

hhh.37.13\_37.17

**Read pages 357 through 358**

**Know what the index of refraction is and how it relates to the speed of light**

**Know Snell's Law**

**Know what is meant by critical angle**

17.13 Divide the speed of light in a vacuum by the speed of light in the glass

17.14 The frequency does not change when light goes from one medium to another, the wavelength changes instead as the light slows down.

To get the wavelength of 546 nm (  $1 \text{ nm} = 10^{-9} \text{ m}$  ) divide the speed of light in a vacuum by the wavelength in meters.

17.15 Use snell's law to determine the direction (angle) of the refracted ray See figure 37-1 and example 37.3

17.16 See the *condition for total internal reflection* on page 358 (figure 37-2) and example 37-4

17.17 Same idea as 17.16