SNBP SECONDARY AND SENIOR SECONDARY SCHOOL, CHIKHALI, PUNE

Affiliation No. 1130703

ACADEMIC SESSION 2022-23

CLASS NOTES

LESSON 15- LIGHT

Prepared by: Preeti.S.K **Class: VII**

Subject: Science **DATE:19/12/22**

KEY WORDS: 1. Concave 2.Concave mirror 3. Magnified image 4. Erect image 5.Prism 6. Virtual images 7. Side mirror 8. Spherical morror 9. Real image 10. Convex lens

PRE ACTIVITY: Draw a diagram showing Light travels along a straight line.

VERY SHORT ANSWER QUESTIONS:

Q1. Find out the letters of English alphabet or any other language known to you in which the image formed in a plane mirror appears exactly like the letter itself. Discuss your findings.
Ans: A, H, I, M, O, T, U, V, W and X are the letters which form same image as the letter is. These letters are laterally symmetrical.

Q2. What is a virtual image? Give one situation where a virtual image is formed.
Ans: The image, which cannot be obtained on a screen, is called virtual image. The images formed by plane mirror, convex mirror and concave lens are virtual.

Q3. Give one use each of a concave and a convex mirror.
Ans: * *Concave mirror* is used by dentist, solar furnace, reflector of a torch, etc.

- *Convex mirror* is used in rear view mirrors.

Q4. Which type of mirror can form a real image?
Ans: Concave mirror.

Q5. Which type of lens forms always a virtual image?
Ans: Concave lens

Q6. What is Real image?
Ans: An image which can be obtained on a screen is called a real image.

SHORT ANSWER QUESTIONS:

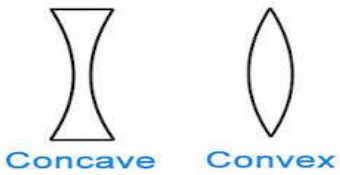
Q1.State the characteristics of the image formed by a plane mirror.

Ans: Characteristics of the image formed by a plane mirror:

1. Virtual and erect
2. Behind the mirror
3. Size of image is equal to size of object
4. Laterally inverted image (image of left side visible on right side).
5. Distance of image behind the mirror is equal to distance of object in front of mirror

Q2. Draw a concave len and a Convex lens

Ans:



Q2. State two differences between a convex and a concave lens.
Ans:

Convex lens	Concave lens
1. A convex lens can make images which are enlarged or smaller or equal to the size of the object. 2. A convex lens makes both real image and virtual images	1. concave lens can always make smaller image. 2.A concave lens always makes a virtual image.

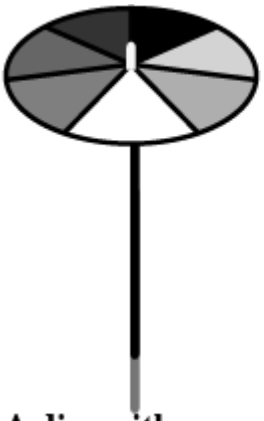
LONG ANSWER QUESTIONS:

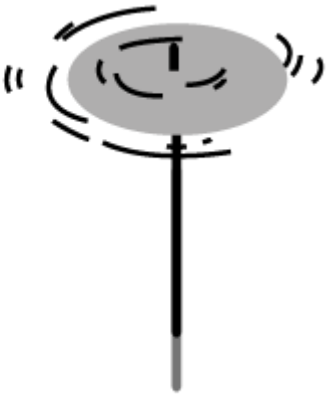
Q1. What is meant by dispersion of light/ b. With the help of diagram, show the dispersion of white light of a prism. c. Name the natural phenomenon which is caused by the dispersion of light.

Ans: * a. The phenomenon of splitting of white light into its component colours on passing through a transparent medium like glass prism is called dispersion of light.

- b. A glass prism splits the white light into seven colours.
- c.Rainbow formation after the rain is a natural phenomenon which is caused by the dispersion of light.

Q2. Prepare a Newton's disc and write a note on Newton's disc.





Ans: (a) A disc with seven colours (b) It appears white on rotating

POST ACTIVITY: Draw diagrams related to Virtual image formed by the convex lens and An image formed by a concave lens. Refer page no 185 Fig 15.26 , 15.27

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