# Atmosphere and inorganic reactions: evidence review

Teacher / technician

YEAR 10 / LESSON 66 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Desk review with invented numerical evidence. No new practical is carried out.

## Coverage and delivery

Shared-core review of 2.9–2.14. Original practice tasks, not reproduced examination questions.

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 |
| Calculator / table | Calculator each; periodic table per pair | 30 calculators; 15 tables |

## Immediate safety

Written review only. A method question is not an instruction to use laboratory apparatus.

# Preparation and delivery

Read alongside the student method

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**1.** Prepare 30 booklets and calculators and 15 periodic tables. No chemicals, heating or gas apparatus are needed.

**2.** Use individual retrieval before paired discussion; retain each first answer so corrections show learning rather than copying.

**3.** The 90.0/71.2 values are invented. Require units, denominator choice and experimental assumptions, not an answer coerced to exactly 21%.

**4.** Use 10 minutes retrieval, 25 application, 15 feedback and 10 fresh corrections. Record misconceptions in language, method or calculation separately.

**5.** Do not imply that a review worksheet replaces completion of practical skills. Use previous genuine observations where available and label their origin.

## Close of lesson

• Keep corrected answers and return shared resources.

## 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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• (90.0−71.2)/90.0×100=20.888...%, about 20.9%.

• Examples: leaks, incomplete oxygen removal, unequal pressure, different temperature or initial water vapour; explain effect where possible.

• The natural effect warms Earth through infrared absorption/emission; increased greenhouse-gas concentrations enhance it by altering radiative energy balance.

• $2Mg + O_2 \rightarrow 2MgO$; $2H_2 + O_2 \rightarrow 2H_2O$.

• Copper(II) oxide and carbon dioxide; $CuCO_3 \rightarrow CuO + CO_2$.

• Lift the outlet clear of limewater before stopping heating to prevent suck-back into hot glass.

## 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.