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Worksheet: The Human Eye and the Colourful World

1. 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?
2. 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
3. State the role of the eye lenses in the human eye?
4. What is the far point and near point of the human eye with normal vision?
5. Why do stars twinkle?
6. Why do different colours deviate through different angles on passing through a prism?
7. List the parts of the human eye that control the amount of light entering into it. Explain how they perform this function?
8. What is the function of the optic nerve in the human eye?
9. What is a spectrum? How can we recombine the components of white light after a glass prism has separated them?
10. The human eye forms the image of an object at its (a) cornea. (b) iris. (c) pupil. (d) retina.
11. Why is Tyndall effect shown by colloidal particles? State four instance of observing the Tyndall effect.
12. Why is a normal eye not able to see clearly the objects placed closer than 25 cm?
13. Why do we observe random wavering or flicking of the objects near a fire or on a very hot day?
14. A student is unable to see clearly the words written on the black board placed at a distance of approximately 3 m from him. Name the defect of vision the boy is suffering from. State the possible causes of this defect and explain the method of correcting it.
15. What is meant by power of accommodation of the eye?
16. Write the function of retina in human eye.
17. What happens to the image distance in the eye when we increase the distance of an object from the eye?
18. State the difference in colours of the sun observed during sunrise/sunset and noon. Give explanation for each.
19. Why is a convex lens called a converging lens?
20. Can visible light be scattered by atoms/molecules in the earth’s atmosphere?