

Light is represented as a straight line, or ray, that shows the direction the light is travelling.

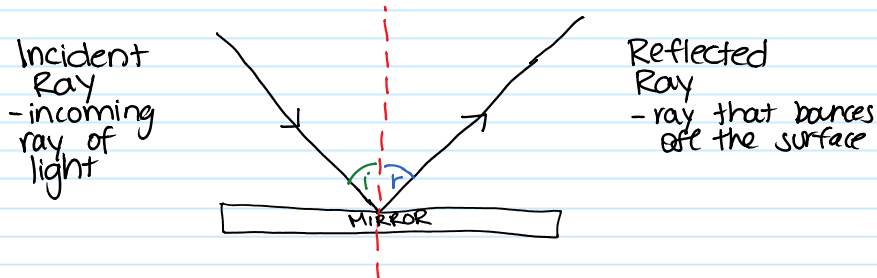
Depending how light rays are affected by a material, the material is either:

- ① transparent  $\Rightarrow$  light rays pass through (transmitted) thru freely.  
ex. transparency
- ② translucent  $\Rightarrow$  lets most light through but scatters the light leaving  
ex. bathroom window.
- ③ opaque  $\Rightarrow$  no light passes thru. Light ray is stopped and absorbed.  
ex. cardboard, wall..

A shadow is created when an opaque object absorbs light rays

$\hookrightarrow$  have sharp edges because light rays travel in a straight line

Light rays are reflected or refracted  
 light "bouncing" off an object ex. mirror.      light "bending"



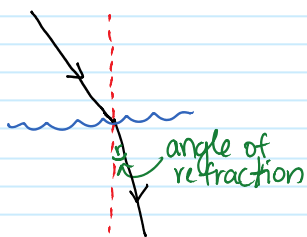
normal: an imaginary line perpendicular to the surface  $\perp$

angle  $i \Rightarrow$  is measured from the normal to the incident ray

angle  $r \Rightarrow$  is measured from the normal to the reflected ray

$$\angle i = \angle r$$

Refraction  $\Rightarrow$  when light travels from 1 transparent medium to another transparent medium it changes speed and bends



- water is one example of a medium

- air in different temperatures

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