

Physics Worksheet Class X  
The Human Eye and its Colourful World

1. Why do stars twinkle but planets do not?
2. The Sun is visible to us about 2 minutes before the actual sunrise, and about 2 minutes after the actual sunset. Why? Draw a labeled diagram for the same.
3. What is Tyndal effect?
4. Discuss the phenomenon of scattering.
5. Why is the colour of the clear sky blue?
6. The sky appears dark to passengers flying at very high altitudes. Why?
7. 'Danger' signal lights are red in colour. Why?
8. Why do we observe difference in colours of the Sun during sunrise, sunset and noon? Support your answer with a labeled diagram.
9. Demonstrate the phenomenon of scattering with the help of an activity. What is meant by power of accommodation of the eye?
10. Define the following terms-
  - a) Persistence of vision
  - b) Far point of the eye
  - c) Near point of the eye
  - d) Least distance of distinct vision
11. What is the condition of the ciliary muscles of the eye when the eye is looking at a distant object. What is its effect on the focal length of the eye lens?
12. Why are we not able to see things clearly for some time when we enter from bright light to a darkened cinema hall?
13. A student has difficulty in reading the blackboard while sitting on the last desk. From what defect of vision is he suffering? How can it be corrected? Draw ray diagram for it.
14. What happens to the image distance in the eye when we increase the distance of an object from the eye?
15. What do you mean by dispersion?
16. Why do different colours deviate through different angles on passing through a prism?
17. How do we see colours?
18. Why does the sky appear dark instead of blue to an astronaut?

19. Why does the sun appear reddish early in the morning?
20. Explain the formation of a rainbow.
21. What is the cause of twinkling of stars?
22. Why are danger signal lights red in colour?
23. What information do we get about sunlight from the formation of a rainbow?
24. What are 'bifocal' lenses? Under what condition(s) are these required by a person?
25. A person with a myopic eye cannot see objects beyond 1.2m distinctly. What should be the nature of corrective lens to restore proper vision?
26. The near point of a hypermetropic eye is at 75 cm from the eye. What is the power of the lens required to enable him to read clearly a book held at 25 cm from the eye?
27. A myopic person uses specs of power  $-0.5D$ . What is the distance of far point of his eye?
28. A person having a myopic eye uses a concave lens of focal length 10 cm. Find the power of the lens.