



Resilience: how reefs bounce back

Lesson plan: what makes reefs resilient, the Scott Reef recovery, and a structured assessment of three fictional reefs



Ages	14 to 18 (grades 9 to 12)
Time	60 minutes
Group	Groups of three or four
Where	Any classroom. No internet needed.
You need	The slides and one assessment sheet per group

What students learn

- What ecological resilience means for coral reefs.
- The factors that help reefs recover, from grazers and water quality to connectivity and time.
- How to weigh evidence to compare sites and recommend management.
- The limits of resilience in a warming world.

Before the lesson

1. Print one **assessment sheet** per group.

The lesson

- 1 **Scott Reef 10 minutes, slides 1 and 2.**
- 2 **Resilience factors 10 minutes, slide 3.**
- 3 **Assess three reefs 25 minutes, slide 4.** Groups score, rank and recommend.
- 4 **Limits 10 minutes, slides 5 and 6.** End with both local and global action.

Answers and what to listen for

A reasonable reading: Reef Z is isolated, but with clear water and a moderate grazer population it could recover as Scott Reef did. Reef Y has good connections but few grazers and muddy water, so it is most at risk; protecting grazers and reducing run-off would help most. Reef X is healthy but has little time between heatwaves. Accept well-argued alternatives.

Making it easier or harder

- **Older groups:** find a real reef resilience assessment and compare its factors with this list.
- **Link:** The changing ocean module covers heat stress and degree heating weeks.

Curriculum links

- **Biology:** ecosystems, resilience, human impact.
- **Geography:** environmental management.
- **IB:** Environmental Systems and Societies, ecosystems and resilience.

The teacher reading has the science behind every slide, with links to the sources.

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