

## I. Properties and behaviors of sound and light

A. forms of energy; move away from source in all directions [as waves]

B. interactions between waves and matter

1. reflection: waves bounce off matter
  - a. light: off any matter seen (best off shiny materials)
2. absorption: waves trapped in matter and turn to heat energy
  - a. light: best with dark, dull materials (black T-shirt)
3. transmission: waves travel through matter
  - a. light: transparent (or “see-through”) materials (does **not** need matter to travel through like sound does)

C. Light and vision

1. light from source reflects off object to eyes; brain interprets info

## II. Relationship among wave properties and properties of sound and light

A. amplitude: determines sound’s volume & light’s intensity (brightness)—not related to wavelength or frequency

B. longer wavelengths have lower frequency

1. determines sound’s pitch and color (or type) of light

## III. Electromagnetic spectrum

A. all forms of light energy (most invisible to human eyes)

B. each type of light has its own wavelength and frequency

C. parts: long wavelength end: radio/tv waves, microwaves, infrared waves, visible light, ultraviolet, x-rays, gamma rays

