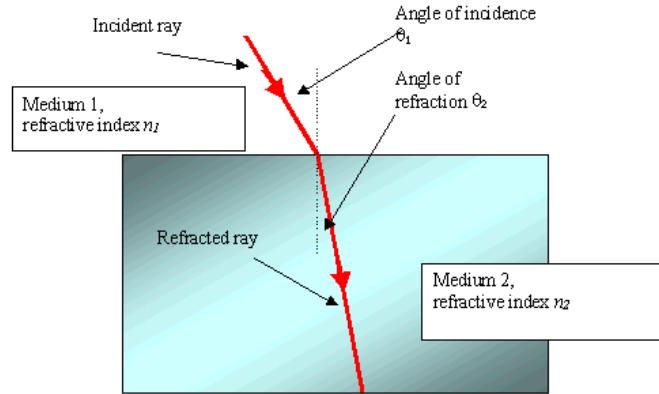


Answer on Question#41522 – Physics – Optics

An estimate of the refractive index of glass is 1.5. If the angle of incidence is 30° . The angle of refraction is

Solution:



$n_1 = 1$ – refractive index of air

$n_2 = 1.5$ – refractive index of glass

$\theta_1 = 30^\circ$ – angle of incidence

θ_2 – angle of reflection

Snell's law of refraction:

$$\frac{\sin \theta_1}{\sin \theta_2} = \frac{n_1}{n_2} \Rightarrow \theta_2 = \arcsin \left(\frac{n_1 \cdot \sin \theta_1}{n_2} \right) = \arcsin \left(\frac{1 \cdot \sin 30^\circ}{1.5} \right) = 19.5^\circ$$

Answer: angle of reflection is equal to 19.5° .