Foundations exam practice

Teacher / technician

YEAR 10 / LESSON 14 / CHEMISTRY + SCIENCE (DOUBLE AWARD)

Staff preparation and answer guidance. Keep separate from student sheets. Original exam-style practice, not a reproduced examination paper. No grade boundary or official endorsement is claimed.

Coverage and delivery

Shared foundations application: mixtures, filtration, chromatographic evidence, atomic structure, weighted means and electronic configurations.

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. Print student sheets separately from the mark guide. Choose whether a periodic table is allowed and tell pupils before timing begins.

2. Suggested 50 minutes: 5 briefing, 25 independent answers, 15 marking/correction and 5 exit reflection. Each question has 3 suggested marks; total 18.

3. The mark scheme is original classroom guidance. Accept scientifically equivalent wording, avoid double-penalising a single arithmetic error, and do not imply an official exam grade.

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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• Q1: 1 mark for a valid pure-compound example (such as pure water); 1 for compound classification; 1 for explaining it is one chemical substance despite containing more than one element.

• Q2: 1 for unfiltered liquid/solid passing over the paper edge; 1 for re-filtering using intact paper and keeping the level below the rim; 1 for salt remaining dissolved in the filtrate.

• Q3: 1 for 5.2/8.0 = 0.65; 1 for no unit; 1 for noting that components may co-migrate or the solvent may fail to separate them.

• Q4: 1 each for 17 protons, 20 neutrons and 17 electrons.

• Q5: 1 for (30 × 10 + 70 × 11)/100; 1 for 10.7; 1 for explaining the greater abundance of the heavier isotope.

• Q6: 1 for Period 3; 1 for Group 2; 1 for two outer electrons. Three occupied shells support the period. Total: 18 suggested classroom marks.

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.