

The Human Eye - Structure and Defects

Chapter 10: The Human Eye and the Colourful World · Topic 1

Key Concept

Common eye defects include myopia (short-sightedness), where distant objects appear blurry because the image forms in front of the retina, corrected using a concave lens; and hypermetropia (long-sightedness), where nearby objects appear blurry because the image forms behind the retina, corrected using a convex lens. Presbyopia, an age-related condition, occurs when the eye's lens loses flexibility, reducing accommodation ability, often requiring bifocal lenses to correct both near and distant vision.

Quick Revision Notes

- The eye focuses light via the cornea, pupil, and lens onto the retina, sent to the brain via the optic nerve.
- Accommodation: the lens changing shape to focus at different distances.
- Myopia (short-sightedness): image forms in front of retina, corrected with a concave lens.
- Hypermetropia (long-sightedness): image forms behind retina, corrected with a convex lens.

Practice Questions

- 1 Name the part of the eye that changes shape to focus light.
- 2 Explain the difference between myopia and hypermetropia.
- 3 Why might an elderly person need bifocal lenses (presbyopia)?