BIOLOGY YEAR 11 - MODULE 2 - LESSON 6

Autotrophs vs Heterotrophs — Nutrient and Gas Requirements

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

All living things need energy and nutrients — but not all of them get it the same way. Understanding the fundamental difference between organisms that make their own food and those that consume others is the conceptual anchor for everything in Inquiry Question 2.

- Define autotroph and heterotroph with examples
- Compare the nutrient and gas requirements of autotrophs and heterotrophs

2. Success Criteria

By the end, you should be able to:

- Define autotroph and heterotroph with examples
- State the inputs and outputs of photosynthesis
- State the inputs and outputs of cellular respiration

3. Key Terms

those that consume others
the conceptual anchor for everything in Inquiry Question 2

what
the fundamental difference in how plants and animals obtain the energy and carbon they need to build their bodies, and d

Correcting this misconception
frequently tested in short answer questions worth 2–3 marks

Respiration and photosynthesis
independent processes that occur simultaneously in plant cells

Biology but
worth knowing as context

common misconception
that plants only photosynthesise

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: "Define autotroph and heterotroph with examples". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "State the inputs and outputs of photosynthesis". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Autotrophs vs Heterotrophs — Nutrient and Gas Requirements: "State the inputs and outputs of cellular respiration".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Autotrophs vs Heterotrophs — Nutrient and Gas Requirements 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 Autotrophs vs Heterotrophs — Nutrient and Gas Requirements?

☐ 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 Autotrophs vs Heterotrophs — Nutrient and Gas Requirements?

☐ 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: Define autotroph and heterotroph with examples

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: State the inputs and outputs of photosynthesis

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: State the inputs and outputs of cellular respiration

BAND 5 4 MARKS

One thing I still need help with: