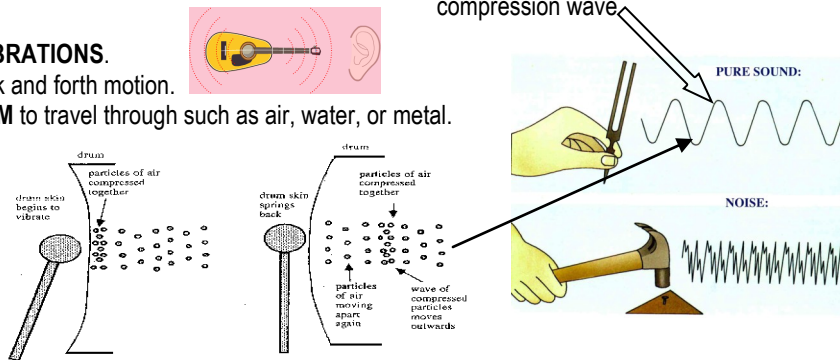
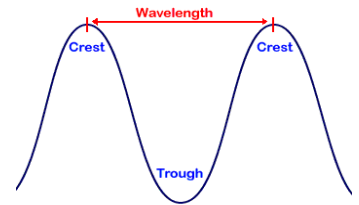


SOL 5.2- Sound

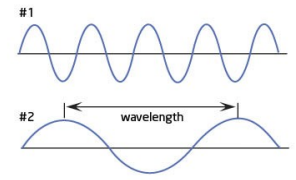
- Sound is caused by **VIBRATIONS**.
- A **VIBRATION** is a back and forth motion.
- Sound needs a **MEDIUM** to travel through such as air, water, or metal.
- A **MEDIUM** is a substance (gas, liquid, or solid) that carries sounds
- A **SOUND WAVE** is a disturbance moving through a **MEDIUM**.



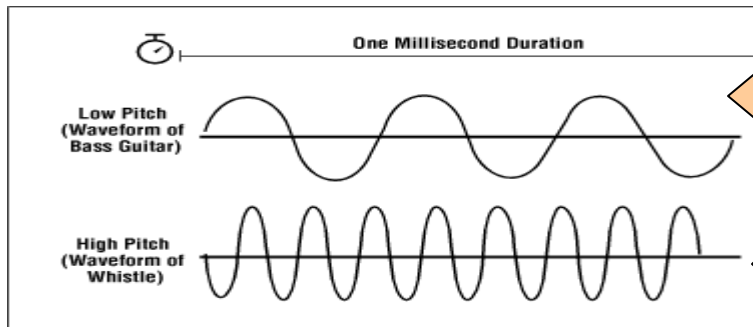
Sound Wave Diagram



- **WAVELENGTH**- the distance between two sound waves (determines **FREQUENCY**)
- **FREQUENCY**- the number of sound waves in a given unit of time (determines **PITCH**)
- **PITCH**- how high or low a sound is



because the wavelength of wave #2 is longer than that of wave #1, wave #2's frequency is lower

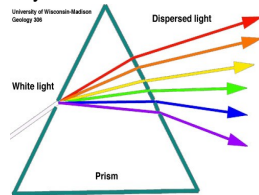
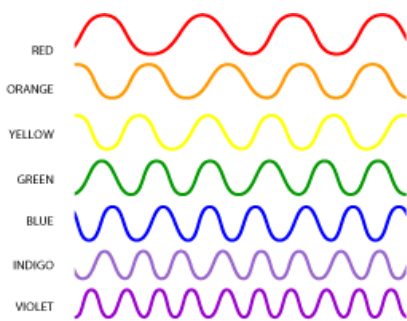


A bass guitar has a low pitch (not as many vibrations).

A flute has a high pitch (lots of vibrations).

SOL 5.3- Light

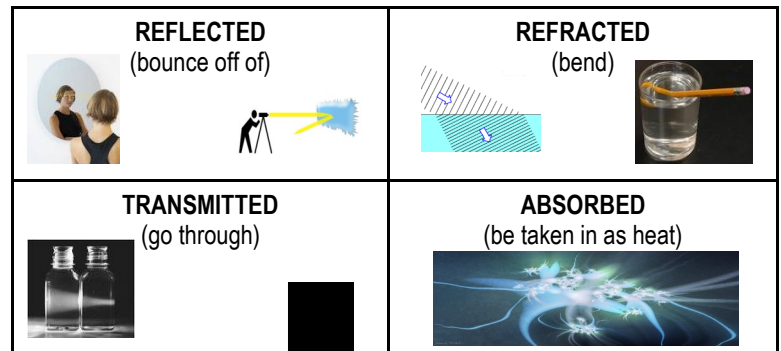
- Light travels in straight lines called **RAY**S
- **WHITE LIGHT** is made of different wavelengths of color
- You can see the different colors when **WHITE LIGHT** passes through a **PRISM** and the colors are separated by **FREQUENCY**
- With **LIGHT**, the **FREQUENCY** and **WAVELENGTHS** determine the **COLOR**



Red has the longest wavelength and violet has the shortest wavelength.

ROY G. BIV helps you to remember the order.

When **LIGHT** hits an object, there are 4 things that can happen:



Different materials transmit light differently

Light reflects better off of **SMOOTH, FLAT** surfaces.

- Light travels **FASTER** than sound
- Light **DOES NOT** need matter to travel through.
- It takes light 8 1/2 minutes to go from the Sun to the Earth

There are two types of lens that are used to bend light:



CONCAVE



CONVEX

You **SEE** the color that is **REFLECTED** off of an object.

White **REFLECTS** all colors.

Black **ABSORBS** all colors

Transparent
(light passes through easily)



Translucent
(some light passes through)



Opaque
(no light passes through)

