



## Lesson Plan - Endangered Corals: Finding and Restoring Rare Coral Species

### Module Summary

This module takes students on a journey to learn about the building blocks of the reefs, the corals themselves. They will discover why these ecosystems are so important and the research that CCMI does to understand how the corals survive as well as the work they are doing to preserve and restore coral numbers. Participants engage through the interactive platform by asking questions, taking part in live polls, chatting with the CCMI team and completing an in-class worksheet (provided). All educational materials align with Cayman Islands and United Kingdom Science National Curriculums and Ocean Literacy Principles.



Friday 9<sup>th</sup> May 2025; 10 am Cayman (UTC-5)



Duration: 40-minute broadcast, 1 hour lesson



Years 4,5 & 6

### Learning Objectives

- Understand what corals are, how they survive, and that there are endangered species in the Cayman Islands
- Understand the importance of coral restoration efforts
- Explain the threats to corals and their survival

### The Cayman Islands and United Kingdom National Science Curriculum

- Recognise that environments can change and that this can sometimes pose dangers to living things. (Year 4)
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. (Year 6)

### Ocean Literacy Principles

- Ocean Literacy Principle #4: The ocean makes Earth habitable
- Ocean Literacy Principle #5: The ocean supports a great diversity of life and ecosystems



- Ocean Literacy Principle #6: The ocean and humans are inextricably interconnected

## **Description of Live Lesson**

This module will take place on a coral reef ecosystem along the coast of Little Cayman in the Cayman Islands where the CCMI team will guide students through a series of learning objectives. A topside host will communicate in real time with the underwater educator and the students who join as the remote audience/virtual dive buddies.

Through the broadcast, participants will develop an understanding of what corals are, how they survive, and why they are important to the overall health and balance of the ocean ecosystem. Participants will be guided through different types of endangered coral species in the Cayman Islands and learn about some threats face these species. The hosts will explain how CCMI scientists started and maintain our coral restoration project and how the coral restoration work contributes to a greater understanding of how corals survive in a changing ocean. Additionally, students will gain insight into CCMI's ongoing research initiatives to discover more about the ocean around the Cayman Islands, including a project to map the presence of endangered corals on local reefs.

By the end of the broadcast, students will better understand conservation projects, such as coral restoration, and understand actions each person can each take to protect the ocean and help preserve marine biodiversity for future generations.

This lesson aligns with the Science National Curriculum of the Cayman Islands and the United Kingdom and the Ocean Literacy Principles. Students can complete the worksheet during the live lesson, and they are encouraged to ask questions about the materials to the host or educator at any time during the broadcast. Pre-recorded footage may be used to show key concepts should these observations not be seen naturally during the live lesson.



## Live broadcast outline (40 mins)

00:00 - 03:00	Welcome back to Reefs Go Live, CCMI team introductions
03:00 - 07:00	What are corals?
07:00 - 10:00	How coral bleaching happens
10:00 - 15:00	Types of endangered corals
15:00 - 17:00	Threats to coral reefs
17:00 - 20:00	Introduction to CCMI's restoration project
20:00 - 22:00	Mini documentary
22:00 - 25:00	How the coral nursery works
25:00 - 30:00	Questions
30:00 - 35:00	Conclusion
35:00 - 40:00	Summary and goodbye

## Necessary Materials

- Internet connection
- Computer/phone
- Projector (optional)
- Speakers/headphones
- Scissors
- Notebook paper
- Pencils/pens
- Glue
- CCMI worksheets and/or booklet (one copy per student)

## Useful additional resources

- [www.reefresearch.org/what-we-do/education/teacher-resources/](http://www.reefresearch.org/what-we-do/education/teacher-resources/)
- [www.reefresearch.org/what-we-do/education/reefs-go-live/](http://www.reefresearch.org/what-we-do/education/reefs-go-live/)
- [Coral reef facts for kids! - National Geographic Kids \(natgeokids.com\)](http://Coral reef facts for kids! - National Geographic Kids (natgeokids.com))
- [Hope Works Project resources - National Geographic Kids \(natgeokids.com\)](http://Hope Works Project resources - National Geographic Kids (natgeokids.com))
- <https://reefresearch.org/wp-content/uploads/2025/03/Occurrence-and-Distribution-of-Pillar-Corals-on-Little-Cayman.pdf>



## “Endangered Corals: Finding and Restoring Rare Coral Species” Key Terms

The CCMI educators may refer to the following key terms throughout the live lesson. Listen carefully to the broadcast to learn some new vocabulary about seamounts and ecological terms in the ocean!

**Coral bleaching** - process of corals appearing white due to the loss of the algae living inside of them

**Critically endangered** - even higher level of risk than being endangered. There is a very high risk of the species becoming extinct in the near future.

**Fragmenting** - method of coral reproduction where pieces of coral are broken off from the parent coral, with each new piece growing into a new individual coral.

**Outplanting** - transplanting of corals from a nursery onto a reef or other structure in the ocean

**Polyp** - mostly stationary body form of the group of animals that include jellyfishes, corals, and sea anemones; has tentacles and a mouth

**Restoration** - renewal of a damaged, degraded, or destroyed ecosystem by active human intervention

**Symbiotic relationship** - interaction between two organisms where at least one of the organisms benefit; however, the other may suffer, be unaffected, or benefit as well

**Zooxanthellae** - microscopic algae that lives in the tissues of coral and provides the coral with energy and nutrients