



Hawaii's Coral Reefs

Concepts

Students will be introduced to the coral reef habitat, a prime habitat for marine biodiversity. This lesson will serve as a brief overview of coral anatomy, distribution, its physical properties, and why it is important to conserve coral reefs.

HCPS III Benchmarks

SC.K.1.2

SC.K.3.1

SC.K.4.1

Duration

45 minutes

Source Material

PRISM Coral Reef

Ecology unit (Grade 4)

Vocabulary

Animal (The 5 characteristics of animals)

Coral Reef

Living (Biotic)

Non-living (Abiotic)

What is Coral?

Summary

Students will talk about what they already know about coral reefs, and form questions about what they want to learn about them.

Students will then learn that coral is a living animal. They will be introduced to some of the species that make up the biodiversity in coral reefs, and why coral reefs are an important habitat.

Objectives

- To break the misconception that coral is not living and is not an animal.
- Students will discuss what they already know about coral.
- Students will form questions about what they want to know about coral.
- Students will be introduced to current threats to coral reefs and why preserving them is ecologically important.

Materials

Pre-assessment sheet for each student

Large, laminated photographs of coral reefs and cross-section of a coral polyp

Coral skeleton specimens

Making Connections

Students may have seen coral during a trip to the shore or in aquarium tanks. They will make a connection between what they learn about coral ecology in the classroom and the real environment that surrounds them in Hawai'i.

Teacher Prep for Activity

-Prepare coral vocabulary list on chart paper

-Gather photographs to show (See:

<http://library.thinkquest.org/J0112361/coral/coral.htm>)

-Gather coral specimens (at least 3 different types) HINT: dead coral pieces can be found on the shore, or access coral specimens from the Marine Biology Dept., UH-Hilo via a PRISM fellow.

Background

Corals consist of small, colonial, plankton-eating invertebrate animals called polyps, which are anemone-like. Although corals are mistaken for **non-living** material, they are live animals. Corals are **living** animals because they fit the five criteria of the definition of an **animal** (1. Multicellular; 2. Consumes other organisms for food; 3. Has an internal digestive system; and 4. Embryonic development;



5. *Motile, or can move independently*). Corals feed on plankton, which includes tiny crustaceans, mollusks, and larvae of reef animals. Corals use their tentacles, or arms to sting and capture plankton that drift by on currents. Shallow-water corals grow the fastest and are called reef-building corals because they secrete skeletons of calcium carbonate, which construct large structures called **coral reefs**.

The reef-building corals that form coral reefs in Hawai'i are made up of several types of coral such as finger coral, lobe coral, rice coral, and cauliflower coral. Each coral growth form is adapted to live in a different type of habitat where light levels, currents, water temperature and salinity may vary. The adapted coral forms provide a prime habitat to marine organisms by providing protection and food resources. Coral reefs are important to conserve in Hawai'i for the preservation of the corals themselves and especially for the conservation of the marine organisms that depend on coral reefs to survive.

Procedure

1. Give students the pre-assessment and provide enough time for each student to complete it (15 minutes).
2. Introduce vocabulary and write new words on chart paper. HINT: Keep the chart paper for an ongoing vocabulary list for the unit.

Activity 1: KWL partner on parade

3. Tell the students that they will be talking to each other about coral today. Split the class in two and have each group form a line (Line 1 and Line 2). Have students face one another. Remind students that it is important to be a good listener in order to learn. Allow 30 seconds to talk each time.
4. Have students in Line 1 look across from them and tell their first partner in Line 2 where they have seen corals.
5. Shift both lines so every student moves to their left. If a student reaches the front of the line, have them move to the other end. Have student in Line 2 tell their new partner in Line 1 where they have seen corals.
6. Have both lines shift to the left again. Have the Line 1 person tell their new partner in Line 2 what they know about corals.
7. Have both lines shift to the left again. Have the Line 2 person tell their new partner in Line 1 what they already know about corals.
Have both lines shift to the left again. Have the Line 2 person tell their new partner in Line 1 what they already know about corals.
8. Have both lines shift left again. Have the Line 1 person tell their new partner in Line 2 what they want to know about corals.
Have both lines shift left again. Have the Line 2 person tell their new partner what they want to know about corals.

Group Discussion Activity:

1. Have students gather in a circle on the floor. Ask students one at a time to tell the class what their partners said. Allow for discussion/anecdotes, etc.
2. Ask: Where did your partner see corals?
3. Ask: What does your partner know about corals?



4. Ask: What does your partner want to know about corals? HINT: Make a list of what students want to know about corals so you may address these questions throughout the unit.
5. Show students the photos and specimens of coral. Pass around the coral pieces so they may touch and see them. Ask students what they notice about the corals. Are they the same or different? How? Why might they be different shapes, textures, etc.?

Assessments

Pre-assessments completed

Group discussion

Resources

Coral Reef Ecology (PRISM, Grade 4)

www.arkive.org for photos

<http://library.thinkquest.org/J0112361/coral/coral.htm> for photos

Literature Connections (to be read aloud to the class):

Coral Reefs by: Joann Early Macken (Introduction to coral reefs, children's text-book style)

Coral Reefs by: Susan H. Gray (Introduction to coral reefs, children's text-book style)

Coral Reefs by: Jason Cooper (Introduction to coral reefs, children's text-book style)

Coral Reefs by: Lloyd G. Douglas (Introduction to coral reefs, children's text-book style)

One Less Fish by: Kim Michelle Toft and Allan Sheather (stresses conservation of coral reefs through a storyline with beautiful illustrations and counting exercise)