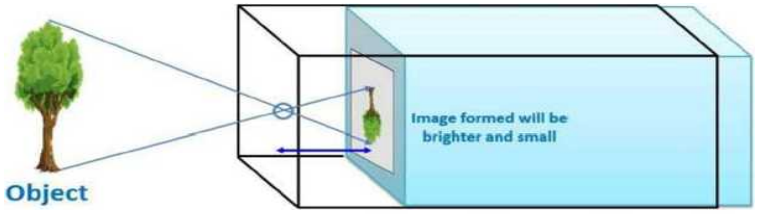
# Pinhole Camera

The pinhole camera is a device used to capture pictures of still objects.

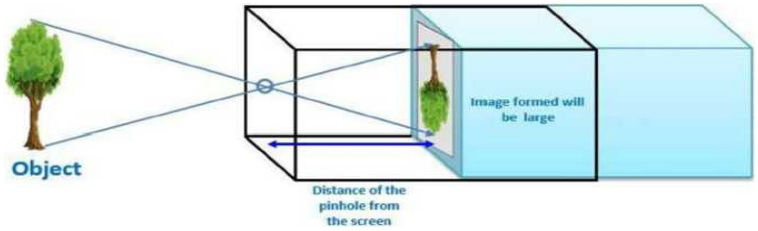
1. The image formed in a pinhole camera is always inverted that means upside down.

2. The size of the image, formed by a pinhole camera depends on:

i. The distance of the object from the 'pinhole' of the pinhole camera. If the distance between the pinhole and screen is decreased, the size of the image will decrease and the image will become bright because the light is spread over a small area.

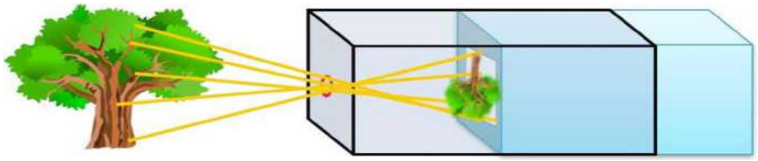



ii. The distance between the pinhole and the screen of the pinhole camera. If the distance between the pinhole and screen is increased, the image size will increase and the image, however, will get less bright since the light spreads over a large area.



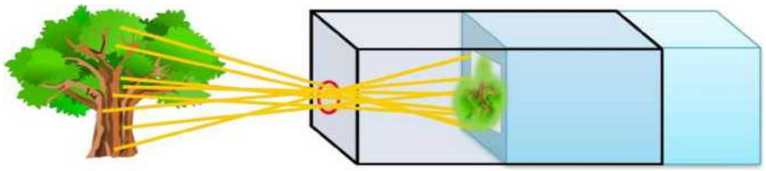

3. The brightness of the image, formed by a pinhole camera depends on the size of the aperture.

When the size of the diameter (aperture) of the pinhole is decreased the image becomes dimmer. Because less light reaches the screen. Due to this the image become less blurry. In diagram (1.0) the size of the pinhole is 0.5 cm. The image form on a screen is dim and less blurry. Because less light reaches the screen from the hole.



**(1.0) When pinhole size is 0.5 cm**

Now, if the size of the pinhole is increased i.e. 1 cm. The image form on the screen is brighter but blurry. As the light enter in a pinhole increase.



**(1.1) When pinhole size is 1 cm**

## Example:

Take a straight pipe and look at the lighted candle first and then through a bent pipe. We can easily observe the lighted candle from the straight pipe but not from the bent pipe. From this, we can conclude that light travels in a straight line.