

EXPERIENTIAL LEARNING ACTIVITIES

CLASS : X

SUBJECT : Physics

CHAPTER No.: 11

TOPIC : Human Eye and the Colourful World SUB-TOPIC : Dispersion

NAME OF THE ACTIVITY : Dispersion of white light, Recombination of the spectrum

TYPE OF ACTIVITY : Group PLACE OF THE ACTIVITY : School (Physics Laboratory)

MATERIALS USED : White light source, 2 similar prisms, screen

METHODOLOGY:

Students are divided into two groups.

GROUP 1:

- 1) A narrow beam of white light is made to pass through the glass prism.
- 2) A screen is placed on the other side of the prism.
- 3) A spectrum is observed on the screen.

GROUP 2:

- 1) A narrow beam of white light is made to pass through a glass prism.
- 2) The second prism is placed in an inverted position closer to the first prism.
- 3) A screen is placed beyond the prism.
- 4) We observe white light on the screen.

QUESTIONS:

- 1) Which component in the spectrum deviates the least?
- 2) Why do we observe white light when the second prism is placed next to the first prism?

CURIOSITY QUESTIONS:

- 1) What is a mirage?
- 2) Why is a mirage formed in very hot conditions?

Answer Guide:

Think about:

- a) Does the atmosphere above the earth's surface maintain the same optical density?
- b) What happens to light when it travels from denser to rarer medium?
- c) What is total internal reflection?