

ACTIVITY NO. 16 - MULTIPLE REFLECTIONS

Subject	Science
Class	VIII
Chapter/Unit	Light
Topic	Formation of Multiple Images
Time	30 minutes
Nature of Activity	Group

What will I learn (Learning Outcome)?

Will comprehend the concept of multiple image formation and relate the formation of multiple images with the angle between the reflecting surfaces.

Skills: Applying, Analyzing and Creating

What I have to do?

To relate the formation of multiple images with the angle between the reflecting surfaces.

What do I require?

Mirror strips, candle, matchbox and plasticine

What do I need to know?

When a ray of light approaches a smooth polished surface and the light ray bounces back, it is called the reflection of light. The incident light ray which lands upon the surface is said to be reflected off the surface. The ray that bounces back is called the reflected ray. If a perpendicular were to be drawn on reflecting surface, it would be called normal.

➤ Teacher's Activity

Teacher will-

1. explain the concept of multiple reflection.
2. make arrangements for the activity
3. make pairs of the students and will explain the steps of the activity.
4. ensure that each participant of the pair performs the activity on his/her own.

How will I proceed?

➤ Student's Activity

1. Arrange two plane mirror strips at 90^0 to each other and hold in a position with the help of plasticine.
2. Now, take a small candle and light it.
3. Place the candle in between the mirror and looks for their images.
4. Record the number of images you observe.
5. Repeat the same activity by keeping the two mirror strips at different angles.

What have I observed?

I will calculate and conclude the no. of images formed using the following formula:

$$\text{No. of images} = (360^0/x) - 1$$

x= angle between the mirrors

S.No.	Angle between the two mirror strips	Number of images formed
1.	90^0	
2.	45^0	
3.	30^0	
4.	60^0	

What have I learnt?

Two mirrors inclined to each other give _____ images if the angle between them is 90° . This is because of _____ of the reflected light.

What am I curious to learn?

- Let us construct a kaleidoscope using mirror strips and colorful beads.
- Let us find out the differences between the Human Eye & Camera Lens

Let me evaluate myself

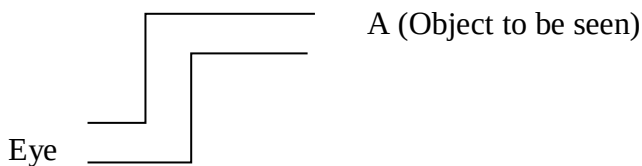
1. Write a short note on multiple reflections?

2. How does light enable us to see something?

3. How many times is a ray of light reflected by two plane mirrors placed parallel and facing each other?

4. An object is placed between the two inclined mirrors, forming 5 images. Find the measure of angle formed between the two mirrors.

5. Ram planned an activity to observe an object X through pipes as shown in the given figure, so that he could see objects which he could not directly see.



- How many mirrors should he use to see the object?
- Indicate the position of images in the above image.
- Indicate the direction of rays in the figure.
- If any of the mirrors is removed will he be able to see the object?
