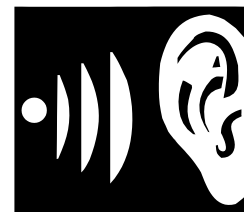



SOUND Study Guide

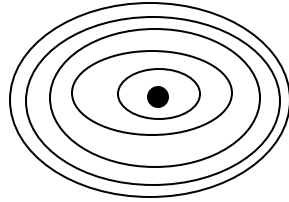


Word	Meaning
sound	A form of energy caused by vibrations, travels as waves!
vibration	A back and forth motion started by a form of energy
sound wave	Area of crowded particles and of widely spaced particles
wavelength	The way sound travels- like ripples in a pond- distance from one area of sound particles to the next 
wave frequency	How many vibrations are in a sound in one second- this determines the pitch- so the number of crests and troughs
pitch	The highness or lowness of sound
amplitude	How loud a sound is- <u>how much energy the sound carries</u> - the closer I am to the sound, the louder it will sound! -Your parents may say to turn down your music's amplitude (volume)!
outer ear	Gathers sound waves
eardrum	Passes vibrations to middle ear
solid	Sound travels fastest through (wood, metal)
liquid	Sound travels second fastest through (water)
gas	Sound travels slowest through (air)

♥Without vibrations, we can't hear sound! There is no air in space, so nothing to vibrate, so sound cannot travel without special equipment.

Sound waves

♥ Sound waves move in all directions away (outward) from the source.



♥ I hear sound from my guitar when I pluck the strings and the particles vibrate- the strings produce (make) sound waves

Frequency and Pitch

♥ Low frequency sound wave: low pitch



♥ High frequency sound wave: high pitch



♥ We can change pitch by stretching a rubber band more or less tightly

♥ If I fill glass bottles with different amounts of water and then blow air across them, I will hear different sounds because different amounts of liquid create different pitches



♥ If I blow 2 different instruments with the same amount of effort, they will sound different because they produce different pitches

♥ A piano has strings inside, and the different strings produce different pitches creating a wide range of notes (high and low notes)

Amplitude

♥ Low amplitude means a quiet sound (not much energy)

♥ High amplitude means a loud sound (a lot of energy)

♥ The decibel is the unit used to measure the amplitude of sound- high decibel = greatest amplitude