

Spectrum

Chapter 6: Spectrum · Topic 1

Key Concept

Dispersion is the splitting of white light into its component colours (VIBGYOR - violet, indigo, blue, green, yellow, orange, red) by a prism.

Different colours of light have different wavelengths, causing them to refract by different amounts, with violet bending most and red bending least.

A rainbow forms due to dispersion, refraction, and total internal reflection of sunlight within water droplets in the atmosphere.

Understanding the spectrum helps explain natural phenomena like rainbows and is fundamental to understanding the nature of light.

Quick Revision Notes

- Dispersion splits white light into colours.
- Colours: VIBGYOR (violet to red).
- Different wavelengths refract by different amounts.
- Violet bends most; red bends least.
- Rainbows form via dispersion and internal reflection.
- This occurs in atmospheric water droplets.
- Spectrum understanding explains natural phenomena.
- It's fundamental to understanding light's nature.

Practice Questions

- 1 Draw a diagram showing dispersion through a prism.
- 2 List the colours of the spectrum in order.
- 3 Discuss how a rainbow forms.
- 4 Research why the sky is blue.
- 5 Explain why violet bends more than red.
- 6 Discuss the spectrum in your own words.