BIOLOGY YEAR 12 - MODULE 7 - LESSON 16

Antibiotics and Antivirals

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

Penicillin went from laboratory curiosity to mass production in under a decade. It saved millions of lives in World War II and transformed medicine. Within three years of its clinical introduction, Alexander Fleming was already warning: use it carelessly, and bacteria will evolve around it. He was right. The question now is whether we can slow the clock.

- How antibiotics work — mechanisms of action
- Why antibiotic resistance is an evolutionary process, not a personal one

2. Success Criteria

By the end, you should be able to:

- How antibiotics work — mechanisms of action
- Why antibiotics cannot treat viral infections
- How antivirals work and their limitations

3. Key Terms

There
the danger that the ignorant man may easily under-dose himself and by exposing his microbes to non-lethal quantities of

What process
occurring, and why does incomplete treatment accelerate it?

Why antibiotic resistance
an evolutionary process, not a personal one

Why developing new antivirals
harder than developing antibiotics

Bacteria
living cells; viruses are non-living particles that require host cells to reproduce

Antibiotics
compounds that kill or inhibit the growth of bacteria

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: "How antibiotics work — mechanisms of action". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Why antibiotics cannot treat viral infections". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Antibiotics and Antivirals: "How antivirals work and their limitations".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Antibiotics and Antivirals 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 Antibiotics and Antivirals?

☐ 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 Antibiotics and Antivirals?

☐ 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: How antibiotics work — mechanisms of action

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Why antibiotics cannot treat viral infections

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How antivirals work and their limitations

BAND 5 4 MARKS

One thing I still need help with: