WORKSHEET #3

Name:	

1. A beam of light with a wavelength of 575 nm while traveling in air is incident on a slab of material. The angle of incidence is 28.0°. The refracted beam makes an angle of 20.4°. Find (a) the index of refraction for the slab and (b) the wavelength of the light in the slab.

2. A beam of laser light, wavelength 678.8 nm in air, is incident on a block of polystyrene at an angle of 29.7°. Find (a) the angle of refraction and (b) the wavelength of the light in the plastic.

3. A light wave with a wavelength of 612 nm in a vacuum travels through a bit of fused quartz which has an index of refraction of n = 1.458. Find the speed of light in the quartz.

4.	Find the speed of light in (a) flint glass, (b) water, and (c) zircon.
5.	A 589 nm beam of light is incident on the surface of some clean ice at an angle of 40.0° with the normal. Part of the light is reflected and part is refracted. Find the angle between the reflected and refracted light.