CHEMISTRY YEAR 12 - MODULE 8 - LESSON 2

Gravimetric Analysis

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

A water authority receives an industrial wastewater sample and needs to know whether sulfate levels are too high for safe discharge. No fancy colour change, no spectrometer screen, just chemistry: dissolve, precipitate, filter, dry, weigh, and let the mass reveal what was present.

- The sequence dissolve → precipitate → filter → dry → weigh
- Why an insoluble, pure precipitate is essential for reliable gravimetric analysis

2. Success Criteria

By the end, you should be able to:

- The sequence dissolve → precipitate → filter → dry → weigh
- How gravimetric analysis determines the amount of analyte from precipitate mass
- Which precipitating agents are suitable for common ions

3. Key Terms

know whether sulfate levels
too high for safe discharge

Which precipitating agents
suitable for common ions

pure precipitate
essential for reliable gravimetric analysis

the correct order
dissolve, precipitate, filter, dry, then weigh

The precipitate
filtered and dried

Gravimetric analysis
chemistry reduced to its most disciplined form: if you can isolate a pure precipitate of known composition, its mass bec

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: "The sequence dissolve → precipitate → filter → dry → weigh". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "How gravimetric analysis determines the amount of analyte from precipitate mass". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Gravimetric Analysis: "Which precipitating agents are suitable for common ions".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Gravimetric Analysis 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 Gravimetric Analysis?

☐ 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 Gravimetric Analysis?

☐ 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: The sequence dissolve → precipitate → filter → dry → weigh

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: How gravimetric analysis determines the amount of analyte from precipitate mass

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: Which precipitating agents are suitable for common ions

BAND 5 4 MARKS

One thing I still need help with: