

# LIGHT REFLECTION AND REFRACTION

## CHAPTER NO.10 SUB: PHYSICS

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CHANGING YOUR TOMORROW

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# LEARNING OUTCOMES

- **Students will be able to :**
- state the laws of reflection.
- Draw ray diagram to illustrate formation of image by a plane mirror.
- apply the law of reflection to predict the position of images formed by objects in front of a plane mirror.
- Identify different types of mirrors.

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## POINTS TO BE COVERED

1. Introduction
2. Light
3. Reflection of light
4. Laws of reflection
5. Image formed by a plane mirror
6. Types of spherical mirrors.

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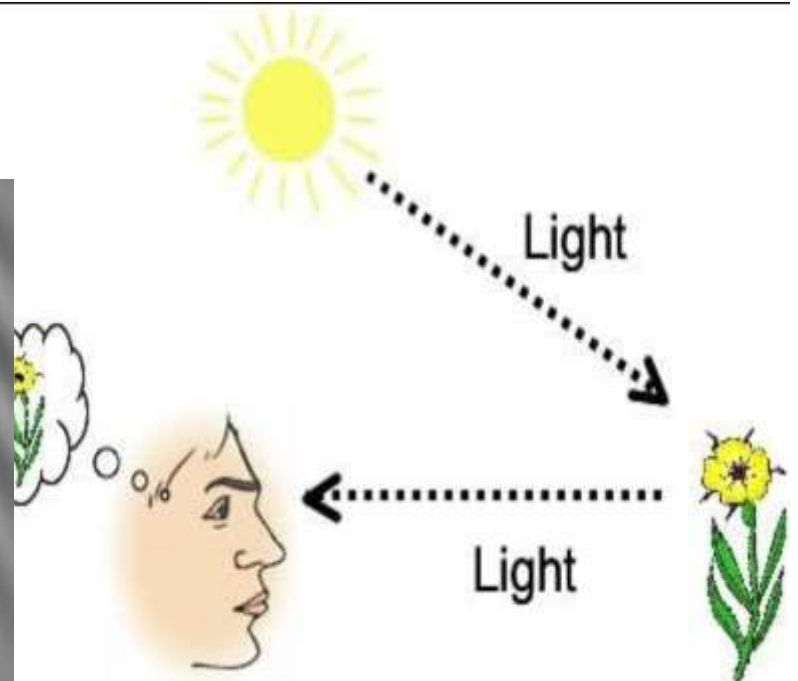
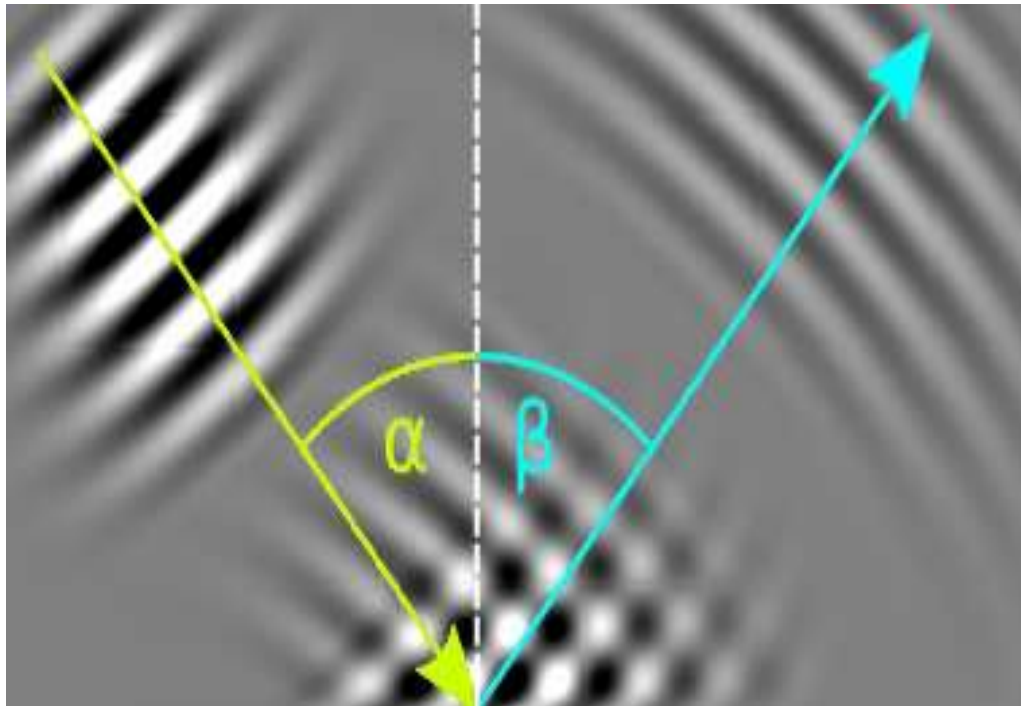
# INTRODUCTION

Light is a form of energy that enables us to see.

How are we able to see different objects?

When reflected light rays reach our eye ,ima

Is formed at retina.



# (REFLECTION OF LIGHT)

: <https://youtu.be/vt-SG7Pn8UU>



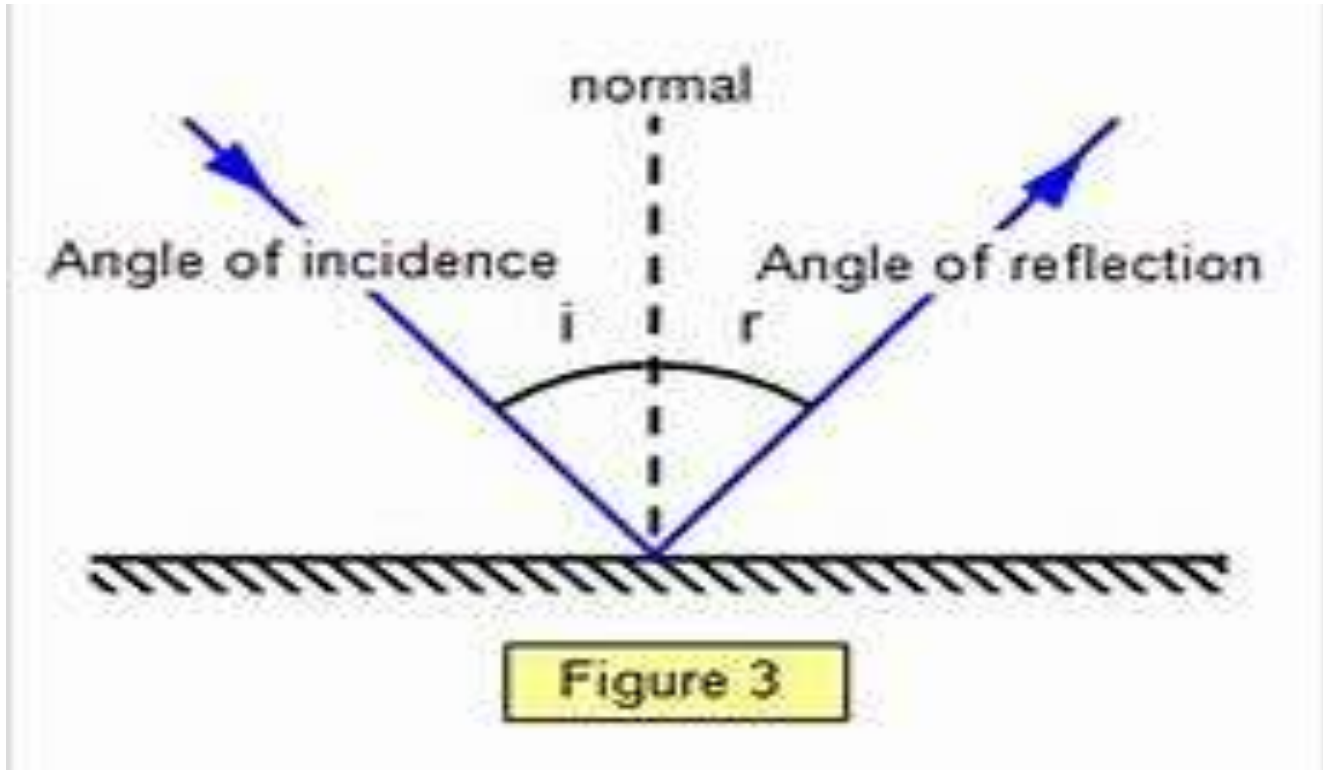
# Terms related to reflection.

- **What is reflection of light?**
- The phenomenon of bouncing back of light rays in the same medium on striking a smooth surface is called reflection of light.

**Terms related to reflection are:**

- **Incident ray**
- **Reflected ray**
- **Normal**
- **Angle of incidence**
- **Angle of reflection**

# Reflection

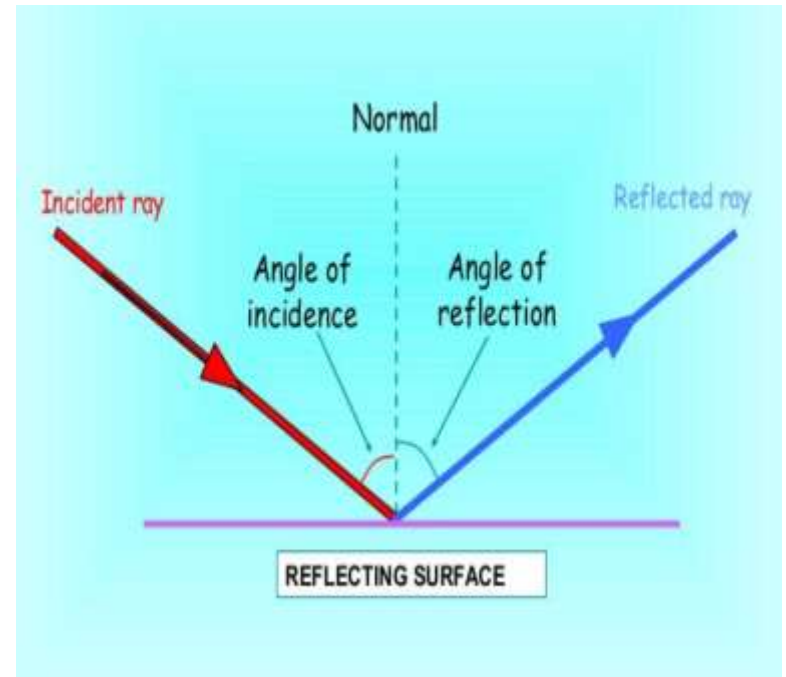
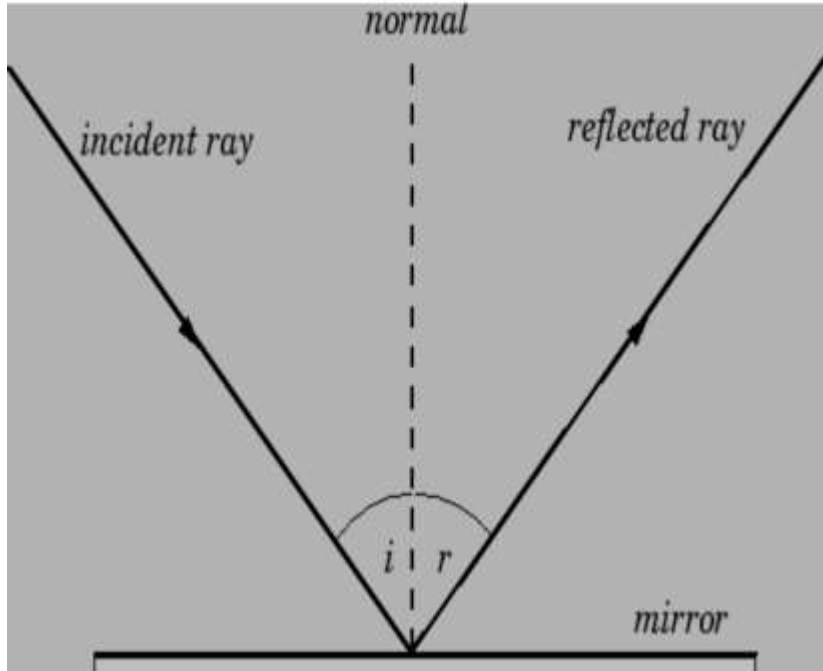


## Laws of reflection:

- **The two laws of reflection are :**
- The law of reflection states that the angle of incidence is equal to angle of reflection
- The Incident ray, the Reflected ray, and the normal to the point of incidence, all lie in same plane.
- ***Link***
- <https://youtu.be/dwxaq4c9K6k?t=25>

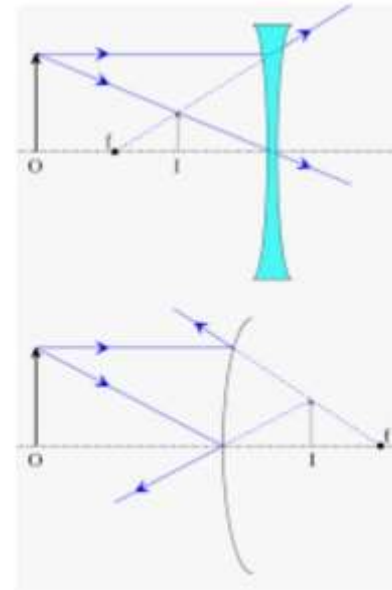
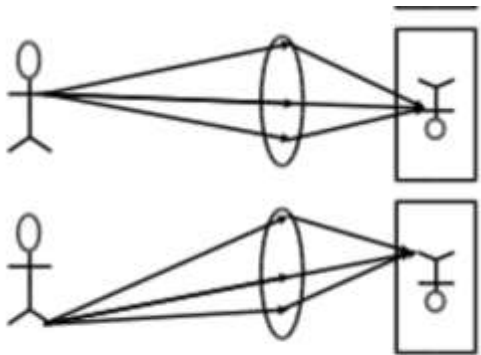


# Laws of reflection diagram:



# Image:

- **Real image:** If the light rays coming from a point actually meet after reflection, then the image formed is called a real image.
- **Virtual Image:** If the light rays coming from a point after reflection, does not meet actually, but appear to meet at another point, then the image formed is called a virtual image.

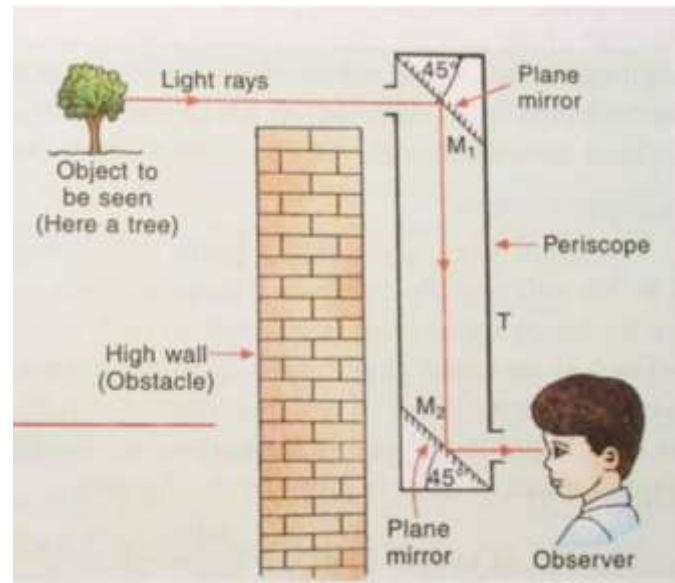
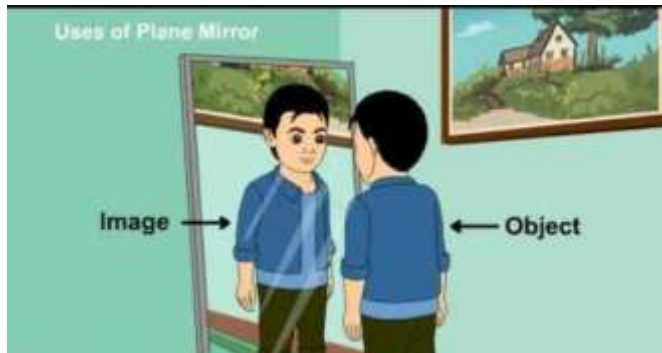


# Mirror

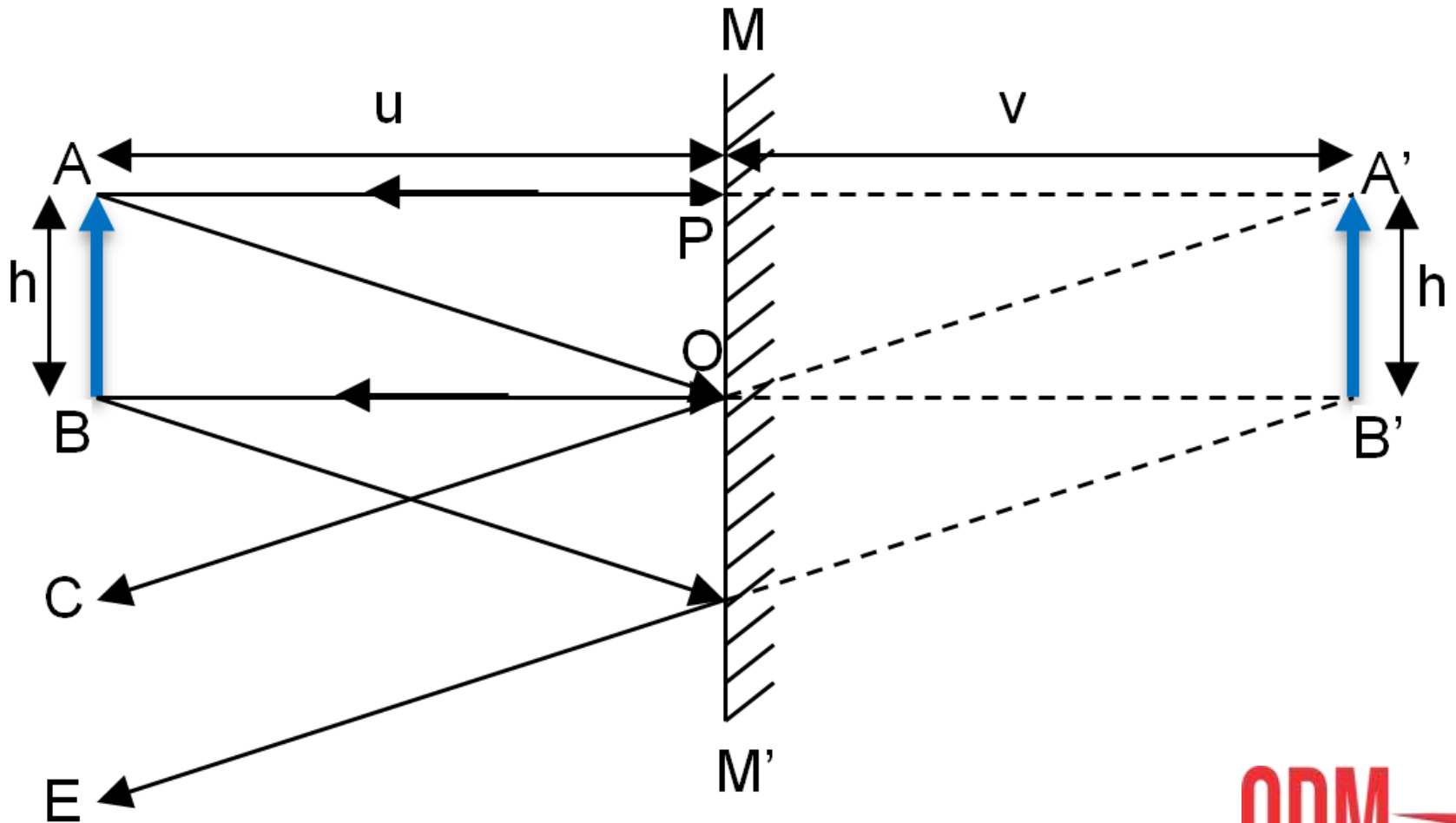
- *Mirror is a polished surface, which reflects almost all the light incident on it.*
- *Types of mirror are as follows:-*
  - *1. Plane mirror.*
  - *Spherical mirror*

## Characteristics of image formed by a plane mirror

- **Virtual and erect**
- **Laterally inverted**
- **Same size as that of the object**
- **Image distance is equal to the object distance.**
- **Focal length of plane mirror is infinite.**
- **Uses of plane mirror:**
- **In making periscope, kaleidoscope, looking glass etc..**



# Image formed by a plane mirror



# Spherical mirrors :

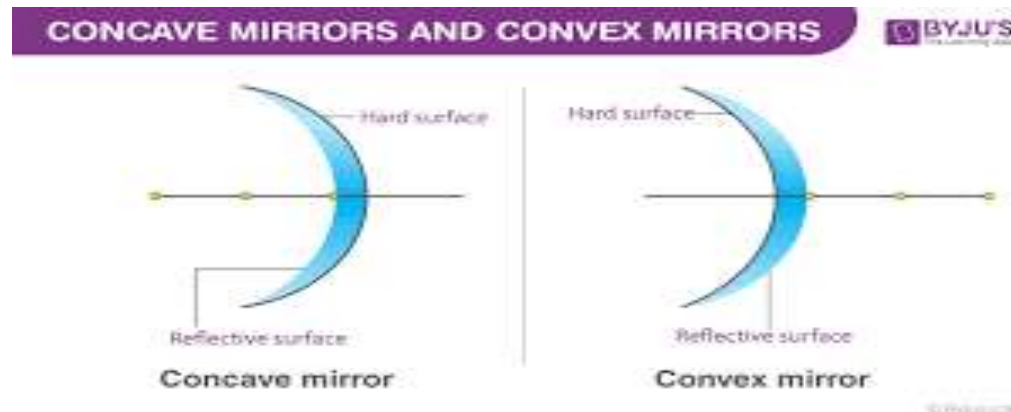
**The mirrors which are the part of a sphere.**

- **Types of spherical mirror**

Concave mirror

Convex mirror.

- **Concave Mirror:** The mirror whose reflecting surface is curved inwards is called a concave mirror.



- **Convex Mirror:** The mirror whose reflecting surface is curved outwards is known as a convex mirror.

## HOME ASSIGNMENT

1. Define reflection.
2. Define the terms related to reflection.

Incident ray

Reflected ray

Normal

Angle of incidence

Angle of reflection

The angle between a plane mirror and incident ray is  $50^\circ$ . Find the angle of reflection.

**THANKING YOU**  
**ODM EDUCATIONAL GROUP**