Waves and rays: review and corrections

Teacher / technician

YEAR 10 / LESSON 56 / PHYSICS + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Record actual measurements separately from labelled practice examples.

Coverage and delivery

Shared Physics / Double Award: Review of 3.2–3.7, 3.14–3.16.

Allow about 60 minutes. Follow the student sequence and use the answers to check reasoning.

Requisition • class of 30, working in 15 pairs

Item	Per pair / setup	Class total
Booklets	1 each	30
Ruler, protractor and calculator	1 set per pair	15 sets

Immediate safety

Desk-based review only. No ray boxes, lasers, water or electrical equipment are required.

Preparation and delivery

Read alongside the student method

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1. Prepare original ray diagrams with normals clearly marked. Include one deliberately incorrect angle measured from the surface.

2. Keep practice calculations separate from earlier experimental measurements.

Close of lesson

- Retain corrected work and return equipment.

Check before teaching

Check the cards, reference data and quantities against this requisition. Keep the staff answer guide separate until the checking stage. Supplied numerical practice datasets are labelled examples; they are not class measurements.

Answers and teaching notes

Expected explanations • do not give as experimental observations

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- Maximum displacement from equilibrium.
- 3 m.
- 0.25 s.
- 40°.
- Speed and wavelength decrease; frequency is unchanged.
- There is no bending, although speed changes.

References and provenance

Pearson Physics specification

IOP: reflection and refraction

Prepared 22 November 2026. Original wording, tables and questions. Sources inform the concepts and technique; the lesson scope and classroom quantities are explicitly described here. No laboratory trial or final school risk approval is claimed.