**Week Four(Characteristic of Waves):**

Interference - When two or more waves arrive at the same place at the same time, they interact

Constructive Interference - When waves combine in such a way that the disturbance that results is greater that either wave alone

Deconstructive Interference - When two waves combine and cancel each other out

Resonant Frequency - The frequency at which a standing wave occur

Polarization - The specific direction that a transverse wave is vibrating

Electromagnetic Spectrum - The entire range of electromagnetic waves

Pitch - How long or how high you perceive a sound to be

Infrasonic - Sounds that are less than 20 Hz

Ultrasonic - Sounds that are higher than 20,000 Hz

Doppler Effect - The apparent change in the frequency caused by the motion of either the listener or the source of the sound

Loudness - How loud or soft a sound is perceived to be

Decibel - The most common unit used to express loudness

Echo - A reflected sound wave

Echolocation - The process of using reflected sound waves to find objects.

Sonic Boom - The explosive sound heard when a shock wave reaches your ears.

Vacuum - Totally empty space. Sound cannot travel through this

Standing wave - A wave that forms a stationary pattern in which portions of the wave are at a rest position due to destructive interference and other parts of the wave have a large amplitude.

Resonance - When an object vibrates at or near the resonant frequency of the second object causes the second object to vibrate