Guided Notes: Sound

The Facts

Sound…

1. Is a form of energy produced and transmitted by vibrating matter.

2. Travels in waves.

3. Travels more quickly through solids than liquids or gases.

The Ear

Sound is carried to our ears through vibrating air molecules

Our ears take in sound waves and turn them into signals that go to our brains.

Sound waves move through 3 parts of the ear; outer ear, middle ear, and inner ear.

Sound Vocabulary

Vibration
Back and forth movement of molecules of matter

Compression
Where molecules are being pressed together as the sound waves move through matter.
For example,
A wave travels through the springs just like sound waves travel through the air
The places where the springs are close together are like compressions in the air.

Sound Waves
Alternating areas of high and low pressure in the air
ALL sound is carried through matter as waves
Sound waves move out in ALL directions for a vibrating object

Wavelength and Frequency
Wavelength is the distance between one part of a wave and the same part of the next wave
Frequency is the number of waves moving past a point in one second.

Pitch
A measure of how high or low a sound is.
Pitch depends on the frequency of a sound wave.

Sonar
An instrument that uses reflected sound waves to find underwater objects.

Sound and Instruments

Instruments can be played at different pitches by changing lengths of different parts.

Another way to make different pitches is to change the thickness of the material that vibrates.