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Worksheet: The Human Eye and the Colourful World

1. What is the far point and near point of the human eye with normal vision?
2. Why are we not able to see things clearly when we come out of a dark room?
3. The human eye forms the image of an object at its (a) cornea. (b) iris. (c) pupil. (d) retina.
4. Why do different colours deviate through different angles on passing through a prism?
5. A person with a myopic eye cannot see objects beyond 1.2 m distinctly. What should be the type of the corrective lens used to restore proper vision?
6. State the difference in colours of the sun observed during sunrise/sunset and noon. Give explanation for each.
7. Write the function of retina in human eye.
8. List two causes of hypermetropia.
9. List the parts of the human eye that control the amount of light entering into it. Explain how they perform this function?
10. The human eye can focus on objects at different distances by adjusting the focal length of the eye lens. This is due to (a) presbyopia. (b) accommodation. (c) near-sightedness. (d) far-sightedness
11. The far point of a myopic person is 80 cm in front of the eye. What is the nature and power of the lens required to correct the problem?
12. What happens to the image distance in the eye when we increase the distance of an object from the eye?
13. Explain why the planets do not twinkle.
14. Why does the sun appear reddish early in the morning? Will this phenomenon be observed by an astronaut on the Moon? Give reason to justify your answer.
15. What is a spectrum? How can we recombine the components of white light after a glass prism has separated them?
16. State the role of the eye lenses in the human eye?
17. Why do we observe random wavering or flicking of the objects near a fire or on a very hot day?
18. Name the three common defects of vision. What are their causes? Name the type of lens used to correct each of them.
19. A person needs a lens of power –5.5 dioptres for correcting his distant vision. For correcting his near vision he needs a lens of power +1.5 dioptre. What is the focal length of the lens required for correcting (i) distant vision, and (ii) near vision?

20. What is meant by power of accommodation of the eye?