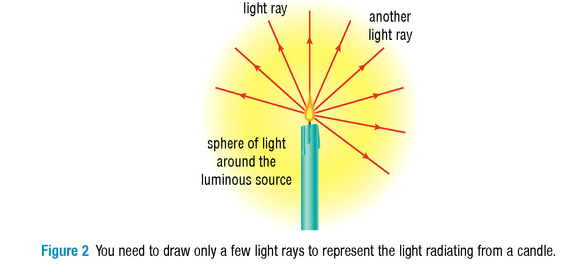
**Chapter 1-2 Light**

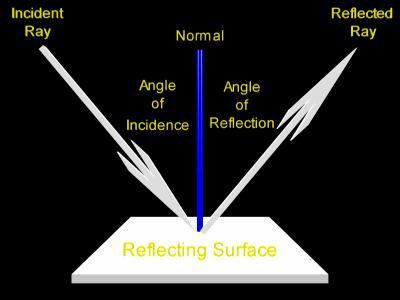
**p1-use flashlight with paper and slit/flashlight with younger kids/use laser older kids with protractor to look at angle of reflections**

**Light**

**Ray model**



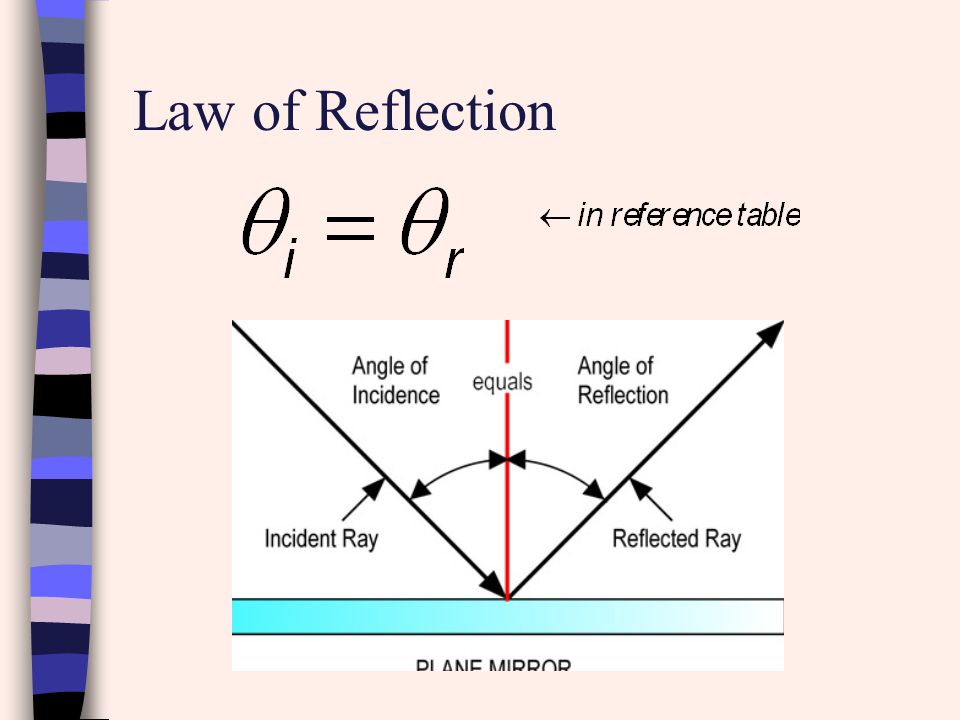
**Normal to the surface-**



**Angle of incidence**

**Angle of reflection-**

**Law of reflection**



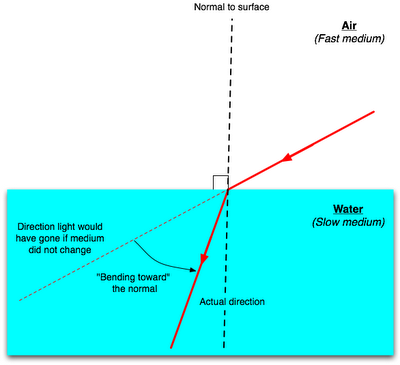
**Light traveling mediums**

**p6-use your flashlight/paper or laser and shine a beam of light through different substances**

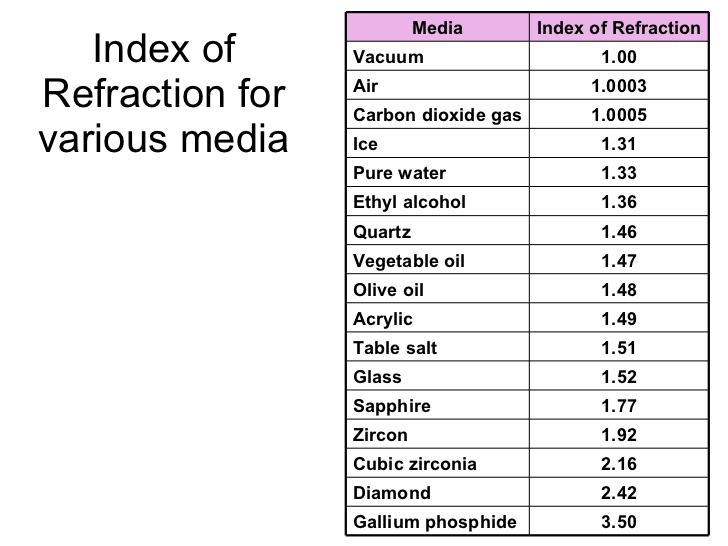
**-light rays bend or change direction when they travel from air to water and water to air…or through different substances**

**Refraction-**

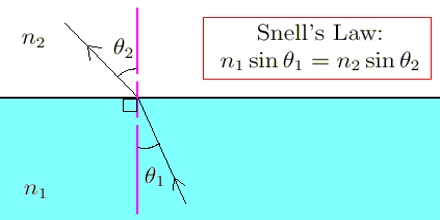


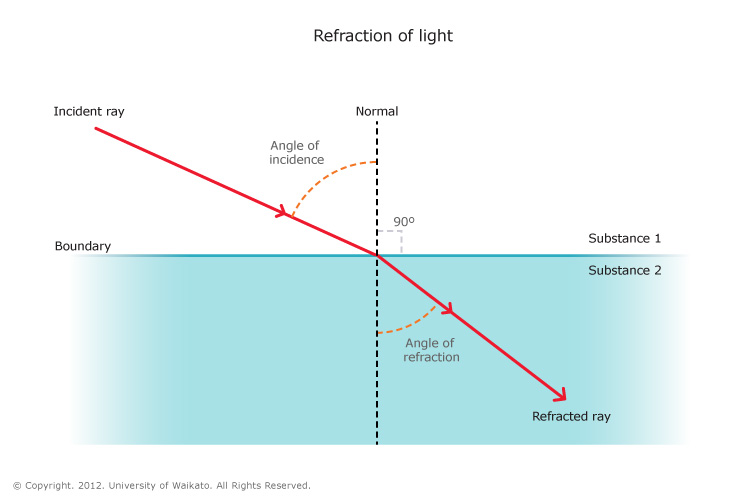


**Index of refraction-**



**Snell’s law**



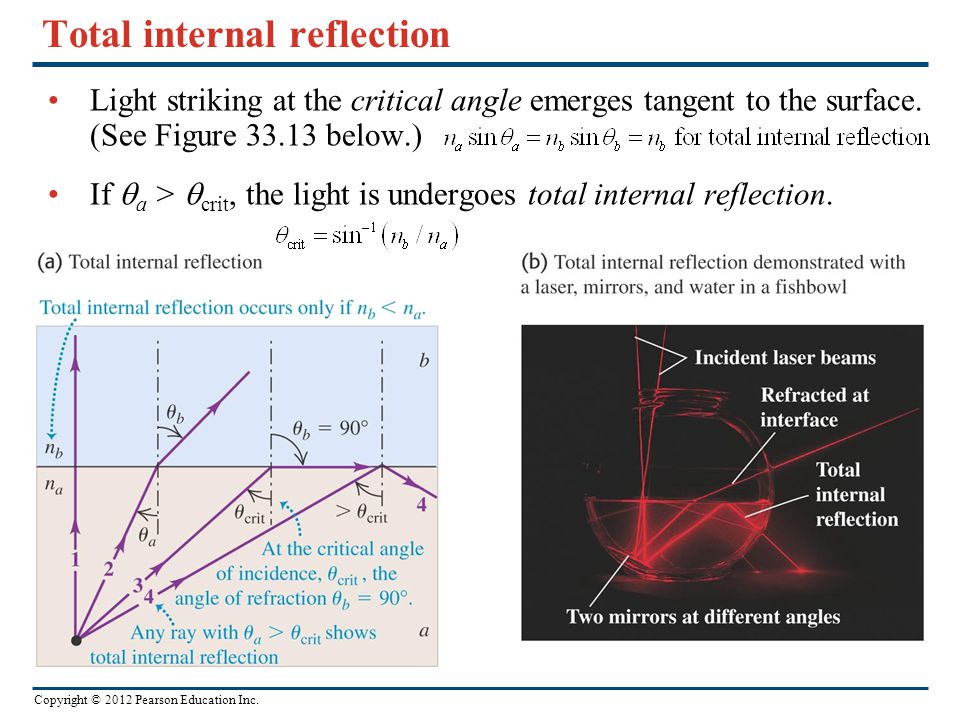


**p11-set light beam and pan of water with flashlight-change our angle and watch what happens-keep increasing the angle and watch what happens**

**total internal reflection**



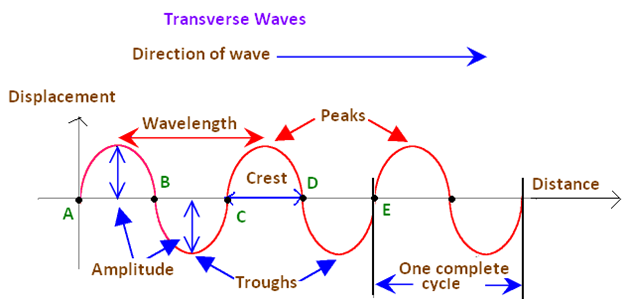
**critical angle-**



**Chapter 2-colorful waves**

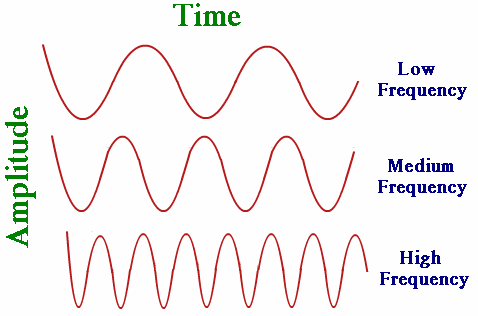
**p23 grab a rope, have two people hold it and make waves-you can make a few waves or a lot of waves/poke your finger in a pan of water and look at the waves**

**transverse waves**



**Wavelength-dist**

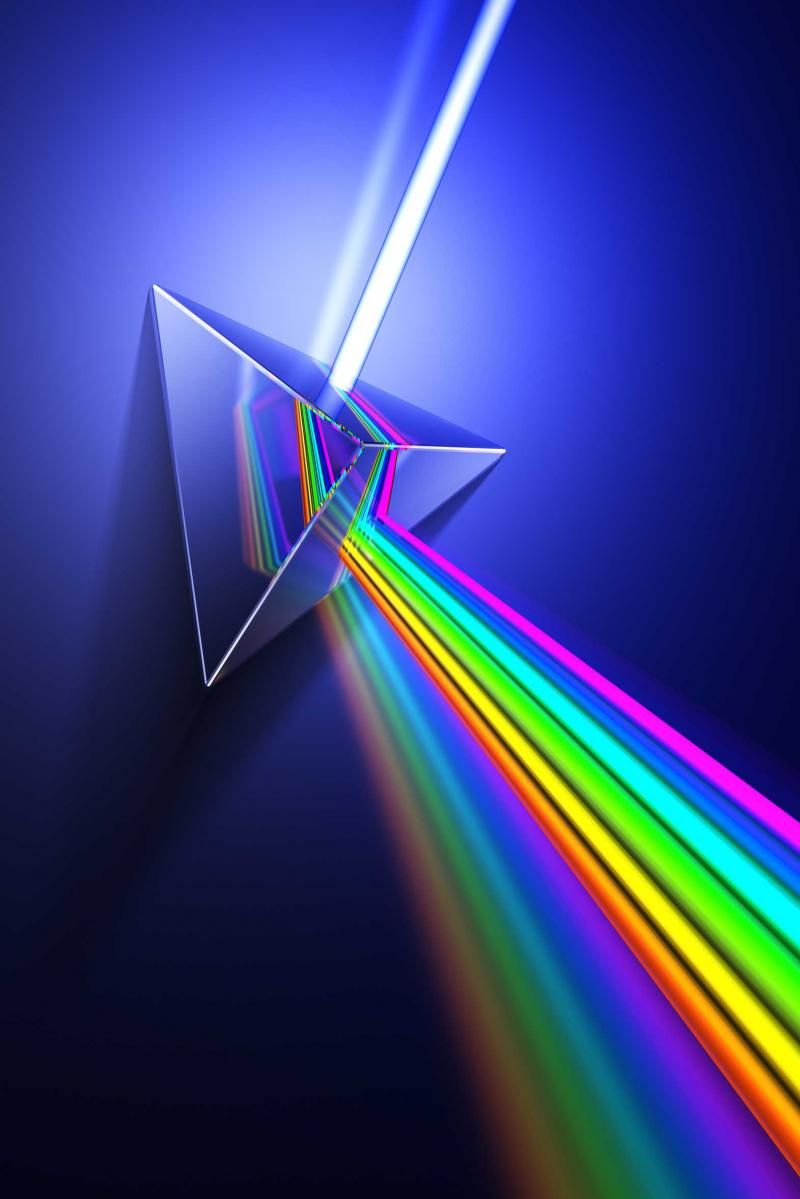
**Frequency-**



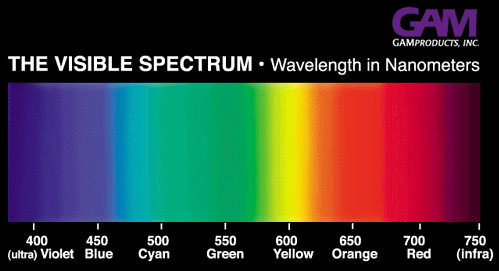


**White light**

**p27-look through a prism**

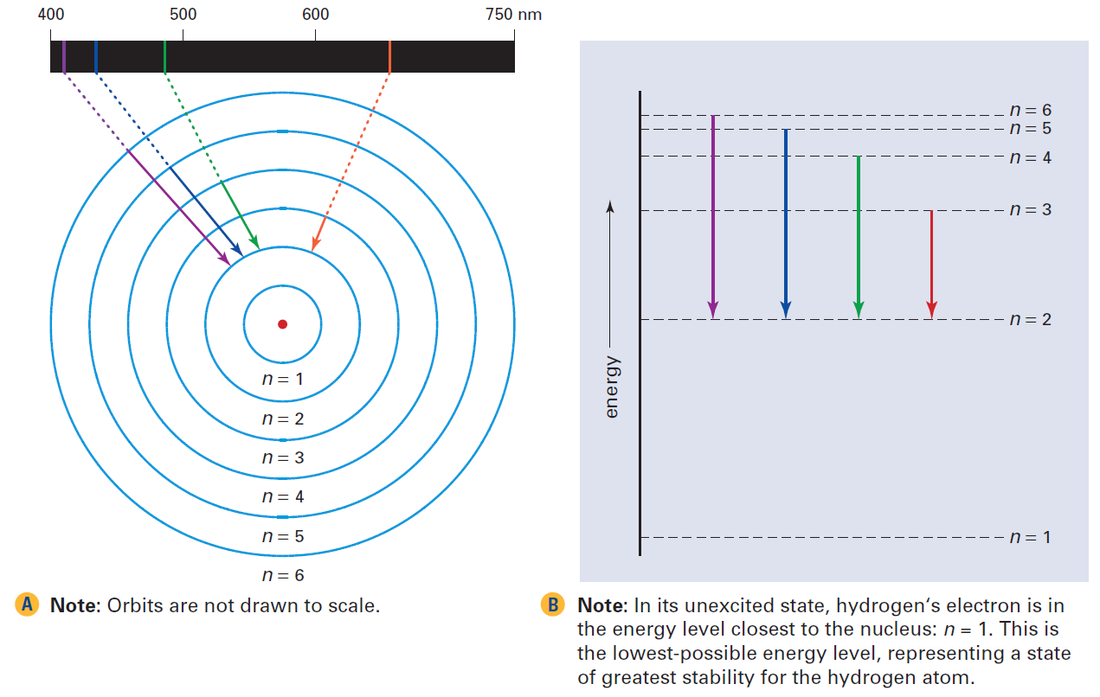


**visible spectrum**



**-wavelengths are measured in nanometers which is equal to .000000001 meters**

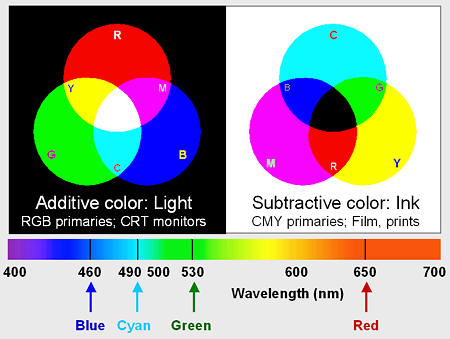
**Creating Light**



**Colored filters**

**-color subtraction**

**-color addition**



**p38-spray water from a hose into the air on a sunny day**

