

2 Succession and disturbance – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)
Ecological succession	生态演替	_____
primary succession	初级演替	_____
secondary succession	次级演替	_____
pioneer species	先锋物种	_____
climax community	顶极群落	_____
keystone species	关键种	_____
indicator species	指示物种	_____

Recall

In Part A you met biodiversity. Now see how ecosystems change and rebuild:

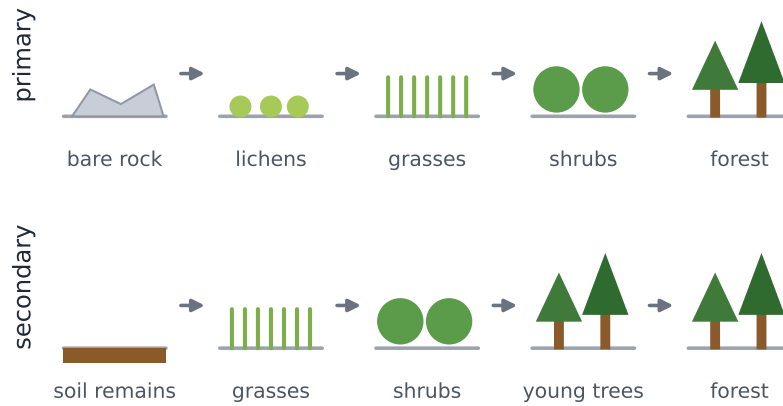
- After a fire or a landslide, plants slowly return.
- Some species matter far more to a community than their numbers suggest.

Each idea has a short worked example before the Practice.

New ideas

■ 1 Ecological succession

Ecological succession 生态演替 is the gradual, orderly change in a community over time.



primary: bare substrate (no soil) · secondary: soil remains $\Rightarrow$ faster recovery

- **primary succession** 初级演替 starts on bare rock with **no soil** (after a glacier or lava) – very slow,
- **secondary succession** 次级演替 follows a disturbance that leaves the soil (after a fire or farming) – much faster.

■ 2 Pioneers to climax

The first arrivals, **pioneer species** 先锋物种 like lichens, slowly build soil. Over time the community develops toward a stable **climax community** 顶极群落.

■ 3 Keystone species

A **keystone species** 关键种 has an effect far larger than its numbers – remove it and the whole community can collapse (like sea otters that keep sea urchins in check).

■ 4 Indicator species

An **indicator species** 指示物种 signals the health of an ecosystem by its presence or absence – lichens vanish where the air is polluted.

Watch out: primary succession is much **slower** than secondary succession, because it must first build soil from bare rock, while secondary succession already has soil to start from.

Practice

Try these in order. The methods are all above.

2.1 State the difference between primary and secondary succession. [2]

2.2 Explain why primary succession is slower than secondary succession. [2]

2.3 Name a typical pioneer species and state what it does. [2]

2.4 State what a keystone species is. [2]

2.5 Explain how an indicator species can show that an ecosystem is polluted. [2]
