BIOLOGY YEAR 12 - MODULE 8 - LESSON 11

Causes Mastery — Diagnosing Disease Types, Mechanisms and Misconceptions

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

No new content. This lesson deepens your understanding of L06–L10 through patient case studies, analogy analysis, worked examples of increasing difficulty, and a Band 6 extended response. You will classify disease types, trace mechanisms, and dismantle the most common IQ2 misconceptions.

- Classify disease types using mechanism, not just label
- Link genetic, environmental, and nutritional factors in multifactorial disease (Type 2 diabetes, cancer)

2. Success Criteria

By the end, you should be able to:

- Classify disease types using mechanism, not just label
- Explain why the same gene mutation can have variable outcomes (penetrance, expressivity)
- Distinguish cause, risk factor, and susceptibility

3. Key Terms

attempt to identify what
biologically wrong with the stated diagnosis

There
no tricks — the errors reflect real misconceptions students make in HSC exams

This
a lifestyle disease — you caused it by eating poorly and not exercising

Cancer
caused by lifestyle choices — you must have done something to cause this

the correct term
susceptibility, not certainty

Goitre
caused by TOO LITTLE iodine, not too much

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: "Classify disease types using mechanism, not just label". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Explain why the same gene mutation can have variable outcomes (penetrance, expressivity)". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Causes Mastery — Diagnosing Disease Types, Mechanisms and Misconceptions: "Distinguish cause, risk factor, and susceptibility".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Causes Mastery — Diagnosing Disease Types, Mechanisms and Misconceptions 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 Causes Mastery — Diagnosing Disease Types, Mechanisms and Misconceptions?

☐ 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 Causes Mastery — Diagnosing Disease Types, Mechanisms and Misconceptions?

☐ 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: Classify disease types using mechanism, not just label

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Explain why the same gene mutation can have variable outcomes (penetrance, expressivity)

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: Distinguish cause, risk factor, and susceptibility

BAND 5 4 MARKS

One thing I still need help with: