BIOLOGY YEAR 12 - MODULE 7 - LESSON 3

Koch and Pasteur — Germ Theory

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

In 1859, most doctors still believed disease arose spontaneously from bad air. Pasteur's swan-neck flask changed that forever — and Koch turned the insight into a scientific method still used today.

- Pasteur's swan-neck flask experiment and what it proved
- Why Pasteur's experiment was a controlled investigation

2. Success Criteria

By the end, you should be able to:

- Pasteur's swan-neck flask experiment and what it proved
- Koch's four postulates in sequence
- How Koch's postulates were applied to identify a specific pathogen

3. Key Terms

there
no external living agent that causes it

This
why hospitals were built on hills (better air), why doctors carried aromatic herbs, and why the city of London in 1854 w

Why this
still relevant:

story of germ theory
a masterclass in how science replaces one coherent worldview with a better-evidenced one through systematic experiment

This ensures you
working with a single, identified agent

the organism alone
sufficient to cause the disease

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: "Pasteur's swan-neck flask experiment and what it proved". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Koch's four postulates in sequence". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Koch and Pasteur — Germ Theory: "How Koch's postulates were applied to identify a specific pathogen".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Koch and Pasteur — Germ Theory 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 Koch and Pasteur — Germ Theory?

- [ ] 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 Koch and Pasteur — Germ Theory?

- [ ] 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: Pasteur's swan-neck flask experiment and what it proved

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Koch's four postulates in sequence

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How Koch's postulates were applied to identify a specific pathogen

BAND 5 4 MARKS

One thing I still need help with: