

## SOUND AND LIGHT VOCABULARY KEY

**Longitudinal wave:** type of wave where each particle in the wave pushes against the next before returning to its original position. Speaking and musical instruments make longitudinal waves.

**Transverse wave:** type of wave where particles move up and down while the wave moves forward. Light and radio waves are transverse waves.

**Wave:** a kind of vibration that allows energy to move from one place to another.

**Wavelength:** The distance from crest to crest or trough to trough of a wave.

**Amplitude:** The height of a wave measured from the top half or bottom half of the wave. (Total height of the wave divided by two)

**Frequency:** Measured in Hertz: 1 Hz means that one wave passes each second. So this is how many waves pass per second. Count the peaks of the wave.

**Speed:** How fast a wave is traveling. This depends on wavelength and frequency.

**Absorb:** Light that is trapped by matter.

**Reflect:** Light that is bounced off the surface of an object.

**Transparent:** Allowing light to pass through without scattering it. (Glass)

**Translucent:** Allowing some light through but scattering it. (Tissue Paper)

**Opaque:** Not allowing light to pass through. (Walls)

**Index of Refraction:** A number that tells how much light speed changes in a medium or material. (It is compared to the speed of light in a vacuum)

**Refraction:** The change of light speed or bending of light as it enters different mediums or materials.

**Angle of Incidence:** The angle at which light enters a surface.

**Angle of Reflection:** The angle at which light reflects off of a material.

Law of Reflection: Because light travels in a straight line, the angle of incidence equals the angle of reflection.

Natural Light: Produced without humankind. Ex: Sun, flame

Artificial Light: Produced by humankind. Ex: light bulb, laser

Luminous: An object that produces light.

Umbra: The dark inner part of a shadow.

Penumbra: The part of a shadow that allows some light to pass through.

Convex: Lens with both sides curving outward. (magnifying lens, telescope)

Concave: lens with both sides curving in. (eyeglasses)

Pitch: How high or low a sound seems. Low pitch sounds have low frequencies, high pitch sounds have high frequencies

Intensity: The amount of energy a sound has. Amplitude measures the intensity of a sound.

Decibel: The unit used to describe the intensity of a sound.

Infrasonic: Low frequency sounds below 16 Hz. Or 16 vps. Elephants and whales use infrasonic sound to communicate.

Ultrasonic: High frequency sounds above 16,000 hertz. Bats, dogs, and cats, can hear ultrasonic sound. Doctors use ultrasonic waves to create a sonogram.