# Chemistry review: evidence and exam reasoning

Teacher / technician

YEAR 11 / LESSON 102 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Written and model-based lesson; no laboratory procedure is implied.

## Coverage and delivery

Shared tasks/questions 1–4. Chemistry-only tasks/questions 5–6 revisit ethanol manufacture and acid chemistry.

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 / writing tools | 1 per learner | 30 sets |
| Model kit / periodic table | 1 set per pair | 15 sets |

## Immediate safety

Desk activity only; keep small model pieces away from mouths.

# Preparation and delivery

Read alongside the student method

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**1.** Provide 30 booklets and 15 model kits or reusable atom counters; no chemicals are needed.

**2.** Use 10 minutes retrieval, 25 independent/pair tasks, 15 explanation and 10 corrections. Keep first attempts visible.

**3.** These are original practice questions, not a formal published examination or official mark scheme.

**4.** Use the course labels when marking; no new practical apparatus is required.

**5.** Check all carbon valencies, formula subscripts and equation coefficients. Label any supplied numbers as practice data, not class observations.

## Close of lesson

- Return shared equipment and retain corrected reasoning.

## 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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- 5.85/58.5=0.100 mol.
- 40.0×4.18×5.0=836 J.
- Other substances may decolourise bromine; observation alone does not establish a unique structure.
- But-1-ene $CH_2=CHCH_2CH_3$; but-2-ene $CH_3CH=CHCH_3$, expanded if displayed formula requested.
- Renewable sugar feed and mild temperature; slow production and dilute/impure ethanol requiring separation.
- A metal ethanoate salt, carbon dioxide and water.

## References and provenance

Pearson Chemistry 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.