



Class 7th

Chapter – 11

Light

Light is a radiation or a form of energy that our eyes can detect. Light enables us to view our surroundings. Light travels from one place to another in a straight line.

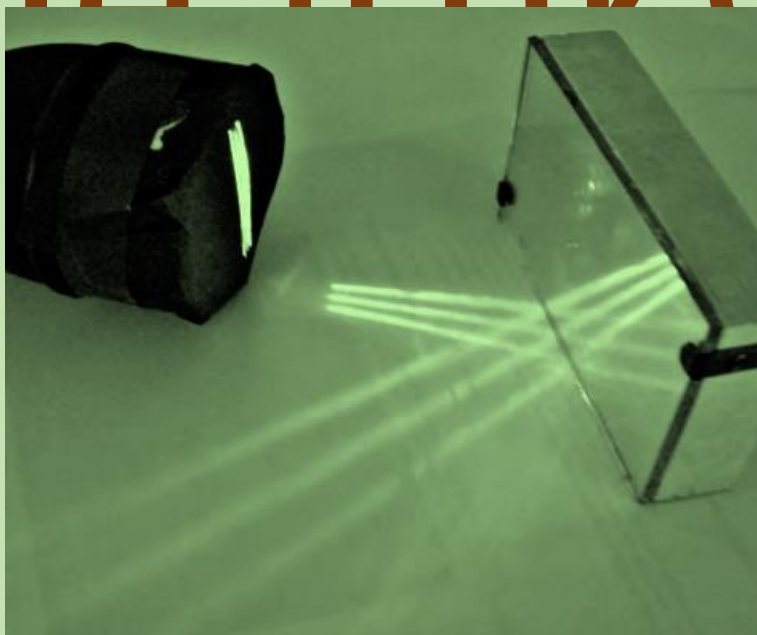
LIGHT TRAVELS ALONG A STRAIGHT LINE

Light does not travel in a straight path. It travels as a wave. However, as the wavelength is very small, it looks like it travels in a straight line. Also, when light travels from one medium to another, it bends.

REFLECTION OF LIGHT

A mirror changes the direction of light that falls on it. This change of direction by a mirror is called reflection of light.

When light falls on a shiny surface, it bounces back. This phenomenon is called reflection. We can see images in mirrors or in water, because of reflection.



Image

An image may be defined as that point, where the light rays coming from an object meet or appears to meet after reflection or refraction.

Object

object' may be defined as anything from which light rays are coming.

PLAYING WITH SPHERICAL MIRRORS

The most common example of a curved mirror is a spherical mirror. If the reflecting surface of a spherical mirror is concave, it is called a concave mirror. If the reflecting surface is convex, then it is a convex mirror

Real Image

A real image is defined as one that is formed when rays of light are directed in a fixed point. A real image can be projected or seen on a screen.

virtual image

An image that cannot be obtained on a screen is called a virtual image. A virtual image is formed when the reflected rays of light appear to meet when traced backwards.

Concave mirrors are used for many purposes. doctors using concave mirrors for examining eyes, ears, nose and throat. Concave mirrors are also used by dentists to see an enlarged image of the teeth.

The reflectors of torches, headlights of cars and scooters are concave in shape.

Convex mirrors can form images of objects spread over a large area. So, these help the drivers to see the traffic behind them

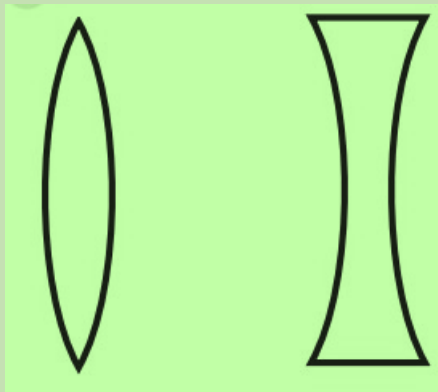
IMAGES FORMED BY LENSES

Lenses are widely used in spectacles, telescopes and microscopes.

Those lenses which feel thicker in the middle than at the edges are convex lenses

Those which feel thinner in the middle than at the edges are concave lenses

the lenses are transparent and light can pass through them.



A convex lens converges (bends inward) the light generally falling on it. Therefore, it is called a converging lens. On the other hand, a concave lens diverges (bends outward) the light and is called a diverging lens.

SUNLIGHT — WHITE OR COLOURED?

the sunlight consists of seven colours. The sunlight is said to be white light. This means that the white light consists of seven colours.

sunlight is a mixture of different colours.

Observed RAINBOW carefully, there are seven colours in a rainbow, though it may not be easy to distinguish all of them. These are — red, orange, yellow, green, blue, indigo and violet. On the basis of this experience, we say that the sunlight is a mixture of different colours.

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