

FEARLESS PLANET

Great Barrier Reef

Teacher's Guide



Grade Level: 6–12 **Curriculum Focus:** Science, Geography **Running Time:** 35 minutes

Program Description

How can the biggest living thing on the planet survive almost anything? How did it get to be so big? Working with geologists and marine biologists, extreme adventurer Will Gadd gets up close and personal with the largest living thing on the planet (the only one you can see from space)—the Great Barrier Reef. From continental drift and ancient volcanoes to dangerous predators and global warming, the program explores the incredible geological and biological forces that created the reef, as well as the modern dangers that threaten to destroy this natural wonder.

Learning Objectives

After viewing the program and participating in discussion, students will be able to:

- Understand the process of scientific inquiry;
 - Examine, interpret, and analyze physical and cultural patterns and their interactions, such as land use, settlement patterns, cultural transmission of customs and ideas, and ecosystem changes;
 - Describe and assess ways that historical events have been influenced by, and have influenced, physical and human geographic factors in local, regional, national, and global settings.
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Classroom Connections

This program explores the interdependency of sustaining the Great Barrier Reef. As a class discuss how your school is a community that is sustained by the interdependency of everyone in the building.

As an extension of A, discuss and make a list of how your community is interdependent on not only people but also services, institutions, and the economy, for example.

Classroom Activities

The coral reef is the world's largest structure made by nature. Tiny organisms called coral polyps built the reef to what it is today. The chance of survival for a polyp is very slim, but if it reaches the reef, it can flourish. Watch the section called "Building a Coral Reef" and draw the steps of the life cycle of a coral polyp. Describe each step and the dangers they face.

Global warming affects not only our lives but also other living things, such as the coral reef. Create a poster explaining how a coral reef can die because of global warming or even fertilizers that wash into the ocean. Think of some helpful tips to list on your poster to help prevent global warming. Hang the posters around the classroom and school.

Target Vocabulary*

algae - a plant or plantlike organism of any of several phyla, divisions, or classes of chiefly aquatic usually chlorophyll-containing nonvascular organisms of polyphyletic origin that usually include the green, yellow-green, brown, and red algae in the eukaryotes and especially formerly the cyanobacteria in the prokaryotes

barrier reef - a coral reef roughly parallel to a shore and separated from it usually by a lagoon

continental shelf - a shallow submarine plain of varying width forming a border to a continent and typically ending in a comparatively steep slope to the deep ocean floor

geologist - one who studies the history of the earth and its life especially as recorded in rocks

geology - a science that deals with the history of the earth and its life especially as recorded in rocks

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Academic Standards

National Science Teachers Association (NSTA) has developed national standards to provide guidance for teaching science. To view the standards online, go to <http://books.nap.edu/openbook.php?isbn=0309053269>

This guide addresses the following standards:

- Understand about scientific inquiry

- Use abilities necessary to do scientific inquiry

National Council of Social Studies (NCSS) has developed national standards to provide guidance for teaching science. These standards may be referenced in *Curriculum Standards for Social Studies*, published by NCSS.

This guide addresses the following standards:

- Understand the importance and relevance of studying people, places, and environments
- Understand the importance and relevance of global connections and interdependence