

# 1.9 Trophic Levels

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Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

Total: 9 marks

## Objective

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Build the skills to answer exam questions on **trophic levels**.

**You must be able to:**

- name the trophic levels (**producers** 生产者, **consumers** 消费者, **decomposers** 分解者)
- classify an organism by its level
- explain the role of decomposers

## 1 Worked examples

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Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

### ■ The trophic levels

- **Producers** (autotrophs) —make their own food (plants, algae).
- **Primary consumers** —herbivores that eat producers.
- **Secondary/tertiary consumers** —carnivores that eat other consumers.
- **Decomposers** —break down dead matter, recycling nutrients.

### ■ Classifying an organism

Ask what it eats: a rabbit eats plants (primary consumer); a fox eats the rabbit (secondary consumer); a mushroom breaks down dead matter (decomposer).

### ■ Decomposers recycle nutrients

**Decomposers** (bacteria, fungi) release nutrients from dead organisms back into the soil/water, making them available to producers again —essential for nutrient cycles.

### ■ A worked chain

grass (producer) → grasshopper (primary consumer) → frog (secondary consumer) → snake (tertiary consumer).

## 2 Practice

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Now apply the methods above.

2.1 What is a producer? [1]

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2.2 Classify a rabbit that eats grass. [1]

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2.3 What is the role of decomposers? [1]

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### 3 Exam-style questions

3.1 An organism that breaks down dead matter and recycles nutrients is a [1]

- A producer
- B primary consumer
- C decomposer
- D tertiary consumer

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3.2 In the chain grass → grasshopper → frog → snake:

(a) Identify the producer and the secondary consumer. [2]

(b) State the trophic level of the snake. [1]

3.3 Explain why decomposers are essential for nutrient cycling. [2]

### 4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **1.9 Trophic Levels** lesson on the **Learn** page;

- read the **Trophic Levels** section of the AP Environmental Science handout on the **Know** page.

## Solutions

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**2.1** An organism that makes its own food (e.g. by photosynthesis).

**2.2** Primary consumer (herbivore).

**2.3** They break down dead matter and recycle nutrients back to the environment.

**3.1 C** —decomposer.

**3.2** (a) Producer: grass; secondary consumer: frog. (b) Tertiary consumer.

**3.3** They release the nutrients locked in dead organisms back into the soil/water, making them available to producers again, so the cycle continues.