

1.11 Food Chains and Food Webs

Name: _____ Class: _____ Date: _____

Total: 9 marks

KEY WORDS food chain 食物链 • food web 食物网 • keystone species 关键种

Objective

Build the skills to answer exam questions on **food chains and food webs**.

You must be able to:

- distinguish a **food chain** 食物链 from a **food web** 食物网
- trace energy flow and read arrows correctly
- predict the effect of removing a species

1 Worked examples

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.

■ Chains vs webs

A **food chain** is a single line of who-eats-whom. A **food web** links **many** chains into a realistic picture of feeding relationships.

■ Arrows show energy flow

The arrow points **from** the organism eaten **to** the organism that eats it — it shows the direction energy flows (prey → predator).

■ Removing a species

Because species are connected, **removing** one has knock-on effects: its prey may increase, and its predators lose a food source. A **keystone species** has an outsized effect.

■ A worked prediction

If foxes are removed from a web, rabbits (their prey) may increase, over-grazing plants; species competing with rabbits may decline.

2 Practice

Now apply the methods above.

2.1 What is the difference between a food chain and a food web? [1]

2.2 In a food chain, which way does the arrow point? [1]

2.3 What is a keystone species? [1]

3 Exam-style questions

3.1 In a food web, an arrow from a rabbit to a fox shows that [1]

A	B
C	D

A the rabbit eats the fox

B energy flows from the rabbit to the fox

C they do not interact

D the fox is a producer

3.2 In a food web, hawks eat both snakes and mice.

(a) Predict what happens to the mouse population if hawks are removed. [2]

(b) Explain why a food web is more realistic than a single food chain. [1]

3.3 Explain why removing a keystone species can have a large effect on a food web. [2]