CHEMISTRY YEAR 11 - MODULE 2 - LESSON 8

Concentration in Context

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

You can do every concentration calculation perfectly on paper and still fail an exam question — because the numbers are wrapped in a real-world scenario you don't recognise. This lesson teaches you to strip away the context, find the numbers, and apply the formulas you already know. That's the skill that separates 70% students from 90% students.

- % purity formula and what it means
- Why impurities reduce the actual moles present

2. Success Criteria

By the end, you should be able to:

- % purity formula and what it means
- Realistic concentration ranges for common substances
- How purity adjusts the mass you need to weigh

3. Key Terms

Mole
The SI unit for amount of substance; contains exactly 6.022×10^{23} particles.

Avogadro's Number
6.022×10^{23} — the number of particles in one mole of a substance.

Molar Mass
The mass of one mole of a substance, measured in g/mol.

Limiting Reagent
The reactant that is completely consumed first, limiting the amount of product formed.

Empirical Formula
The simplest whole-number ratio of atoms in a compound.

Molecular Formula
The actual number of atoms of each element in a molecule of a compound.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "% purity formula and what it means". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Realistic concentration ranges for common substances". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Concentration in Context: "How purity adjusts the mass you need to weigh".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Concentration in Context but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Concentration in Context?

☐ A. Identify the key concept being tested

☐ B. Write every fact from memory

☐ C. Ignore the command word

☐ D. Skip examples and evidence

2. Which answer would show stronger understanding of Concentration in Context?

☐ A. An answer with accurate terms and reasoning

☐ B. A copied definition only

☐ C. A single-word response

☐ D. An answer with no example

3. What should you do if a question asks you to explain?

☐ A. Link the idea to a reason or cause

☐ B. List unrelated facts

☐ C. Only draw a diagram

☐ D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: % purity formula and what it means

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Realistic concentration ranges for common substances

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How purity adjusts the mass you need to weigh

BAND 5 4 MARKS

One thing I still need help with: