Light

Light is a small range of frequencies of electromagnetic waves that are part of the electromagnetic spectrum:

Light – the range of frequencies of electromagnetic waves that stimulates the retina of the eye.

We see objects because light is either emitted or reflected by them.

<u>The Speed of Light</u>
Speed of light in a vacuum:

actually: $c = 299\ 792\ 458$ m/s

we use: $c = 3.00 \times 10^8$ m/s

<u>Light Year</u>
A light year is the distance traveled by light in 1 year. It is an astronomical measure of distance.

$$\Delta d = v\Delta t$$

Polarization

Electromagnetic waves can be polarized because they are transverse waves. Polarization refers to only allowing the wave vibrations to occur along one direction.

Reflection of Light

Law of Reflection:

The law of reflection states that the angle of refection equals the angle of incidence.

$$\theta_i = \theta_r$$

Specular (regular) reflection vs. Diffuse reflection: (see handout)

Note: Diffuse reflection still obeys the law of reflection (the surface just faces many different directions).