

CLASS 10

SCIENCE

REVISION NOTES

Class 10 Science Chapter 10 Human Eye and Colourful World Revision Notes

Need full answers or more practice? See the Class 10 Science Chapter 10 Solutions and Class 10 Science Chapter 10 Extra Questions. These Class 10 Science Chapter 10 notes are ideal for quick revision just before exams.

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Power of accommodation: ability of the eye lens to adjust focal length via ciliary muscles

Near point (normal eye) ≈ 25 cm; Far point (normal eye) = infinity

Myopia (near-sightedness): distant objects blurred, far point $<$ infinity $\rightarrow$ corrected with a **concave (diverging)** lens

Hypermetropia (far-sightedness): near objects blurred, near point > 25 cm $\rightarrow$ corrected with a **convex (converging)** lens

Presbyopia: age-related loss of accommodation $\rightarrow$ corrected with bifocal lenses

Power of a lens: $P = 1/f$ (f in metres); unit = dioptre (D)

Concave lens $\rightarrow$ negative power; Convex lens $\rightarrow$ positive power

Atmospheric refraction: bending of light due to continuously varying density of air

Twinkling of stars: caused by atmospheric refraction of starlight through layers of varying density

Planets do not twinkle: extended sources, twinkling effects of many points average out

Advance sunrise / delayed sunset: each about 2 minutes, due to atmospheric refraction

Tyndall effect: scattering of light by colloidal-sized particles

Blue colour of sky: shorter wavelengths (blue/violet) scattered more by atmospheric molecules

Reddish sun at sunrise/sunset: longer atmospheric path scatters away blue light, red light reaches the eye

Sky appears black to astronauts: no atmosphere at high altitude to scatter sunlight

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