G.D.GOENKA PUBLIC SCHOOL

Subject: Science (7th)

Thursday, 16th September 2021

Topic: light

This material is not to be printed.

LEARNING OBJECTIVE: To understand the rectilinear propagation of light.

SKILL FOCUS: Classification of light where it is understood that light travels along a straight line.

Rectilinear propagation of light refers to the propensity of light to travel along a straight line without any interference in its trajectory. When light travels through a medium, say air or water, it follows a straight line. However, the path only changes in case there is a shift in the medium.

For instance, if a ray of light passes from air to water, the path of light bends based on the change of density. You must note, this phenomenon is known as refraction. Another example of rectilinear propagation of light involves the formation of shadows. When you place an object in front of a candle, you will see its shadows on the wall. It is because light travels along a straight line and leaves only the areas where the object interferes.

What is Meant by Rectilinear Propagation of Light?

A simple example will help you understand the concept if you intend on learning what is meant by rectilinear propagation of light.

However, you will need the following items to help this simple experiment succeed –

A flexible rubber straw or plastic tube which measures around 10 inches.

A lit candle, or a lamp, or a bulb. For your ease, any strong source of light will work for this experiment.

Follow the steps given below to understand how rectilinear propagation of light function in real life –

1) You have to point one end of the rubber straw or the plastic tube at the source of light. Then maintain some distance from the source and hold the material still without any disturbances..

2) Put your eyes on the other end of the tube. You will see the source of light, such as a candle or a lamp, through the tube.

3) For the third step, bend the rubber tube and try to look through it. This time, you will fail to see the source of light in that position.