

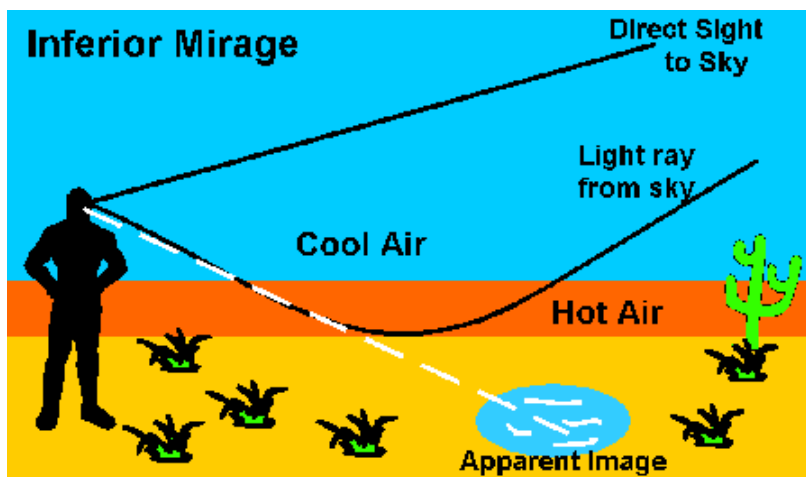
Topic 3 – Refraction (pgs. 200-205)

Refraction is the process in which light is bent, when it travels from one medium to another. Light bends because it changes speed when it moves through materials that have different densities. Light travels slower in materials that are more dense, because there are more particles. The bending of light makes the object's image appear to be in a different position than it really is.

Around a Bend with Light

The Law of Refraction states that when light travels from one medium, **to a denser medium**, the light will be bent toward the normal, and when it exits the denser medium **into a less dense medium** it will bend away from the normal. The new direction of light is called the **angle of refraction**.

Refraction can also occur when light travels through air at different temperatures, because warm air is less dense than cold air. The refraction of light through air is called a mirage.



The pools of water you see on a hot summer day are often caused by this effect, because the air closer to the ground is hotter than the air above it. As you approach these pools, they disappear - because they were never there.

Is that all there is to Light?

What happens when light strikes a surface? ...

Type of Behavior	What happens to light striking a surface	Nature of surface	What else happens?
Absorption	Energy Transformation	Rough, Dark, Opaque	Some light is reflected
Reflection	Bounces off	Smooth, Shiny	Some light is absorbed
Refraction	Travels through in a new direction	Different Transparent Medium	Some light is reflected

Topic 3 Review p. 206

Wrap-Up (Topics 1-3) p. 207