Charge and circuits: units and diagnosis

Teacher / technician

YEAR 10 / LESSON 40 / 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 2.12, 2.14–2.16. Charge and current.

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 per learner	30
Calculators and record sets	1 each per pair	15 of each

Immediate safety

Desk-based review only. Do not build faulty circuit diagrams or reconnect practical equipment during this activity.

Preparation and delivery

Read alongside the student method

YEAR 10 / LESSON 40 / PHYSICS + SCIENCE (DOUBLE AWARD)

1. Provide anonymised spare Lesson 39 records for absent pupils, retaining their actual origin. Keep invented practice numbers clearly labelled.

2. Check unit conversion before arithmetic and distinguish an estimate from a direct charge measurement.

Close of lesson

- Retain corrected calculations and return calculators.

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 10 / LESSON 40 / PHYSICS + SCIENCE (DOUBLE AWARD)

- 6.0 C.
- 0.40 A.
- 0.250 A.
- 30 C.
- No; energy transfers while charge is conserved.
- Use a suitable average or separate intervals; one instantaneous reading may not represent the whole run.

References and provenance

Pearson Physics specification

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.