BIOLOGY YEAR 11 - MODULE 4 - LESSON 3

Food Chains and Food Webs — Modelling Energy and Matter Flow

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

A food chain is a simplification — a single thread through a complex fabric. Real ecosystems are woven from hundreds of overlapping food chains that form food webs. Understanding how to construct, read and interpret these models is one of the most practical skills in ecology.

- How to construct a food chain using standard notation
- Why food chains are oversimplified models of real ecosystems

2. Success Criteria

By the end, you should be able to:

- How to construct a food chain using standard notation
- The trophic roles: producer, primary, secondary, tertiary consumer, apex predator
- How food webs are constructed from overlapping food chains

3. Key Terms

Food chain
A linear sequence showing the transfer of energy and matter from one organism to another.

Food web
A network of interconnected food chains showing multiple feeding relationships in an ecosystem.

Trophic level
The feeding position of an organism in a food chain (producer = T1, primary consumer = T2, etc.).

Apex predator
A predator at the top of a food chain with no natural predators of its own.

Omnivore
An organism that eats both producers and consumers, occupying multiple trophic levels.

Resilience
The ability of a food web to resist disruption when one species is removed or reduced.

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 to construct a food chain using standard notation". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "The trophic roles: producer, primary, secondary, tertiary consumer, apex predator". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Food Chains and Food Webs — Modelling Energy and Matter Flow: "How food webs are constructed from overlapping food chains".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Food Chains and Food Webs — Modelling Energy and Matter Flow 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 Food Chains and Food Webs — Modelling Energy and Matter Flow?

☐ 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 Food Chains and Food Webs — Modelling Energy and Matter Flow?

☐ 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 to construct a food chain using standard notation

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: The trophic roles: producer, primary, secondary, tertiary consumer, apex predator

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: How food webs are constructed from overlapping food chains

BAND 5 4 MARKS

One thing I still need help with: