Metals and chemical tests: review

Student activity • evidence and review

YEAR 10 / LESSON 36 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

The question

Can you turn a test result into a justified chemical explanation?

Use six original retrieval and application questions to connect reactivity, rusting, gas tests and positive ions. Complete an independent attempt before using the staff guidance. This shared-core review does not require Chemistry-only extraction or alloy content.

Equipment

- Booklet, pencil and different-colour correction pen
- Periodic table and earlier notes for checking only

Desk activity only; no chemical or electrical equipment.

Course coverage: Shared-core consolidation of 2.16–2.20 and 2.44–2.47. Original classroom practice, not an official examination paper.

Plan, model or apparatus sketch

One explanation I can justify; one I need to check.

Method and reasoning

Read the whole sequence before starting

YEAR 10 / LESSON 36 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

1. Close notes and list one remembered fact for each topic in the evidence table. Mark confidence as low, medium or high.

2. Answer the six questions independently. When data are supplied, label them as a question scenario rather than classroom measurements.

3. For each explanation name the relevant particles or reagents, then connect the evidence to the conclusion.

4. Compare with a partner and mark disagreements without erasing your original reasoning.

5. Use staff feedback and prior notes to correct errors in another colour. Add a sentence explaining the change.

6. Choose two weak ideas and write a precise practice task for each.

7. Exit question: explain why both a test procedure and a positive result are needed in a gas-identification answer.

Cleanup

- Keep corrections and revision actions. Return shared materials.

Record your evidence

Blank spaces are for your own work

YEAR 10 / LESSON 36 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

Reference and task data

Question scenarios are invented for practice: A strip of zinc develops a copper-coloured coating in copper(II) sulfate; a gas relights a glowing splint; a solution gives a brown precipitate with sodium hydroxide. These are supplied evidence, not measurements made by this class.

Topic	What I can justify	What I will practise
Displacement / redox		
Rusting / protection		
Gas tests / positive ions		

Show your calculations, labelled model or correction here.

Explain and evaluate

Use evidence and show calculation steps where relevant

YEAR 10 / LESSON 36 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

1. Use the zinc scenario to write an ionic equation and identify electron loss and gain.

2. Predict copper with zinc sulfate, explaining relative reactivity.

3. Design a comparison showing that water and oxygen are both needed for rusting.

4. Identify the gas in the scenario and distinguish its test from the hydrogen test.

5. Identify the likely positive ion in the NaOH scenario within $Cu^{2+}/Fe^{2+}/Fe^{3+}$; state a limitation.

6. A pupil touches red litmus to NaOH and claims NH_4^+ is present. Explain the error and describe the correct evidence needed.