Magnetism and motors: review

Teacher / technician

YEAR 11 / LESSON 84 / 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 6.2–6.8 and 6.12–6.14; Physics-only extensions identified separately.

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 and diagrams	1 set per learner	30 sets
Rulers	1 per pair	15

Immediate safety

Paper-based review. No magnets, live circuits, sound sources or moving apparatus are required.

Preparation and delivery

Read alongside the student method

YEAR 11 / LESSON 84 / PHYSICS + SCIENCE (DOUBLE AWARD)

1. Use the original diagrams with clearly marked current and pole directions.

2. Label the electromagnet extension Physics only and provide the shared motor alternative.

Close of lesson

• Keep corrections for revision.

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

YEAR 11 / LESSON 84 / PHYSICS + SCIENCE (DOUBLE AWARD)

- North to south outside the magnet.
- The total local magnetic field.
- Soft iron.
- Downwards.
- Reverses current in the coil each half-turn.
- Back and forth as the alternating force changes.

References and provenance

Pearson Physics specification

IOP: electromagnetism

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.