1) Light :-

The speed of light in vacumm is 3×10^8 m/s.

Reflection, Refraction, Polarization are such phenomenon occuron light

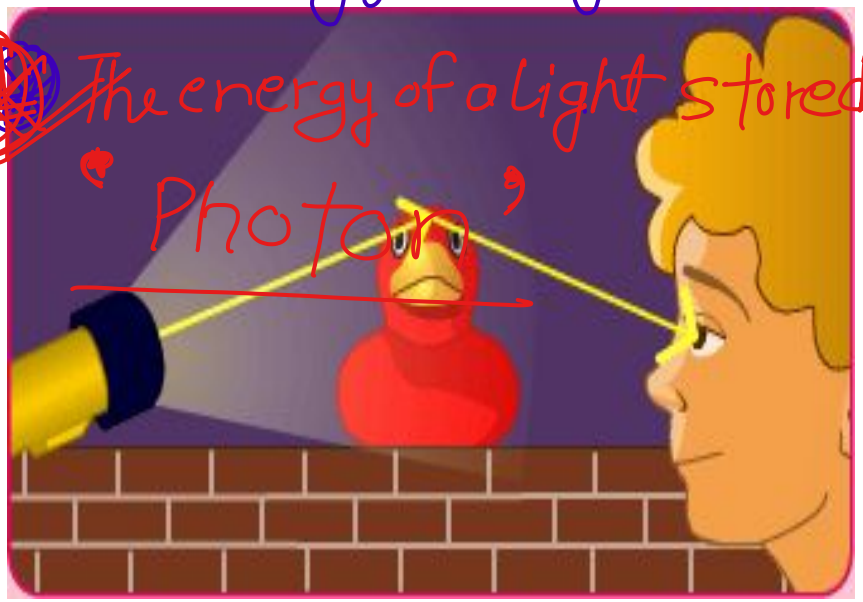
i) Light is a form of energy which helps us to see objects.

ii) When light falls on objects, it reflects the light and when the reflected light reaches our eyes then we see the objects.

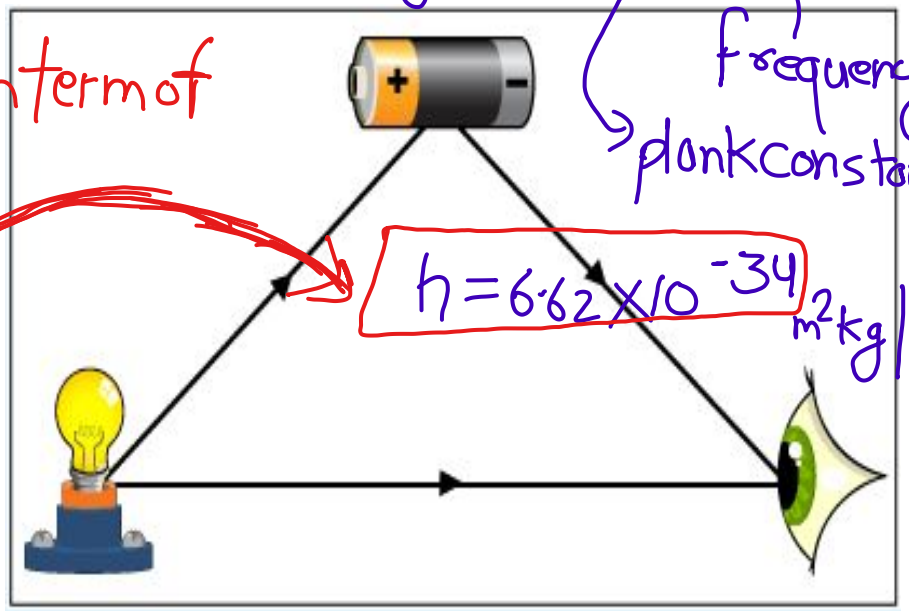
iii) Light travels in straight line.

iv) The common phenomena of light are formation of shadows, formation of images by mirrors and lenses, bending of light by a medium, twinkling of stars, formation of rainbow etc.

The energy of a light particle is defined by $E = h\nu$



The energy of a light stored in term of 'Photon'



ν = frequency

h = plonk constant

$h = 6.62 \times 10^{-34}$ $m^2 kg/s$

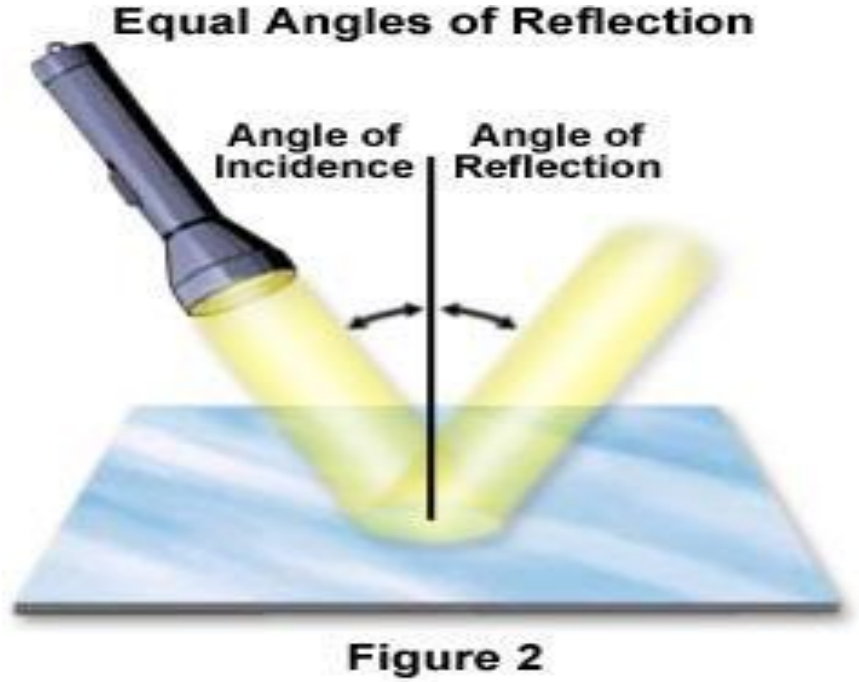
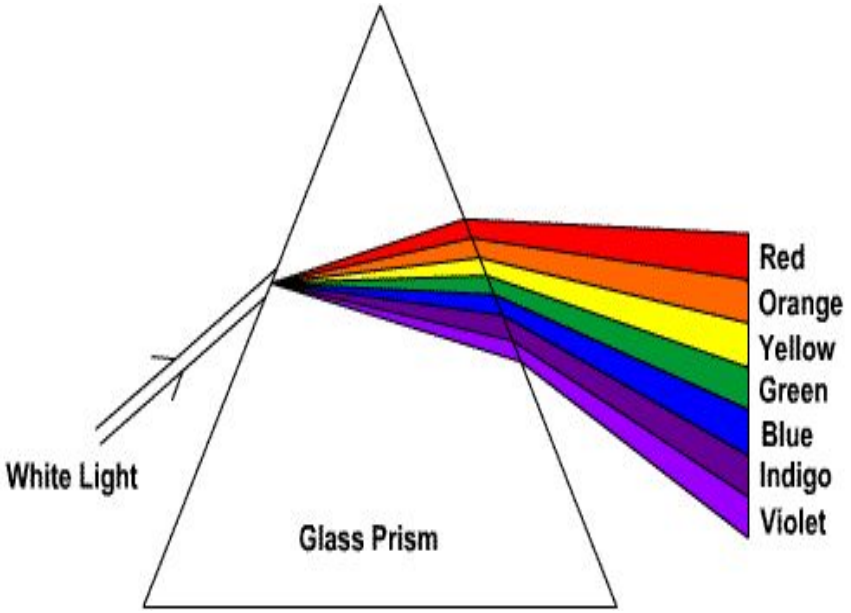

Equal Angles of Reflection
Angle of Incidence
Angle of Reflection

Figure 2


© 2002 Calvin Jones Photography


White Light
Glass Prism
Red
Orange
Yellow
Green
Blue
Indigo
Violet

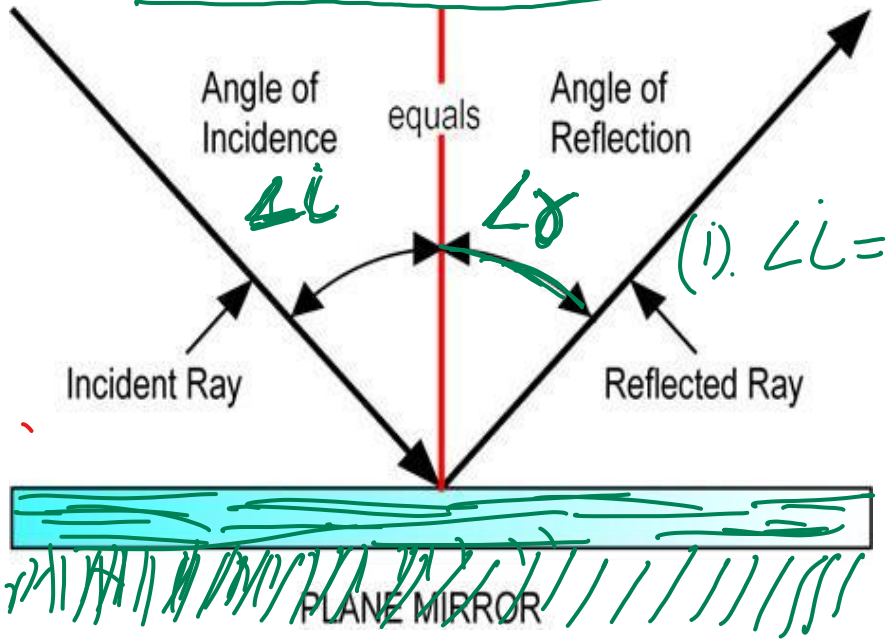
2a) Reflection of light :-

When light falls on a highly polished surface like a mirror most of the light is sent back into the same medium. This process is called reflection of light.

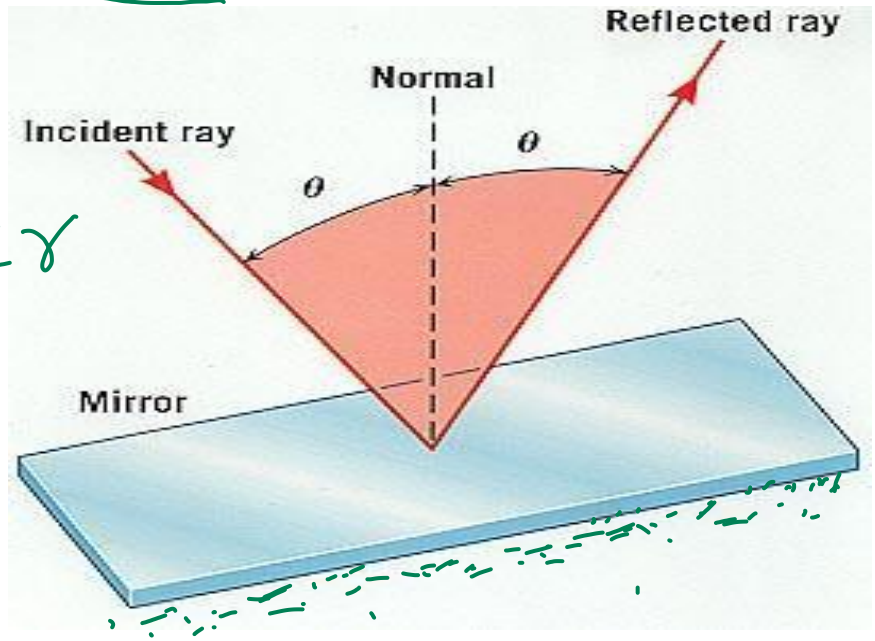
a) Laws of reflection of light :-

i) The angle of incidence is equal to the angle of reflection.

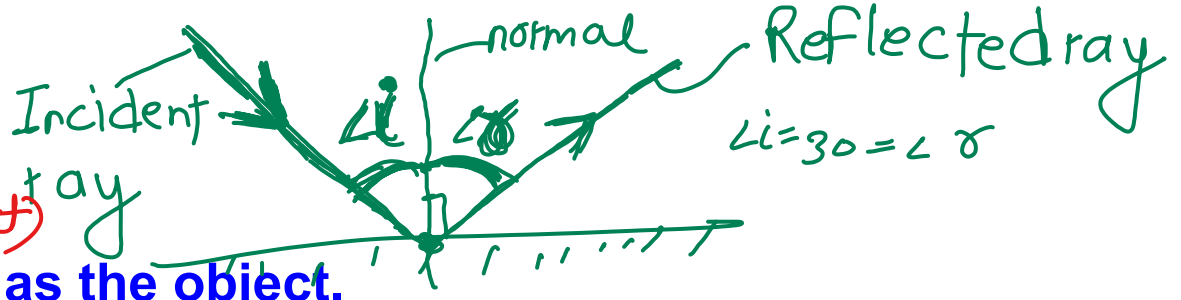
ii) The incident ray, the reflected ray and the normal to the mirror at the point of incidence all lie in the same plane.



(i). $\angle i = \angle r$



Plane Mirror



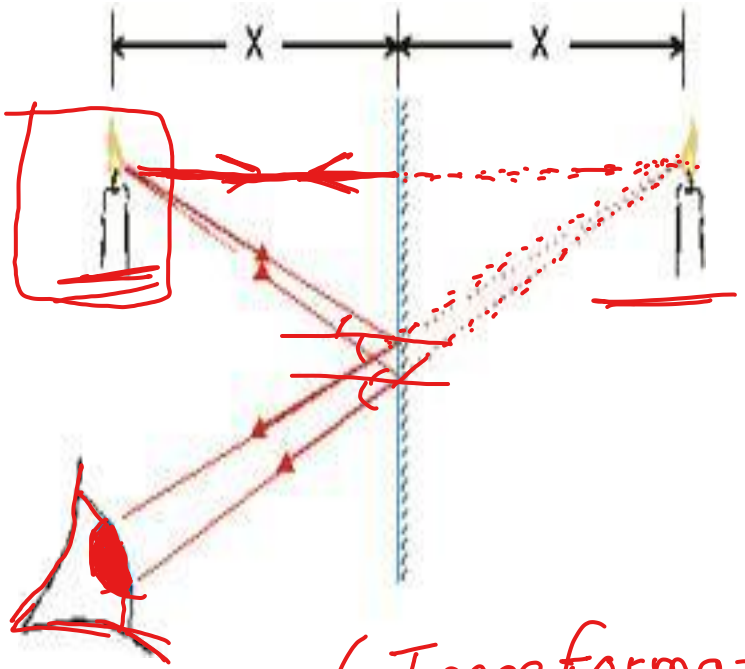
i) The image is erect. (straight)

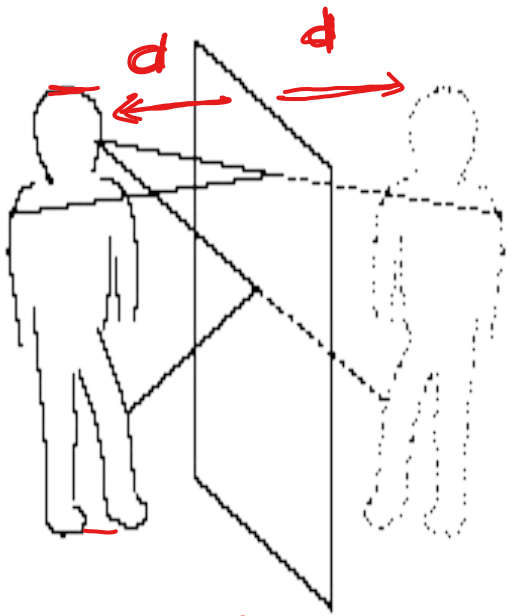
ii) The image is same size as the object.

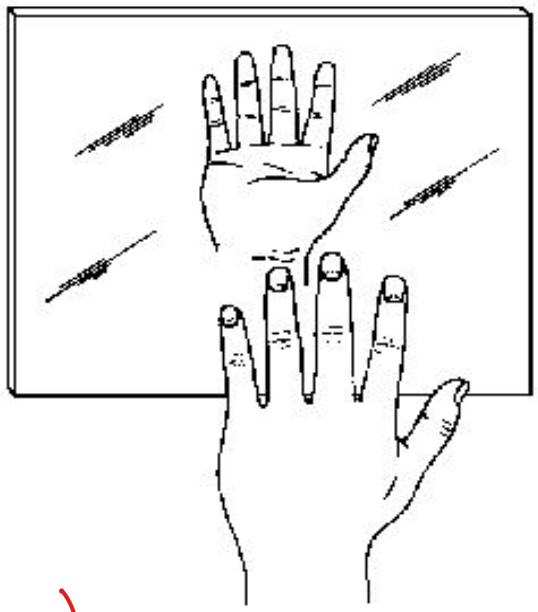
iii) The image is at the same distance from the mirror as the object is in front of it.

iv) The image is virtual (cannot be obtained on a screen).

v) ~~The image is laterally inverted.~~







(Image formation by Plane Mirror)

3) Spherical mirrors :-

"Spherical mirror is a curved mirror which is a part of a hollow sphere. Spherical mirrors are of two types. They are concave mirror and convex mirror."

i) Concave mirror :- is a spherical mirror whose reflecting surface is curved inwards. Rays of light parallel to the principal axis after reflection from a concave mirror meet at a point (converge) on the principal axis.

ii) Convex mirror :- is a spherical mirror whose reflecting surface is curved inwards. Rays of light parallel to the principal axis after reflection from a convex mirror get diverged and appear to come from a point behind the mirror.