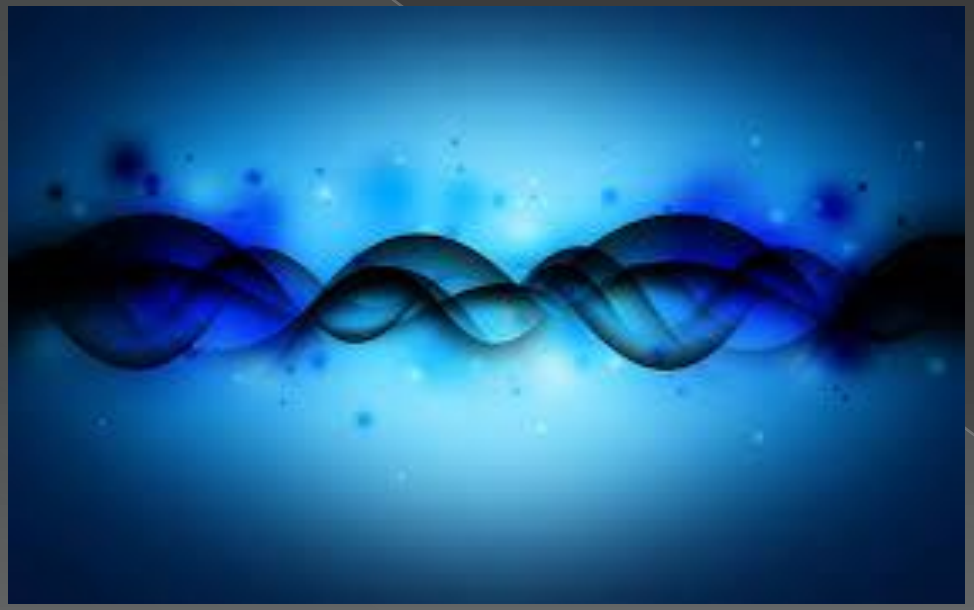
Sound Energy



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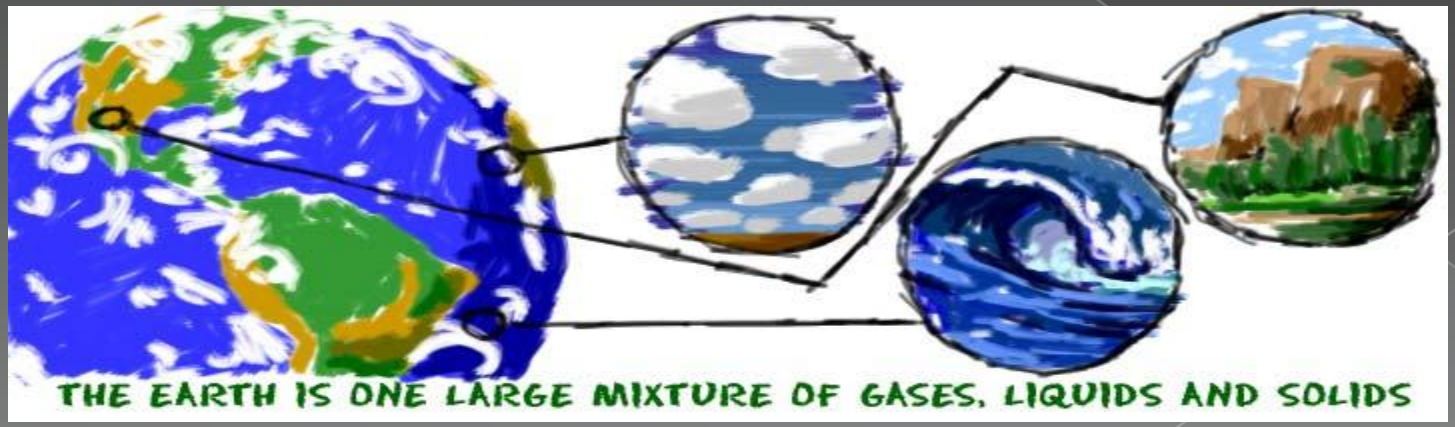
What Makes Sound? How Does Sound Travel?

Sound is made by something that can move back and forth. The back and forth motion is a vibration . When vibrations spread through matter, the vibrations are then called sound waves. Sound waves carry sound energy outward in all directions and in our ears.

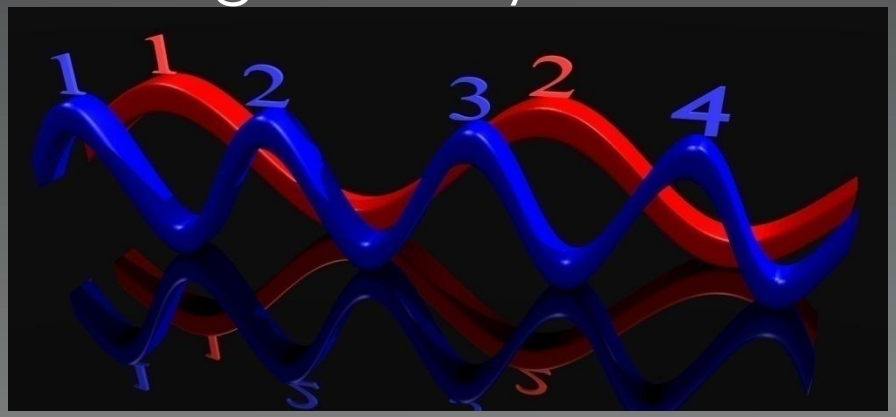
What can Sound Go Through?

Sound travels through matter. Matter is anything that takes up space and has mass. Matter can be solids , liquids, and gases. Vibrations can travel better though solids than liquids and sound travels better in liquids than gases.



What is Pitch? How can you change the Pitch on a Stringed Instrument? How does Frequency affect Pitch?

High and low are words that describe the pitch of sound. For example, tuning pegs on a guitar loosen or tighten the strings to change pitch. On a violin, when the string is plucked harder or softer it changes the pitch too. Frequency can also affect pitch because of how many times an object is plucked changes how you hear it.



What is Volume? How does Energy affect Volume?

Volume is how loud or soft an object is. Energy can affect volume. For example, the more energy the louder the volume, and less energy the softer the volume. If a rubber band is plucked with lots of energy, you will be able to hear it better. If the rubber band is plucked softly, you will not be able to hear the sound as well.

Decide how reflection and absorption affect sound?

Reflection and absorption effect sound in many ways. Reflection is when a sound wave reflects off a surface. Absorption is when a sound wave gets absorbed by a surface. When you scream into a pillow, you don't hear it as much if you scream into a desk right? Softer surfaces like a blanket will absorb more sound than harder surfaces like a wall will reflect.

What is an Echo?

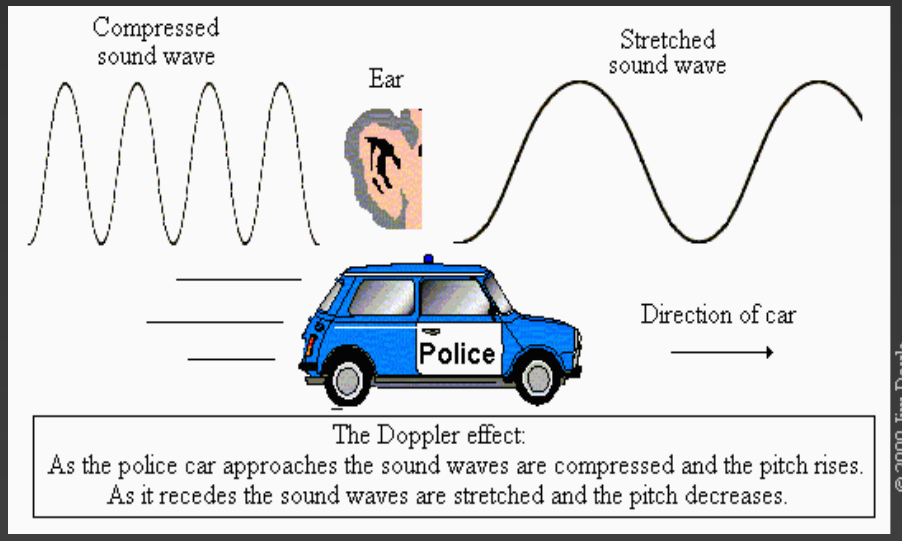
What is a reflected sound wave? If your wondering, its an echo. Echoes can be strongly heard in lots of places and a deep cave in one of them, because there are lots of never ending surfaces that sound can be reflected off of.

What is Echolocation?

Echolocation is a form of sonar. Humans may not be able to use this technique, but to make it you would need a high pitch sound wave to bounce off objects and be able to listen to how far away they are. Whales and dolphins use echolocation to find out what's in their surroundings. Bats also use echolocation to find out where food is their caves.

Doppler Effect

A change in frequency (and pitch) as a source of sound moves toward or away from you is known as the Doppler Effect. Many radar devices use this effect to find the speed of sound. Patrol cars detect changes in frequency as a way of detecting the speed of vehicles.



The End