

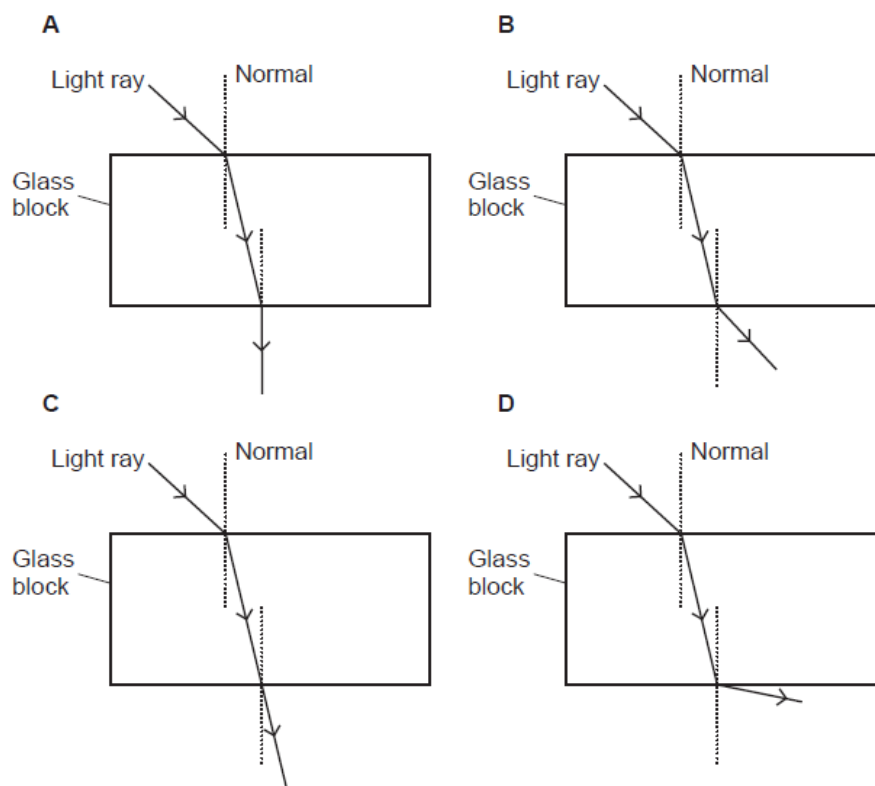
GCSE Physics B (Twenty First Century Science)
J259/02 Depth in physics (Foundation Tier)

Question Set 20

1

Nina does an experiment to show the refraction of a ray of white light through a glass block.

(a) Which diagram, **A**, **B**, **C** or **D**, shows the correct path of the ray of white light through the glass block?

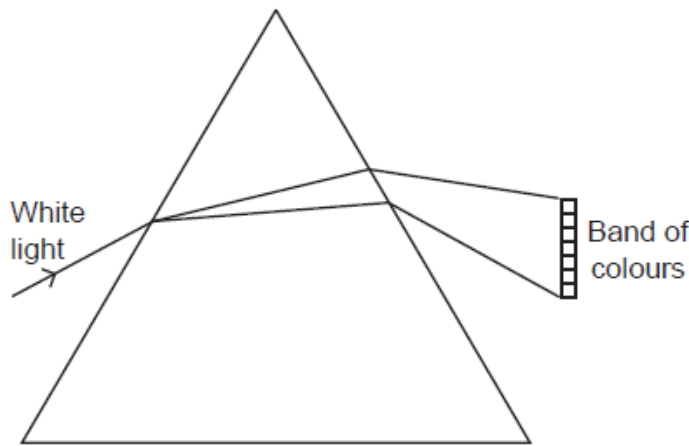


Tick (✓) **one** box.

- A
- B
- C
- D

[1]

- (b) Nina then shines the ray of white light through a triangular prism, and observes that the white light spreads out into a band of colours, as shown in Fig. 1.1.



What is the correct scientific name for the **band** of colours?

Put a **ring** around the correct answer.

Dispersion **Rainbow** **Reflection** **Spectrum** [1]

- (c) When white light passes through the prism, the different colours of white light refract by different amounts, which forms the band of colours shown in Fig. 1.1.

- (i) Which colour of white light refracts the most?

Tick (✓) **one** box.

Red	<input type="checkbox"/>
Green	<input type="checkbox"/>
Violet	<input checked="" type="checkbox"/>
Yellow	<input type="checkbox"/>

[1]

- (ii) Which colour of white light refracts the least?

Tick (✓) **one** box.

Red	<input checked="" type="checkbox"/>
Green	<input type="checkbox"/>
Violet	<input type="checkbox"/>
Yellow	<input type="checkbox"/>

[1]

- (iii) Why do the different colours of white light refract by different amounts in Fig. 1.1? [1]

Different colours have different wavelengths and thus different speeds.

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