Foundations review

Teacher / technician

YEAR 10 / LESSON 13 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Formative review with original questions. No laboratory practical, official examination marks or fabricated observations.

Coverage and delivery

Consolidation of shared foundations: classification, separation, atomic structure, isotopes and main-group patterns. No new practical requirement.

Allow about 50 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
Student booklet	1 per student	30
Periodic table	1 per pair	15
Pencil / ruler / correction pen	1 set per student	30 sets
Calculator	1 per pair	15

Immediate safety

Desk review only. Keep the working area clear. No practical apparatus or chemical samples are required.

Preparation and delivery

Read alongside the student method

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1. Use a closed-notes start, then clearly signal the correction stage. The confidence table is formative, not an assessed grade.

2. Suggested 50 minutes: 5 retrieval, 20 independent answers, 15 explanation/correction, 5 next actions and 5 exit task.

3. Supply the answer guide only at the checking stage. Use pupil errors to select follow-up practice; leave the completed earlier lessons unchanged.

Close of lesson

• Keep original answers and corrections together. Return shared calculators and reference sheets.

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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• A: element, one atom type; B: compound, two element types bonded in one repeated substance; C: mixture of an element and a compound, two substances.

• Water dissolves the salt; the filter retains insoluble sand; concentrating the filtrate and crystallising recovers salt. Do not heat to dryness.

• Dissolved substances can be colourless and pass through filter paper. Colourless distillate is evidence of colour removal, not proof of chemical purity.

• Z gives 11 protons; 23 − 11 gives 12 neutrons; neutrality gives 11 electrons.

• (75 × 20 + 25 × 22)/100 = 20.5. It is dimensionless and closer to 20 because that isotope is more abundant.

• Both Group 1; 2,1 is Period 2 and 2,8,1 is Period 3. Each has one outer electron. Exit: 12 protons, 13 neutrons, 12 electrons; 2,8,2.

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.