PHY1024

# Law of Reflection

The angle of reflection equals the angle of incidence.



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[https://commons.wikimedia.org/wiki/File:Specular-Reflection-1.png](https://commons.wikimedia.org/wiki/File%3ASpecular-Reflection-1.png)

$$Ɵ\_{i}=Ɵ\_{r}$$

$Ɵ\_{i}$ is angle of incidence; $Ɵ\_{r}$ is angle of reflection.

# Speed of Light

Speed of light in vacuum is $c=3×10^{8}$ m/s.

# Law of Refraction

The changing of a light ray’s direction (loosely called bending) when it passes through variations in matter is called refraction.

**Index of refraction**

$n= \frac{c}{v}$,

$n$ is index of refraction, $c$ is speed of light, $v$ is the observed speed of light in the material.

**Snell’s Law**

$n\_{1}\sin(Ɵ\_{1}=n\_{2}\sin(Ɵ\_{2}))$,

$n\_{1}$ and $n\_{2}$ are the indices of refraction for medium 1 and 2, and $Ɵ\_{1}$ and $Ɵ\_{2} $are the angles between the rays and the perpendicular in medium 1 and 2.