

Comparing Ecosystems — Abiotic and Biotic Differences

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

The Great Barrier Reef hosts over 1,600 fish species across 2,300 kilometres of coastline. The Southern Ocean surrounding Antarctica, by contrast, supports some of the most productive plankton blooms on Earth — yet far fewer species. Why does high productivity not always mean high biodiversity? The answer lies in how abiotic conditions shape the relationships between organisms, determining which species can survive, compete, and cooperate in each environment.

- Key facts and terms for Comparing Ecosystems — Abiotic and Biotic Differences
- How the main ideas in Comparing Ecosystems — Abiotic and Biotic Differences connect

2. Success Criteria

By the end, you should be able to:

- Key facts and terms for Comparing Ecosystems — Abiotic and Biotic Differences
- Where this lesson fits in Module 4
- How the main ideas in Comparing Ecosystems — Abiotic and Biotic Differences connect

3. Key Terms

Key idea

The central concept from Comparing Ecosystems — Abiotic and Biotic Differences.

Evidence

Information, observations or calculations used to support an answer.

Explain

Give a reasoned answer that links cause and effect.

Apply

Use a learned idea in a new example, problem or scenario.

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. Q1. A tropical rainforest and a semi-arid desert receive vastly different amounts of rainfall. Predict how this difference would affect: (a) the number of species living in each ecosystem, (b) the type of competition most common in each, and (c) the importance of mutualistic relationships such as pollination and mycorrhizae.

BAND 3 **3 MARKS**

2. Q2. The waters around Antarctica are extremely cold but nutrient-rich, supporting enormous phytoplankton blooms. The Great Barrier Reef is warm but nutrient-poor. Predict which ecosystem would have higher biodiversity and explain your reasoning.

BAND 4 **3 MARKS**

3. Q1. A tropical rainforest and a semi-arid desert receive vastly different amounts of rainfall. Predict how this difference would affect: (a) the number of species living in each ecosystem, (b) the type of competition most common in each, and (c) the importance of mutualistic relationships such as pollination and mycorrhizae.

BAND 5 **3 MARKS**

6. Extend: Apply the Idea

BAND 5/6

5 MARKS

A student gives a memorised answer about Comparing Ecosystems — Abiotic and Biotic Differences 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 Comparing Ecosystems — Abiotic and Biotic Differences?

- 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 Comparing Ecosystems — Abiotic and Biotic Differences?

- 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: Key facts and terms for Comparing Ecosystems — Abiotic and Biotic Differences

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Where this lesson fits in Module 4

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How the main ideas in Comparing Ecosystems — Abiotic and Biotic Differences connect

BAND 5 4 MARKS

One thing I still need help with:
