

Practice and Revision - Refraction of Light

Chapter 6: Refraction of Light · Topic 2

Key Concept

Refraction occurs because light changes speed when passing from one medium to another, causing it to bend at the boundary.

Snell's law states that the ratio of sine of angle of incidence to sine of angle of refraction equals the refractive index for a given pair of media.

The refractive index indicates how much a medium bends light and how much slower light travels through it compared to vacuum.

Refraction explains phenomena like a pencil appearing bent in water, and forms the basis for how lenses focus light in optical instruments.

Quick Revision Notes

- Refraction: light bends between media.
- Occurs due to speed change at boundary.
- Snell's law: $\sin(i)/\sin(r) = \text{refractive index}$.
- For a given pair of media.
- Refractive index: shows bending, speed reduction.
- Compared to vacuum speed.
- Explains pencil looking bent in water.
- Basis for lens focusing in optical instruments.

Practice Questions

- 1 Observe and explain why a straw looks bent in water.
- 2 Calculate refractive index using Snell's law.
- 3 Discuss how lenses use refraction.
- 4 Research a real-life application of refraction.
- 5 Draw a diagram showing light refracting.
- 6 Explain refraction in your own words.