

# Learnzy Academy

## Worksheet: The Human Eye and the Colourful World

1. Explain why the planets do not twinkle.
2. What is hypermetropia?
3. Why is Tyndall effect shown by colloidal particles? State four instance of observing the Tyndall effect.
4. 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.
5. A student has difficulty reading the blackboard while sitting in the last row. What could be the defect the child is suffering from? How can it be corrected?
6. 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
7. What is the role of the ciliary muscles?
8. Can visible light be scattered by atoms/molecules in the earth's atmosphere?
9. Why do we observe random wavering or flicking of the objects near a fire or on a very hot day?
10. The human eye forms the image of an object at its (a) cornea. (b) iris. (c) pupil. (d) retina.
11. Why is a convex lens called a converging lens?
12. Why do stars twinkle?
13. What is meant by power of accommodation of the eye?
14. What is a spectrum? How can we recombine the components of white light after a glass prism has separated them?
15. What is the far point and near point of the human eye with normal vision?
16. Write the function of retina in human eye.
17. 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?
18. What happens to the image distance in the eye when we increase the distance of an object from the eye?
19. The change in focal length of an eye lens is caused by the action of the (a) pupil. (b) retina. (c) ciliary muscles. (d) iris

**20.** Why are we not able to see things clearly when we come out of a dark room?