Diving off the Wall

Module Summary

This module is an immersive dive on a pristine coral reef, featuring the famous "wall" of the Cayman trench in the Cayman Islands which goes from 10m to 1000m. The CCMI team will guide students through an interactive geologic and oceanographic history lesson of how Little Cayman reefs came to be what they are today. Students will be able to participate in a live lesson by engaging with an underwater educator as they tour the reefs of Little Cayman in search of fossils, differing geologic structures on the reef, and of course the wall.

Year 6

Learning Objectives

- Define plate tectonics and the Mid-Ocean Ridge.
- Describe the change in life and underwater communities along the Cayman Trough at various depths.
- Explain why an animal may live on the wall instead of in a shallow reef.
- Analyze the changes in the wall throughout the dive: number of sponges, amount of algae, color of the corals, size of the fish, etc.
- Discuss how the famous "wall" of the Cayman Islands was formed.

Science National Curriculum Alignment

- Learn about the structure of the earth (Year 6).
- Learn about fossils and how they are formed (Year 6).

Description of the live dive

This live broadcast will be along the edge of the vertical wall which goes from 20ft to 2000ft. The underwater educator will communicate constantly with the live lesson host (who will be on the boat) and with the engaged remote class. The educator will take the students through a series of fun facts and learning objectives regarding the geologic and oceanographic history of the "wall" and Little Cayman, in alignment with the Science National Curriculum of the Cayman Islands. Students will have an in-class activity to complete during the live lesson, which they are welcome to ask questions about to our underwater educator at any time during the duration of the broadcast. The dive will observe changes in ecosystems at various depths including: small niches, large expanses of vertical wall, and blue water communities along the wall. Pre-recorded footage and images will be used to show changes in geology and oceanography over time, as we are only able to show a snapshot of what reefs look like today during the live broadcast.

Live broadcast outline (45 mins)

00:00 – 03:00	CCMI host welcomes students and outlines the lesson
03:00 – 05:00	CCMI host introduces the educator and the in-class activity
05:00 – 10:00	Educator introduces the Cayman trench and the "wall"
10:00 – 15:00	Educator guides students on a tour of the wall at various depths
15:00 – 20:00	Questions
20:00 – 25:00	Educator explains change in the oceans benthic habitat based upon basic geologic and oceanographic theory
25:00 – 35:00	Educator engages students to report their observations from the different environments along the wall
35:00 – 40:00	Questions
40:00 – 45:00	CCMI host on the boat recaps the live dive and concludes the lesson

Materials

Internet connection, laptop, projector, speakers, paper, pencils/pens, CCMI activity sheet, and CCMI fun fact sheet.

Useful resources

- www.reefresearch.org/reefs-go-live
- www.doe.ky
- www.education.gov.ky/education/curriculum
- www.oceanservice.noaa.gov/kids/
- www.reefresilience.org/coral-reefs
- www.projectaware.org