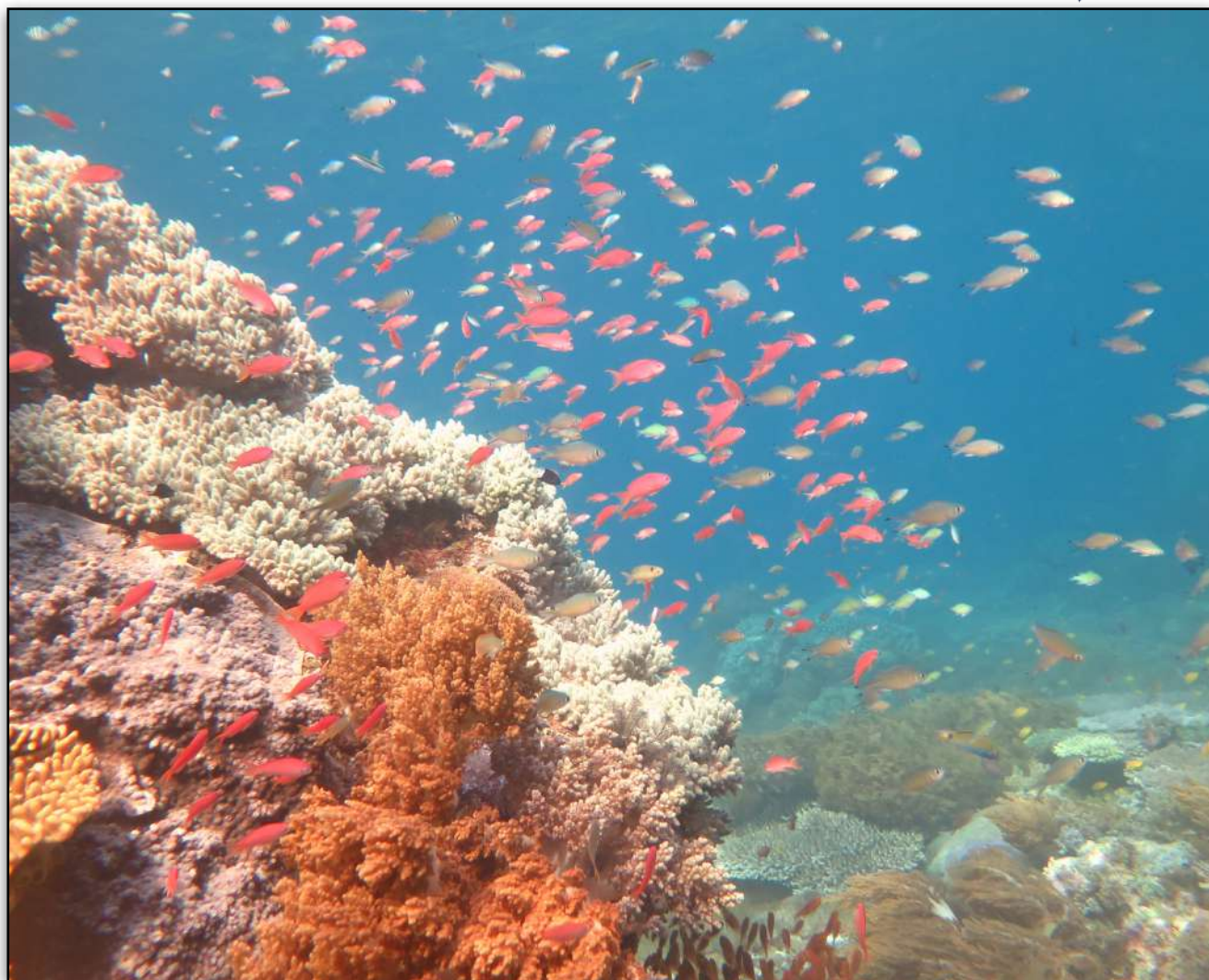




Life in Our Oceans - An introduction to Marine Biology Part 1

AFTER SCHOOL ENRICHMENT PROGRAM

Prepared for Discovery Bay location - **Primary Y3 -Y6 Students**

Prepared by: Estelle Davies, MSc Tropical Marine Ecology

Date: Term 1 - **Aug.** 26th, **Sept.** 2nd, 9th, 30th, **Oct.** 7th, 14th, 28th, **Nov.** 4th, 11th, 18th, 25th

Dec. 2nd, 2026 (WEDNESDAY)

Time: 4:00 - 5:15 pm at 4D Coral Court, Discovery Bay

Minimum # of participants: 3 students

Maximum # of participants: 6 students

Cost: \$250 per session, Total \$3,000 for 12 sessions

Optional Field trip*: 8:30 am - 4:30 pm to snorkel a coral reef **Saturday 10th October, 2026**

**Field Trip Cost: \$850 per person including instructor and transport fee*

PROGRAM OVERVIEW

Objective

Life in Our Oceans- an introduction to marine biology – This marine enrichment program will introduce primary students to the fascinating and diverse habitats and creatures that exist in our oceans, in particular the natural wonders of coral reefs, one of the most biologically diverse ecosystems on our Planet, highlighting the threats that face them and the importance of conservation.

Goals

The goal is to create an awareness and understanding of the marine and coastal environment, especially in Hong Kong, to promote the importance of knowing, preserving and conserving our oceans ecosystems, while inspiring the students to become better guardians of our oceans and the environment and aware of the conservation efforts around them.

Program Outline

The program will focus on a broad range of marine topics as well as touch on human impacts and conservation. Lessons will be educational, informative and enjoyable and include colourful slideshows, videos, hand-on games and activities, along with an optional field trip to snorkel a coral reef in Hong Kong. This will take place on a selected Saturday during term.

Program Introduction

Wherever we are and whatever we do in any part of the World we could be affecting the delicate balance of life in our oceans. We eat fish and seafood from the ocean and the rain and rivers wash our litter, fertilisers, pesticides and factory waste into the ocean where it pollutes and kills marine life. It may be surprising to discover that the oceans affects us as well. Oceans supply food, jobs and recreation. They enable ships to transport the produce from farms and industry to far-away countries. Oceans influence the climate and temperature of our Planet.

I hope that this marine enrichment program will open eager young eyes to the unusual ocean environment with its salty water, waves, currents and tides. It will introduce them to a variety of wonderful marine plants and animals and show how people affect life in the oceans.

The series of lessons will include:

Lesson 1: Planet 'Ocean' and its ecosystems

Student will discover why our Planet is unique, what makes the sea salty and adaptations to living in a salty environment. We will discuss the water cycle and understand what drives the tides and currents that makes living in our oceans possible. They will learn what is an ecosystem, an environment and a community and compare marine life in two very different oceans – kelp forests and coral reefs



Lesson 2: The Magic of Coral Reefs

Students will learn why coral reefs are one of the most important ecosystems in our oceans and learn about the tiny coral animals that create and sustain them. Students will be able to describe the 3 main types of coral reefs, discover where they are found and make their own coral polyp.

Lesson 3 & 4: Animals on the Reef

Students will be introduced to the major groups of organisms found on a coral reef (Corals, Sponges, Algae, Echinoderms, Crustaceans, Herbivorous Fishes, Predatory Fishes). Using photos and models students will be shown some examples of each group. We will talk a little about the phyla and biology of each of these major groups of organisms and their main role on the reef. Resources will include a powerpoint presentation, 'who's who' activity and we will have a "sculptionary" game where they have to sculpt organisms and their fellow classmates guess what they are.



Lesson 5 & 6: Reef Relationships

These two lessons we will look at the important role of each of the major groups of organisms they have learned about (structure building, algae grazing, cleaning, etc.). And discuss how coral reef organisms interact and their relationships on the reef. This session will include a powerpoint presentation, 'Web of Life' activity and Wanted Ads game that will illustrate the role and interconnectedness of different organisms on the reef.



Lesson 7: Predator and Prey – Feeding on the reef

Students will create a food web diagram from a marine ecosystem and discover the different feeding strategies of predators and prey. They will be able to simulate these eating habits using real food and given tools to “catch the food” in the classroom simulation, Café on the Reef. With video footage students will get to see animals such as coral polyps and lionfish feeding on their prey.

Lesson 8: Fascinating Fish – colours and patterns

Why are coral reef fish so colourful? What do they see? How do they reproduce, feed and breath? This lesson students will learn all about the wonderful weirdness of reef fish and look into the personal lives of a few and design their own fish as weird and wonderful as is found on the reef.



Lesson 9: Seagrasses and Mangroves

Students will learn about other tropical marine habitats, such as seagrass beds and mangroves, the animals that live within them and how they are connected to coral reefs. Using microscopes students will look at the intricate details of coral skeletons, using water samples collected from our local coastline, discover the microscopic creatures that live in the water and look closely at what makes up sand.

Lesson 10 & 11: Sea Turtles & Dugongs – herbivores in our oceans

Known as cows of the sea, dugongs are more closely related to elephants and are the only herbivorous marine mammal in the ocean. Students will learn about the dugong as well as the seven species of marine turtles in our oceans, understanding their fascinating life cycle, their importance in nature and why all marine turtles are subject to human impacts and vulnerable to extinction.



Lesson 12: Caring for the Sea

Why care for the coral reefs and other marine ecosystems in our oceans? Students will highlight the importance of coral reefs as a habitat and feeding ground for fish and other sea creatures, as a food source, a natural breakwater and a major tourist attraction providing income for many people. They will learn the various ways in which humans are impacting the coral reefs and what positive changes can be done to protect them and help preserve the balance of the Oceans through establishments of Marine Protected Areas, Ecotourism, Education.



Optional Field Trip*: Snorkel at Sharp Island on Saturday 10th October

Now that students will have a background on the role of different organisms on the reef, we will take them on a snorkel trip to Sharp Island in Sai Kung to experience using a mask and snorkel while discovering the diverse marine life found in Hong Kong waters. Students will have fun completing an underwater scavenger hunt to look for different organisms they have learned about and watching their roles in the reef (algae removal, cleaning, structure provision for smaller organisms, etc.).

**This will be an additional cost to the program*

*“In the end we will conserve
only what we love*

*We will love
only what we understand*

*We will understand
only what we have been taught”*

Baba Dioum, African poet