

2.5 Natural Disruptions to Ecosystems

Name: _____ Class: _____ Date: _____

Total: 11 marks

KEY WORDS periodic 周期性 • random 随机 • episodic 偶发性 • biodiversity 生物多样性
• ecological succession 生态演替

Objective

Build the skills to answer exam questions on **natural disruptions to ecosystems**.

You must be able to:

- give examples of natural disruptions (fire, flood, volcano, drought)
- distinguish periodic, episodic, and random events
- explain both harmful and beneficial effects

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.

■ Types of natural disruption

- **Periodic** — regular, predictable (seasonal flooding).
- **Episodic** — occasional, irregular (a fire every few decades).
- **Random** — unpredictable (a volcanic eruption).

■ Harmful and beneficial

Disruptions can harm an ecosystem (killing organisms) but also **benefit** it: fire clears dead material and releases nutrients; floods deposit fertile sediment.

■ A worked example

A wildfire kills many plants (harm) but also clears the canopy, returns nutrients to the soil, and triggers some seeds to germinate (benefit) — so some ecosystems depend on periodic fire.

■ Recovery

Ecosystems often recover through **succession** after a disruption. High biodiversity speeds recovery.

2 Practice

Now apply the methods above.

2.1 Give two examples of natural disruptions. [2]

2.2 Classify seasonal flooding (periodic, episodic, or random). [1]

2.3 State one beneficial effect of a wildfire. [1]

3 Exam-style questions

3.1 A volcanic eruption is an example of a [1]

- | | |
|---|---|
| A | B |
| C | D |
- A** periodic disruption
B random disruption
C human disruption
D gradual change

3.2 A forest experiences a wildfire.

(a) State one harmful and one beneficial effect. [2]

(b) Explain why some ecosystems depend on periodic fire. [2]

3.3 Explain how an ecosystem recovers after a natural disruption. [2]