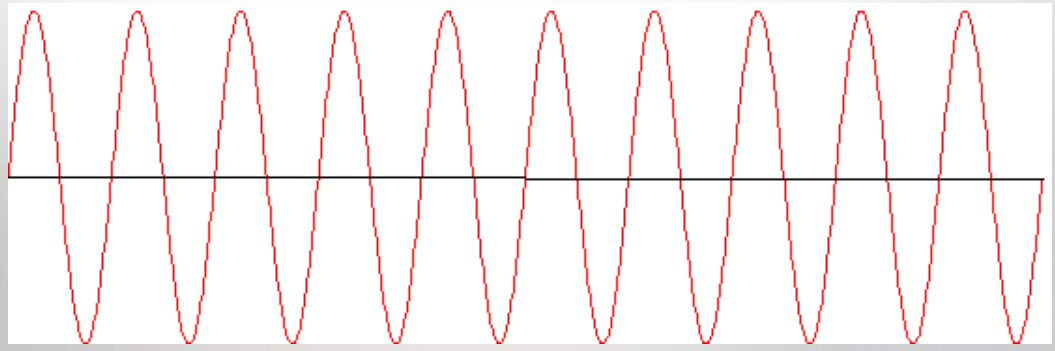
- All sounds are not alike.
- PITCH and LOUDNESS make the difference.
- PITCH  is the quality of a sound, a tone in a range of tones.
- Pitch is determined by the frequency of the sound waves produced by its source.

## Low frequency sound waves = low pitch



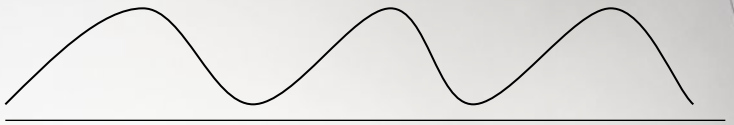
When things vibrate slowly they make a low sound.

## High frequency sound waves = high pitch

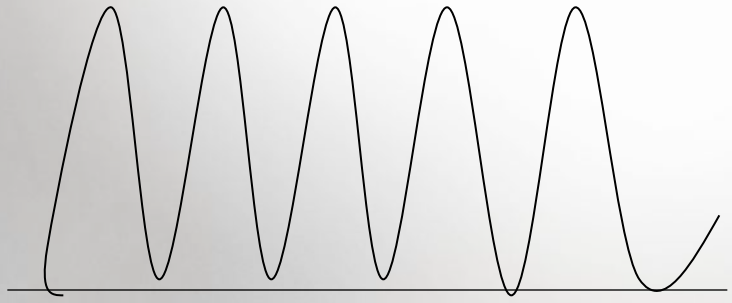


When things vibrate quickly they make a high pitched sound.

- **When a longer piano string vibrates, it vibrates more slowly and creates a low pitch.**

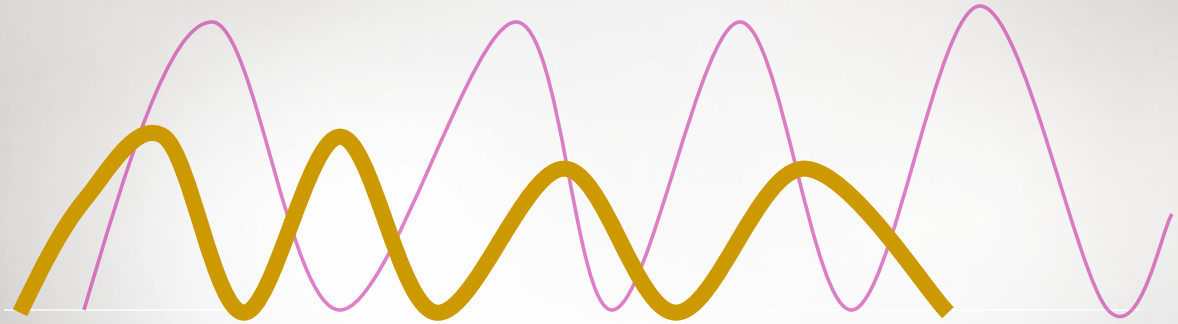


- **When a shorter piano string vibrates, it vibrates faster and creates a higher pitch.**



Listen to different pitches:

- **Loudness is characterized by high volume and intensity.**



**Loud Sound Wave = Purple Line**

**Soft Sound Wave = Yellow Line**

Have you ever tried to listen through a wall to hear the conversation on the other side?

or

Have you tried to put your head down on your desk to rest, yet all you can hear is noise?

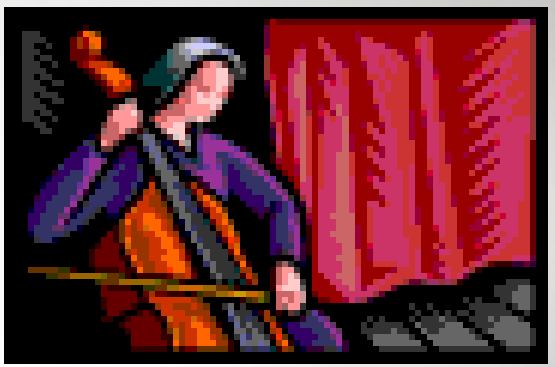
Have you thought about why the Native Americans would put their ears on the ground and listen to determine where to hunt?

Sound can travel faster through non-porous solids and liquids than it does through gases such as air.

- Sound travels through air at about 300 meters per second.
- Sound travels through liquid at about 1500 meters per second.
- Sound travels through solids at about 2500 meters per second.

Solids are conductors of sound.

When you mix all the high and low pitches…



…with both soft and loud tones…

…and it's mixed in just the right way…

**…sound is a beautiful way to communicate!**

Click on any picture for music.