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## INTRODUCTION

CORAL FOREST is a non-profit organization dedicated to the preservation of coral reefs around the world through education and action. Coral reefs have been called the “rainforests of the sea”. They are one of the most biologically complex and fragile of the Earth’s ecosystems, and they are being destroyed at an alarming rate. Coral reefs are found in 109 countries, but it is estimated that they have been damaged or destroyed by human activity in at least 93 countries. With each reef lost, countless forms of unique tropical marine life move closer to extinction and indigenous communities are forced to move from their ancestral lands.

Some of the threats to coral reefs include pollution from sewage, fertilizers and pesticides; oil spills; destructive fishing practices; mining; siltation resulting from logging, land use and development; and recreational overuse and abuse. These human-made threats cause irreparable damage when allowed to continue unchecked.

One of the ways that CORAL FOREST is addressing the problem is with the development and distribution of the Coral Forest Teacher’s Guide, an interdisciplinary curriculum for grades K-5, 6-8 and 9-12. The information available in this guide enables teachers and students to learn about the beauty and diversity of life on the coral reef, its incredible value to people and related ecosystems, the threats that it is facing, and the possible solutions to these threats. We hope that with this knowledge you will find a deep respect, understanding, and appreciation for coral reefs and will work to protect their health and the lives of the native coastal people dependent upon them for survival.

Humankind is not separate from Nature. We live on this Earth. We are a part of this Earth. We must be responsible for our actions. Let us put our energy into protecting the coral reefs, the oceans, and the Earth, thereby ensuring a quality of life for all.

### Introduction for Coral Gardens Teacher's Guide

The Coral Gardens Teacher's Guide presented in the next three chapters has, with kind permission, been substantially adapted from the original Coral Forest manuscript. While much of the format and structure of the topics remain similar, the text and pictures have been significantly altered to more accurately reflect the local marine environment and related issues for the Cayman Islands. In addition a slide set containing 80 locally taken slides with descriptions has been created to compliment the text. It is intended that every school in the Cayman Islands should receive at least one set of slides for use with the **Coral Gardens Teacher's Guide**. However, the Department of Environment must point out that some of the topics, animals and issues utilised in the Lesson Plans, while still relevant to reefs on a global basis, may not be applicable to the Cayman Islands. Teachers are therefore encouraged to adapt the lesson plans where they feel necessary and to share adapted lessons with other teachers through the Education Department. Good Luck.

## HOW TO USE THE TEACHER'S GUIDE

The Coral Gardens Teacher's Guide presents interdisciplinary, hands-on curriculum for grades K-5, 6-8 and 9-12. It has been created in an interesting and informative manner to encourage students to think about the complexity of coral reefs and their surrounding environment, the threats that they are facing, and the possible solutions to these threats. The guide also presents students with different ways to take action to save the reefs, thereby instilling in them the understanding and confidence that they can improve the world in which they live.

### ORGANIZATION OF THE MATERIALS

The **Teacher's Guide** is divided into three sections:

- Background Information
- Lesson Plans: K-5, 6-8, and 9-12
- Resources

All information contained in these sections may be reproduced for classroom use.

**Background Information** – The Background Information provides teachers of all grades with extensive information about coral reefs. It addresses three major areas:

- What and Where are the Coral Reefs?
- Life on the Coral Reef
- Benefits, Threats and Solutions.

Each area is designed to give teachers in-depth knowledge about coral reefs so that they can effectively instruct their students and use the lesson plans.

**Lesson Plans: K-5, 6-8 and 9-12** – These lesson plans have been created by master teachers for teachers, and they have been extensively field tested in the classroom. They are designed to offer challenging, fun and creative activities, which will encourage students to think about and gain knowledge of the diversity of life on the coral reef and its interrelationship with other ecosystems and human-kind. The lessons are interdisciplinary, effectively integrating multiple subjects such as math, science, language arts, art, geography and social science. They are also spirally integrated with each grade level building upon the previous one.

**Resources** – At the end of the Teachers Guide is a resource section containing a glossary, bibliography, references for students and a list of coral reef related organizations. This material supports and enhances the teacher's ability to present information about coral reefs in an efficient and thorough manner. The videos, slides and CD ROMs are especially effective because they provide outstanding visual images of coral reefs for those who have never seen or visited them.

## ORGANIZATION OF THE LESSON PLANS

Although the lesson plans are divided into three sections, K-5, 6-8 and 9-12, they can be used interchangeably based upon the level of the students. Each lesson plan is co-ordinated with the material in the Background Information. At the top right-hand corner of the page is printed the section in the Background Information to which it relates. For instance, the "Edible Coral Polyp" relates to What and Where are the Coral Reefs? the "Coral Reef Coloring Page" relates to Life on the Coral Reefs and "Unsettling Sediments" relates to Benefits, Threats, and Solutions.

At the beginning of the lesson plan is listed the Objective of the lesson, the Vocabulary used, the Interdisciplinary Index involved (i.e. science, art, language art), the Materials needed, the step-by-step Presentation of how to perform the activity, and the Follow-up/Extension to the activity. Some of the lesson plans also include a summary of the relevant background information needed for the lesson.

## STAY IN TOUCH.....

CORAL FOREST and the Cayman Islands' Department of Environment would like to remain in contact with the teachers and students who have used this Teacher's Guide. If you have any suggestion, comments, new information, or need assistance please let us know.

Thank you for teaching the students about the beauty of life on the coral reefs, and for helping to make our Earth a better and healthier place to live. Those who learn to respect all life are the ones who work to preserve it.



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