

Nutrient Pollution & Eutrophication

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

Lake Macquarie looks green and productive after heavy runoff, but that appearance can hide a looming ecological crash. In water chemistry, excess nitrate and phosphate do not simply "feed plants"; they can push entire systems into oxygen depletion and fish kill.

- The role of nitrogen and phosphorus cycles in aquatic systems
- How nutrient loading leads to eutrophication step by step

2. Success Criteria

By the end, you should be able to:

- The role of nitrogen and phosphorus cycles in aquatic systems
- Sources of nutrient pollution such as fertilisers, sewage and detergents
- Methods used to measure nitrate and phosphate in water

3. Key Terms

the water

greener than usual and some shoreline vegetation is beginning to die back

decide whether nutrient pollution

heading toward an oxygen problem?

Eutrophication

caused by too much oxygen in the water

Nitrogen and phosphorus

not inherently "bad"

They

necessary nutrients

That

why water chemists treat nitrate and phosphate as both ecological nutrients and potential pollutants

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 role of nitrogen and phosphorus cycles in aquatic systems". Use one specific example from the lesson.

BAND 3 **2 MARKS**

2. Apply this idea to a new example: "Sources of nutrient pollution such as fertilisers, sewage and detergents". Show your reasoning clearly.

BAND 4 **3 MARKS**

3. Analyse why this idea matters for understanding Nutrient Pollution & Eutrophication: "Methods used to measure nitrate and phosphate in water".

BAND 5 **4 MARKS**

6. Extend: Apply the Idea

BAND 5/6

5 MARKS

A student gives a memorised answer about Nutrient Pollution & Eutrophication 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 Nutrient Pollution & Eutrophication?

- 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 Nutrient Pollution & Eutrophication?

- 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 role of nitrogen and phosphorus cycles in aquatic systems

BAND 3 **2 MARKS**

SUCCESS CRITERION 2

Prove that you can: Sources of nutrient pollution such as fertilisers, sewage and detergents

BAND 4 **3 MARKS**

SUCCESS CRITERION 3

Prove that you can: Methods used to measure nitrate and phosphate in water

BAND 5 **4 MARKS**

One thing I still need help with:
