

Phylogenetic Trees

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

When scientists tracked COVID-19 variants, they used phylogenetic trees to show how viral lineages diverged from shared ancestors. The same logic helps biologists map relationships across all life: not by surface similarity alone, but by common ancestry.

- Key facts and definitions for Phylogenetic Trees
- The concepts and principles underlying Phylogenetic Trees

2. Success Criteria

By the end, you should be able to:

- Key facts and definitions for Phylogenetic Trees
- Relevant terminology and conventions
- The concepts and principles underlying Phylogenetic Trees

3. Key Terms

that always mean they
the most closely related?

What common ancestry
in an evolutionary tree

why one phylogenetic arrangement
more likely than another

Homeostasis
the body stays exactly the same all the time

cladogram
strongest when it represents descent from branching ancestral populations, not superficial resemblance

Tips
the current taxa shown on the tree

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: "Key facts and definitions for Phylogenetic Trees". Use one specific example from the lesson.

BAND 3 **2 MARKS**

2. Apply this idea to a new example: "Relevant terminology and conventions". Show your reasoning clearly.

BAND 4 **3 MARKS**

3. Analyse why this idea matters for understanding Phylogenetic Trees: "The concepts and principles underlying Phylogenetic Trees".

BAND 5 **4 MARKS**

6. Extend: Apply the Idea

BAND 5/6

5 MARKS

A student gives a memorised answer about Phylogenetic Trees 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 Phylogenetic Trees?

- 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 Phylogenetic Trees?

- 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 definitions for Phylogenetic Trees

BAND 3

2 MARKS

SUCCESS CRITERION 2

Prove that you can: Relevant terminology and conventions

BAND 4

3 MARKS

SUCCESS CRITERION 3

Prove that you can: The concepts and principles underlying Phylogenetic Trees

BAND 5

4 MARKS

One thing I still need help with:
