CLASS VII **SUBJECT:SCIENCE**

CHAPTER -15 LIGHT

MODULE:1/3

- **Light is something that makes all other things visible to us.We are able to see the things around us due to presence of light.**
- **We experience that things which are clearly visible in daytime are not clearly during night because there is bright sunlight during daytime whereas light is dim in night.**
- **Light is made up of particles called 'photons'.The word photography is derived from this word.**
- **Light always travels along a straight path.Its path is never curved. Light does not bend.**
- **Examples to show that light travels in a straight path are : light emitted by a torch light and light emitted from the headlights of a vehicle.**

Activity to show that light travels along a straight path

- **Light a candle and fix it on a table. Take a piece of straight pipe or a rubber tube .Look at the candle through the pipe .You can see the candle flame .If the pipe is bent , you cannot see the candle flame.This shows that light travels along a straight line or path.**

Can we change the direction of Light?

- **The direction of light changes when it strikes an opaque surface like a mirror.**
- **A plane mirror can be obtained by polishing one of the surfaces of a plane glass piece.**

REFLECTION OF LIGHT

- **When light falls on a mirror ,the direction of light changes .This change in the direction of light by a mirror is called reflection of light.**

ACTIVITY TO SHOW REFLECTION OF LIGHT

- **Take a torch and cover its glass with a chart paper having a small hole.Spread a chart paper on a wooden board.Keepa plane mirror vertically on it. Direct a beam of light on the mirror from the torch with slits . Place the torch in such a way that it's light is seen along the chart paper on the board. Now adjust its position so that the light from the torch strikes the plane mirror at an angle.**
- **We observe that the mirror changes the direction of light that falls on it.**

Now move the torch slightly to either side .When we do so there is a change in the direction of reflected light.

- **Look into the mirror along the direction of reflected light .Do you see the slits in the mirror? This is the image of slits. This activity shows how light gets reflected from a plane mirror.**

  IMAGE: Place alighted candle in front of a plane mirror. Try to see the flame of the candle in the mirror.It appears as if a similar candle is placed behind the mirror. The candle which appears behind the mirror , is the image of the candle formed by the mirror.

TYPES OF IMAGES

- **Real image : The image that can be obtained on a screen is called real image.**
- **Virtual image: The image that cannot be obtained on a screen is called virtual image.**

CHARACTERISTICS OF IMAGE FORMED BY A PLANE MIRROR

1. **The image is formed behind the mirror.**
2. **The image is erect.**
3. **The image is of the same size as that of the object.**
4. **The image is virtual.**
5. **The image is at the same distance from the mirror as the object is in front of it.**

6. **The image is laterally inverted. i.e., right side of the object appears left in the image and vice-versa.**

<u>LATERAL INVERSION:</u> When we stand in front of a plane mirror and look at our image ,our right hand appears left in the image whereas our left hand appears right in the image.The image is erect with respect to the object but sides are interchanged.This interchange of sides by a plane mirror is termed as LATERAL inversion.

Now you recall how the word 'AMBULANCE'is written on a vehicle that carries patients to hospital.This is written in such a manner that when the driver of a vehicle ahead of an ambulance looks in his rear view mirror,he can read 'AMBULANCE' written on it and give way to it.

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