Sankey diagrams: drawing energy flows to scale

Teacher / technician

YEAR 10 / LESSON 25 / 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: 4.3–4.5. Energy transfers and Sankey diagrams.

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
Booklet/squared paper/ruler	1 set per learner	30 sets
Coloured pencil sets	1 per pair	15 sets

Immediate safety

Drawing and calculation activity only. No practical apparatus or electrical circuits are used.

Preparation and delivery

Read alongside the student method

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1. Provide squared paper and demonstrate measuring width perpendicular to the arrow direction.

2. Require numerical labels as well as colour so diagrams remain clear in black-and-white copies. Avoid suggesting that non-useful energy vanishes.

Close of lesson

- Return pencils and keep corrected diagrams.

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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- 12 mm.
- 8 mm.
- 60%.
- 65 J.
- No; widths must carry the scale.
- Not from energy alone.

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.