ARBOR INTERNATIONAL SCHOOL

E-Learning module/file

GRADE: VI MONTH/WEEK/DATE: April / **Week-3/ Date- 18--4- ’22 to 23-4-’22**

SUBJECT: PHYSICS NAME OF THE TEACHER**:** MS. AGNEL NEELAM AND MS. NISHI GUPTA

Notes for the parents:

- Dear parents, we hope that this learning module for the week serves its purpose with regards to student’s understanding and learning.
- The learning content for the week is attached day wise in this module to facilitate learning for your ward.
- For better clarity, kindly zoom the content.
- You can enlarge the content by clicking on the right bottom corner of the screen where the zoom option is given.
- Please refer to the page numbers of the text book mentioned in the module for the learning content which is mentioned in the day wise planning. E-content is attached in the module as well.
- Important notes for the chapter are attached with the learning module and the student must go through those for revision of the concepts.
- By the end of the chapter, the students should be able to understand the following:
  1. Laws of reflection and regular and irregular surfaces

Thank you

MS. AGNEL NEELAM

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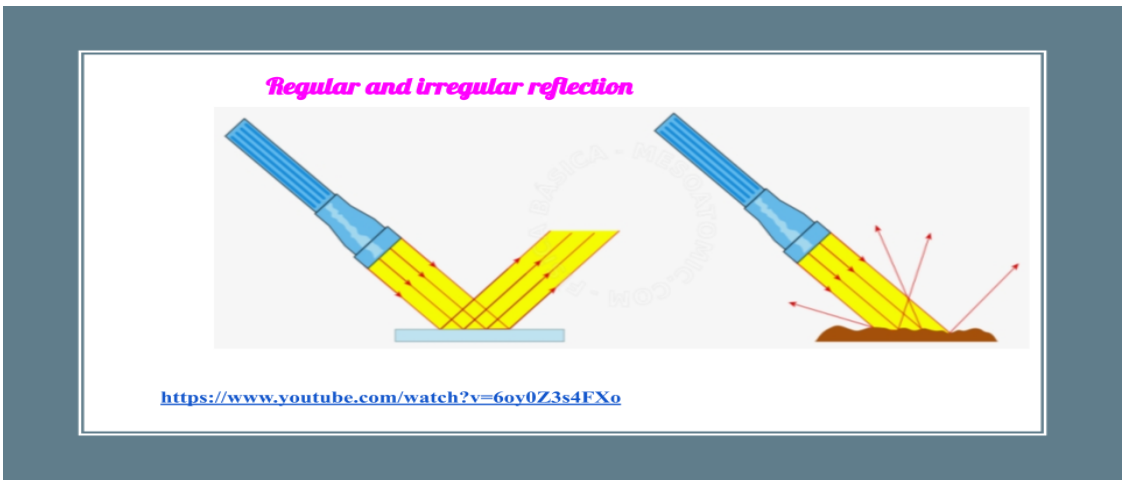
Kindly refer page no- 206- 211 - Ls. Light, Shadows & Reflection

DAYS	**TOPIC**
DAY - 1	**Lesson 13: Light, Reflection & Shadows** **➤ Regular and irregular reflection**
DAY - 1	**Lesson 13: Light, Reflection & Shadows** **➤ Characteristics of plane mirrors**

CONTENT - Day 1

- **Objectives:** To familiarize children with the reflecting surfaces



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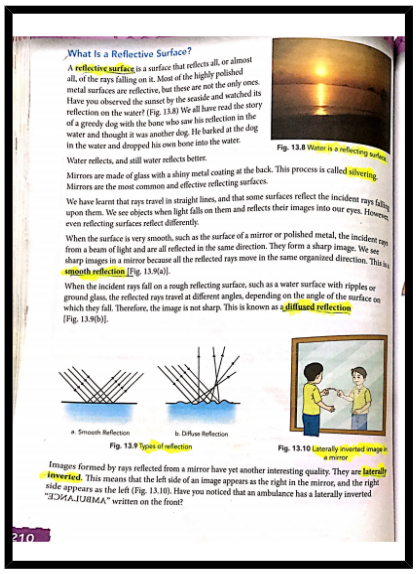

What Is a Reflective Surface?

A **reflective surface** is a surface that reflects all, or almost all, of the rays falling on it. Most of the highly polished metal surfaces are reflective, but these are not the only ones. Have you observed the sunset by the seaside and watched its reflection on the water? (Fig. 13.8) We all have read the story of a greedy dog with the bone who saw his reflection in the water and thought it was another dog. He barked at the dog in the water and dropped his own bone into the water.

Fig. 13.8 Water is a reflecting surface.

Water reflects, and still water reflects better.

Mirrors are made of glass with a shiny metal coating at the back. This process is called **silvering**. Mirrors are the most common and effective reflecting surfaces.

We have learnt that rays travel in straight lines, and that some surfaces reflect the incident rays falling upon them. We see objects when light falls on them and reflects their images into our eyes. However, even reflecting surfaces reflect differently.

When the surface is very smooth, such as the surface of a mirror or polished metal, the incident rays from a beam of light and are all reflected in the same direction. They form a sharp image. We see sharp images in a mirror because all the reflected rays move in the same organized direction. This is **smooth reflection** [Fig. 13.9(a)].

When the incident rays fall on a rough reflecting surface, such as a water surface with ripples or ground glass, the reflected rays travel at different angles, depending on the angle of the surface on which they fall. Therefore, the image is not sharp. This is known as a **diffused reflection** [Fig. 13.9(b)].

a. Smooth Reflection b. Diffuse Reflection

Fig. 13.9 Types of reflection

Fig. 13.10 Laterally inverted image in a mirror

Images formed by rays reflected from a mirror have yet another interesting quality. They are **laterally inverted**. This means that the left side of an image appears as the right in the mirror, and the right side appears as the left (Fig. 13.10). Have you noticed that an ambulance has a laterally inverted "AMBULANCE" written on the front?

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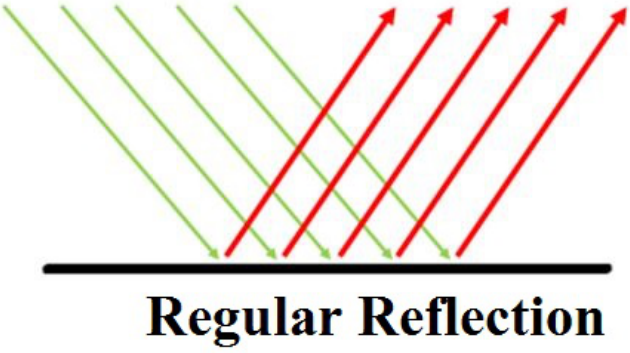
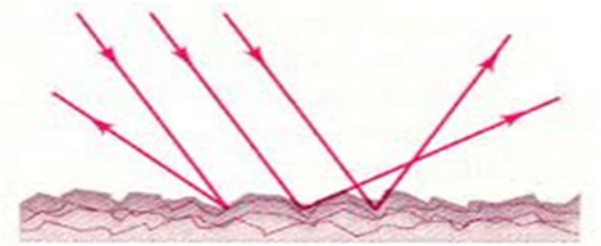


Regular Reflection

Irregular reflection

- It occurs when a beam of light falls on a rough surface.
- Incident rays are parallel but reflected rays are not parallel.



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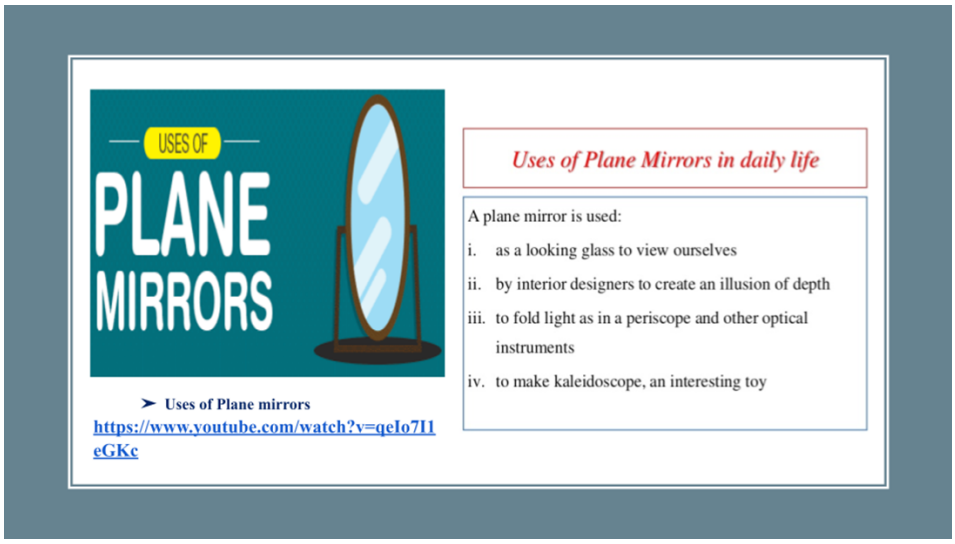
Please follow the link:

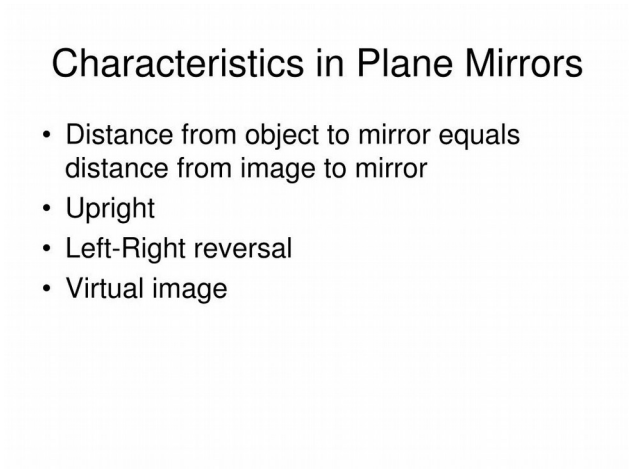
Regular and irregular reflection ↓

https://www.youtube.com/watch?v=6oy0Z3s4FXo

CONTENT - Day 2

- **Objectives** -To familiarize children with the uses and characteristics of a plane mirror.





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Please follow the link:

- **Laws on Reflection**

https://www.youtube.com/watch?v=F42ARYb8b88

- **Plane mirrors**

https://www.youtube.com/watch?v=Poq3u7BFhqk

Characteristics of a plane mirror
https://www.youtube.com/watch?v=hcC7OEEb7TM

- **Uses of Plane mirrors**

https://www.youtube.com/watch?v=qeIo7I1eGKc

NOTES

Ls. 13. Light, Reflection & Shadow

Aim : To learn about sources of light, propagation of light, laws of reflection, formation of shadows and eclipses.

Question & Answers

1.Define reflection. Give the laws of reflection with the help of a diagram.

A. The bouncing or returning back of all or a part of light when it meets a surface is called reflection of light.

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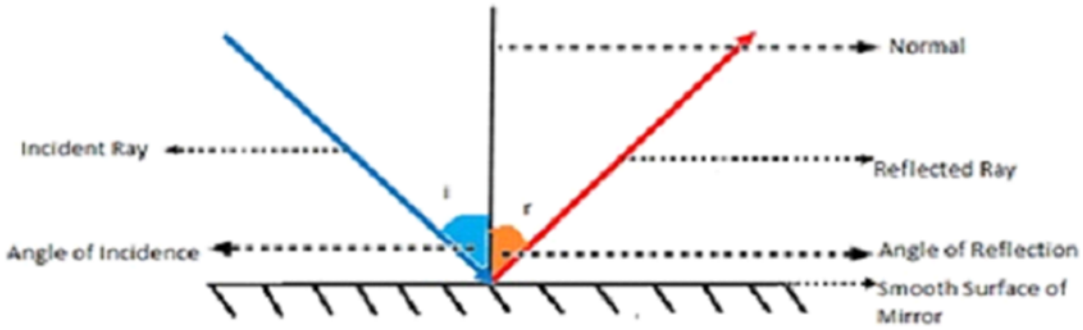
Laws of Reflection

Law 1 : The incident ray (i), the normal at the point of incidence and the reflected ray (r) all lie in the same plane.

Law 2 : Angle of incidence is equal to the angle of reflection

$$\angle i = \angle r$$

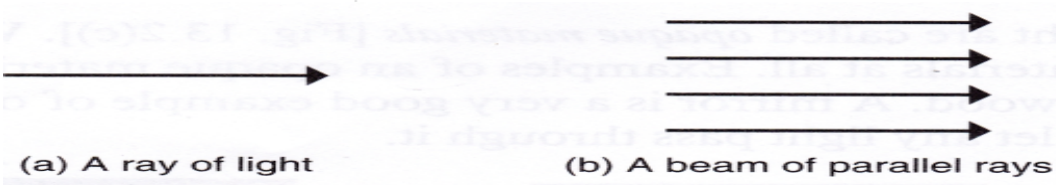
Laws of Reflection



2. Draw the full:

a) Ray

b) Beam of rays parallel to each.



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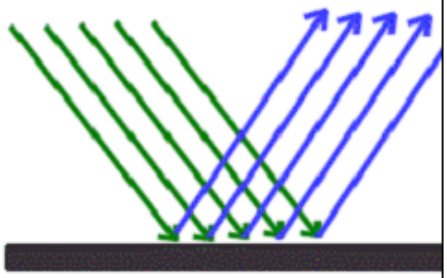
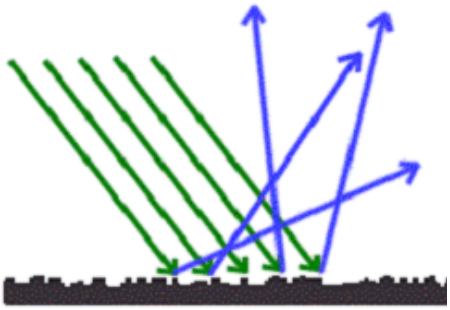
6Q. Differentiate between regular and irregular surface with examples. Draw the respective diagram

S.No	REGULAR REFLECTION	IRREGULAR REFLECTION
1.	It occurs when parallel beam of incident rays remain parallel after reflection.	It occurs when parallel beam of incident light doesn’t remain parallel after reflection.
2.	The reflected rays are reflected in one direction	The reflected rays are not reflected in one direction
3	Image formation takes place.	Image formation doesn’t take place.
4.	Occurs from smooth surfaces like mirror, silver spoon etc.	Occurs from rough surfaces like wood, table, door, book etc.
5.	 Regular reflection	 Irregular reflection

End of module

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