

Assignment Discovery Lesson Plan
Blue Planet: Seas of Life
Coral Seas

Subject

Ecology

Grade level

6-8

Duration

Two or three class periods

Objectives:

Students will

- research aspects of the life of coral and coral reefs; and
- create posters and give presentations to the class.

Materials

- Computer with Internet access
- Print resources about corals and coral reefs
- Poster board and construction paper
- Paint and markers

Procedures

1. Engage the class in a discussion of coral reefs. Encourage students to share what they know about these marine communities, and about the animals that create and live in them.
2. Tell students that they will research aspects of the life of corals. Divide the class into three groups, and assign each group one of the following subjects: Corals Close-Up, Coral Communities, or Threats to Coral Reefs.
3. Explain that the Corals Close-Up group will research coral polyps and coral reefs; the Coral Communities group will focus on the interdependent habitats of coral reefs; and the Threats to Coral Reefs group will research natural and human threats to coral reefs.
4. Tell students that each group will create a poster about their assigned topic and use the poster to give a presentation to the rest of the class. Explain that their posters should include both facts and relevant illustrations, such as pictures, diagrams, or charts, and should address the following questions:

Corals Close-Up

- Describe the physical characteristics of a coral polyp.
- How do corals reproduce?

- How do corals eat? When do they eat?
- How does a coral polyp grow?
- How are coral reefs created?

Coral Communities

- Where are coral reefs found?
- Approximately how many species of plants and animals (or percentage of the world's species) live among the coral reefs?
- Why do so many animals live in and among coral reefs?
- Name at least five species that depend on coral reefs, describing how each relies on the reefs for survival.
- Describe the symbiotic relationship between coral polyps and zooxanthellae (microscopic algae).
- Why are coral reefs called the "rain forests of the sea"?

Threats to Coral Reefs

- What are some natural threats to coral reefs?
- Describe at least three human threats to coral reefs.
- What is blast fishing, or dynamite fishing?
- Why does overfishing affect the coral-reef communities?
- How do people on land affect coral reefs?
- How might a boater or a diver affect a coral reef?
- How can we protect coral reefs?

5. Have students use print and online resources in their research. These Web sites may be helpful:

- Corals and Coral Reefs
<http://www.seaworld.org/infobooks/Coral/home.html>
- About Coral Reefs
<http://www.coralreef.org/coralreefinfo/about.html>
- Coral Reefs
<http://mbgnet.mobot.org/salt/coral/main.htm>
- Corals
<http://www.oceanoasis.org/fieldguide/cnidaria.html>
- Creatures of the Reefs (AMNH)
<http://ology.amnh.org/biodiversity/savingspecies/pages/bahamas.html>
- The Coral Reef Crisis (TIME for Kids, November 10, 2000)
<http://www.timeforkids.com/TFK/magazines/story/0,6277,59711,00.html>
- 25 Things You Can Do to Save Coral Reefs
<http://www.publicaffairs.noaa.gov/25list.html>

6. When the groups have finished their research, have them work on their posters.

7. When the groups have finished their posters, have them give presentations about their topic to the rest of the class. Allow time for students to ask questions.

Evaluation

Use the following three-point rubric to evaluate students' work during this lesson.

3 points: Students were highly engaged in class discussions; created clear, well-written posters that addressed all the research questions; actively participated in their group's presentation about their assigned topic.

2 points: Students participated somewhat in class discussions; created fairly well-written posters that addressed most of the research questions; contributed somewhat to their group's presentation about their assigned topic.

1 point: Students participated minimally in class discussions; created poorly written posters that addressed only a few of the research questions; contributed little if at all to their group's presentation about their assigned topic.

Vocabulary

blast fishing

Definition: The use of dynamite to bring dead fish to the surface

Context: Blast fishing can destroy coral reefs.

colony

Definition: A population of plants or animals of one species that lives in a particular place

Context: Large coral reefs are formed when colonies of coral polyps grow together.

coral polyps

Definition: The tiny animals that join together to form coral reefs

Context: When a coral polyp dies, it leaves behind its hard calcium skeleton.

habitat

Definition: The natural environment of a plant or animal

Context: Nearly a million kinds of plants and animals are known to live in coral-reef habitats.

symbiosis

Definition: The beneficial relationship between two species that live together and depend on each other for survival

Context: Corals and algae live together among reefs in symbiosis.

Academic Standards

This lesson plan addresses the following standards from the National Science Education Standards:

- Structure and function in living systems
- Reproduction and heredity
- Populations and ecosystems
- Diversity and adaptations of organisms

Credit

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