

ESAT Chemistry: did 20% score the minimum? No, about 2.6% did.

The short answer

No official report says 20% scored 1.0. In UAT-UK's 2024-25 Chemistry chart, the 1.0 bin is about 2.6%; the median across 2,821 candidates was 4.5. The useful warning is not the fake number. It is that familiar chemistry can still punish untested reasoning.

First: fix the statistic

Chemistry is scored separately from 1.0 to 9.0. The minimum is 1.0, and about 2.6% of Chemistry candidates got it, not 20%.

1 The tell

A dramatic score claim should say whether it means raw marks, scaled score or percentile. If it cannot, it is not a revision strategy.

Why Chemistry can feel deceptively easy

October 2025 candidates said the science questions looked deceptively simple. In Chemistry, a familiar word can hide a condition you still need to check.

Alkene mechanisms and carbocation stability are not required; addition products and equations are. What the ESAT tests is applying principles in unfamiliar settings: conservation, collisions, electron transfer, equilibrium, bonding and ratios.

Use a four-link chain:

1. **State the conserved thing:** atoms, charge, electrons, mass or energy.
2. **Name the particle event:** collision, transfer, bond breaking, bond formation or ion discharge.
3. **Write the smallest valid equation:** formula, half-equation or mole ratio.
4. **Only then calculate or choose the trend.**

Worked ESAT chemistry: electrons before grams

Worked example Copper deposited during electrolysis

An aqueous copper(II) solution is electrolysed with inert electrodes. A current of 2.00 A flows for 965 s. One mole of electrons carries 96 500 C and $A_r(\text{Cu}) = 63.5$. Find the mass of copper deposited.

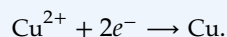
Charge first:

$$Q = It = (2.00)(965) = 1930 \text{ C.}$$

Convert charge into moles of electrons:

$$n(e^-) = \frac{1930}{96\,500} = 0.0200 \text{ mol.}$$

The cathode half-equation supplies the ratio:



Therefore

$$n(\text{Cu}) = \frac{0.0200}{2} = 0.0100 \text{ mol,} \quad m = (0.0100)(63.5) = \boxed{0.635 \text{ g}}.$$

Correct: charge → electrons → half-equation → copper. Every number has a chemical reason.

Trap: 1.27 g skips the two-electron requirement. 635 g loses the mole-to-gram scale.

Write the particle equation before using the numbers; do not memorise the copper question. The same discipline hardens redox, titration, gas volumes and limiting-reactant problems.

2 Try it

For five quantitative questions, cover the answer options. Before arithmetic, write one line naming the conserved quantity and one balanced equation. If you cannot write both, the issue is chemical reasoning, not speed.

The traps worth hardening

Looks like	The real decision	Fast check
Strong versus concentrated	Extent of ionisation versus amount per volume	A weak acid can still be concentrated.
Rate versus yield	How fast equilibrium is reached versus where it lies	A catalyst changes rate, not equilibrium position.
Oxidant	The species that gains electrons and is reduced	Write the half-equation; do not trust the name.
Gas or solution volume	dm ³ versus cm ³ before moles	Convert volume before using concentration.
Empirical formula	Mole ratio, not mass ratio	Divide masses by A_r before simplifying.
Organic recognition	Functional group and atoms conserved	Alkene mechanisms and carbocation stability are outside the stated scope.

A two-week hardening plan

Aim for 45 to 60 focused minutes a day. Every session ends with three mixed, closed-book questions and a one-line error label: *knowledge, model, equation, unit, sign* or *clock*.

Days	Hardening block	Output
1–2	Specification audit	Mark every Chemistry line gap, shaky or secure; test the gaps immediately.
3–4	Equations and quantities	Balance, moles, limiting reactants, concentration, gas volume, titration and yield.
5–6	Redox and electrolysis	Oxidation states, agents, disproportionation, half-equations and electrode products.
7	Bonding and structure	Predict melting, boiling and conductivity from particles and forces.
8–9	Rates, equilibrium, energetics	Separate rate from position; explain every trend through particles or energy.
10	Acids, tests and separation	Strong/weak versus concentrated/dilute; identify the minimum decisive observation.
11	Organic chemistry	Functional groups, equations, polymers and trends, staying inside the specification.
12	Mixed 27 in 44 minutes	Accuracy first; record the five slowest decisions.
13	Mixed 27 in 40 minutes	Bank when no route appears; revisit only after seeing all 27.
14	Error-only taper	Redo misses from blank paper, then stop. No new chapter.