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SUBJECT:- PHYSICS CLASS:- XTH DATE:05/07/XX

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CHAPTER 4. (LIGHT- REFRACTION)

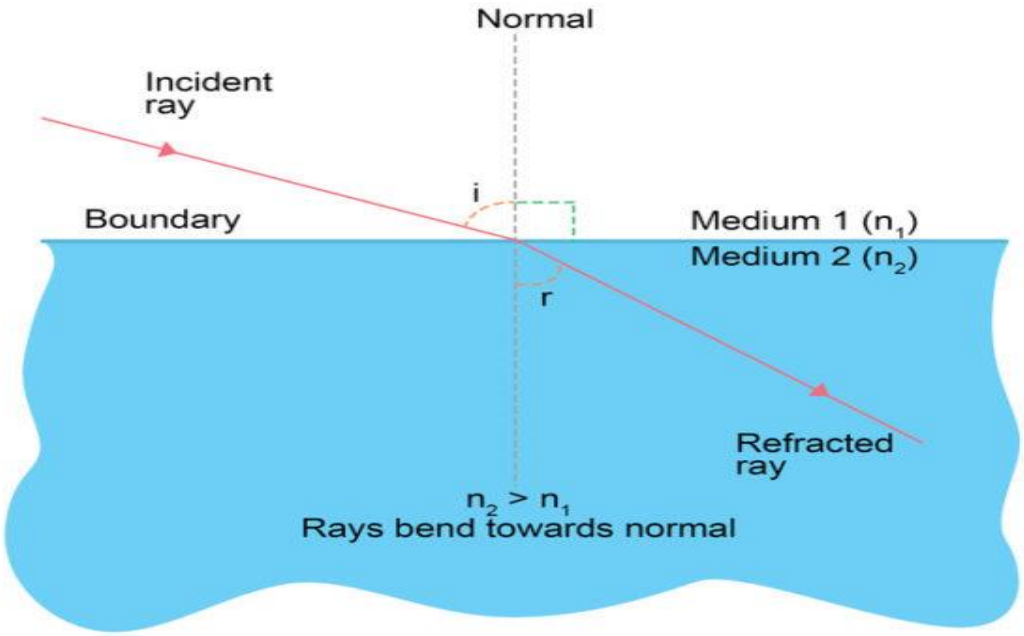
What is Refraction?

Refraction is the bending of a wave when it enters a medium where its speed is different.

Or,

Refraction is the change in direction of a wave passing from one medium to another or from a gradual change in the medium

Refraction of light is one of the most usually observed phenomena which includes refraction of light through prism, but other waves like sound waves and water waves also experience refraction.



Causes of Refraction

The cause of refraction of light is as follows:

- The frequency of the refracted ray remains constant.
- Due to partial reflection and absorption of light at the interface, the intensity of the refracted ray will be less than the incident ray.
- When the light crosses the boundary between two different media, deviation of light occurs resulting in refraction such that there is a change in wavelength and speed of light.

Effects of Refraction

- Twinkling of stars is due to refraction of light.
- Mirage and looming are optical illusions which are a result of refraction of light.
- A swimming pool always looks shallower than it really is because the light coming from the bottom of the pool bends at the surface due to refraction of light.

Refraction Examples

- Formation of a rainbow is an example of refraction as the sun rays bend through the raindrops resulting in rainbow.
- Prism is also an example of refraction.