10. What Does a Coral Reef Need to Thrive?

Requirements: team's coral reef mural or 'in a box', equipment to produce a short film
Exploration team: in a team of 3-5 explorers, and as a class
Curriculum: Science, English, Design and Technology
Time: 20 minutes (minimum)

You are going to prepare a script (and if time) produce a short film about a thriving coral reef. Use this **Film Script template** to prepare your film. Use your team's coral reef mural or coral reef in a box. You are going to show viewers which animals live in your team's coral reef and explain to viewers why your team's coral reef is thriving.

Share your film script (or film) with your class.

Teacher Notes

Corals depend on **the zooxanthel**lae that grow inside of them for oxygen and other things. Algae are plants. Plants need sunlight to survive. Zooxanthellae need **sunlight** to survive, so corals do too.

Corals need to be **in shallow water** where the sunlight can reach them. They rarely thrive in water deeper than 50 metres. The water also needs to be clear to let the sunlight through.

Corals generally live in water temperatures of **20–32°** C. They have tolerance to a very narrow temperature range.

Corals are **sensitive to pollution and sediments**. Sediment can create cloudy water and be deposited on corals, blocking out the sun and harming the polyps. Wastewater discharged into the ocean near the reef can contain too many nutrients that cause seaweeds to overgrow the reef.

Corals need **saltwater** to survive and require a certain balance in the ratio of salt to water. This is why corals don't live in areas where rivers drain fresh water into the ocean.