

**Assignment Discovery Lesson Plan**  
**Blue Planet: Seas of Life**  
**Open Ocean**

**Subject**

Ecology

**Grade level**

6-8

**Duration**

One or two class periods

**Objectives**

Students will

- research facts about animal species featured in the video;
- prepare illustrated cards with facts; and
- create a food-web display.

**Materials**

- Computer with Internet access
- Print resources about marine organisms [See procedure #4.]
- Index cards (4 by 6 inches)
- String

**Procedures**

1. As a class, review the definitions of the following terms:
  - food web: a way of showing how plants and animals in a habitat depend on each other
  - habitat: the place where a plant or animal naturally lives or grows; an ecological community
  - predator: an animal that kills other animals for food
  - prey: an animal that is hunted by another for food
2. Ask students to give examples of predators and prey featured in the video.  
Examples:
  - Manta rays are predators of surgeonfish.
  - Young yellowfin tuna are common prey for spinner dolphins.
3. Explain to students that they will research one animal from the video, including whether it is predator, prey, or both; how it helps other species survive; and how other species help it survive. On index cards, students will illustrate an animal and include the information below.

- Name of animal species
- Size (length or height and weight; give a range)
- Physical characteristics
- Where does this animal species live?
- What is its habitat?
- Is it prey? (if yes, list predators)
- Is it a predator? (if yes, list prey)
- Both prey and predator?
- Does it help other species survive?
- How do other species help it survive?
- Fun fact

4. To help students select an animal from the video, you may provide the following list:

- plankton
- hammerhead shark
- triggerfish
- spinner dolphin
- baleen whale
- striped marlin
- sardine
- manta ray
- surgeonfish
- yellowfin tuna
- spotted dolphin
- sailfish
- mackerel
- blue shark
- pilot whale
- sunfish
- jellyfish
- olive ridley turtle
- shearwater

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

- Sea World: Animal Information Database (see also "Animal Bytes")  
<http://www.seaworld.org/infobook.html>
- Ocean Oasis Field Guide  
<http://www.oceanoasis.org/fieldguide/index.html>
- Ocean Animals  
<http://mbgnet.mobot.org/salt/animals/index.htm>
- Ocean Realm: Sea Dwellers  
<http://www.pbs.org/oceanrealm/seadwellers/index.html>
- National Aquarium in Baltimore: Species  
<http://209.251.35.100/animals/species/index.html>

- Enchanted Learning: Ocean Life  
<http://www.EnchantedLearning.com/coloring/oceanlife.shtml>
5. Have the students present their research findings and pin their completed index cards on a bulletin board. After all the cards are hung, use string to connect interdependent species. Example: Striped marlins eat sardines, so a string connects those cards. You may want to ask for student volunteers to make the connections.
  6. Discuss the food web created by the class. Which species are only predators and which are only prey? Which species are both predators and prey? Have students consider what would happen to the food web if one species were to become endangered or extinct. Which species would be affected? Would it be limited to only those that are directly connected? Discuss the importance of every species within the food web.

### Evaluation

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

**3 points:** Students thoroughly researched an animal species and included answers to all questions and accurate illustrations on their index cards; were highly engaged in class discussions and named several species from the video; participated fully in creation of food-web display.

**2 points:** Students researched an animal species and included answers to most questions and mostly accurate illustrations on their index cards; were engaged in class discussions and named one species from the video; participated somewhat in creation of food-web display.

**1 point:** Students had difficulty researching an animal species and included answers to few or no questions and inaccurate illustrations on their index cards; were not engaged in class discussions and named no species from the video; did not participate in creation of food-web display.

### Vocabulary

#### food web

**Definition:** A way of showing how plants and animals in a habitat depend on each other

**Context:** All organisms in the ocean, from baleen whales to tiny plankton, are essential members of the marine food web.

#### habitat

**Definition:** The place where a plant or animal naturally lives or grows; an ecological community

**Context:** Shearwaters are birds that do not live in the ocean, but they play an important role in the marine habitat.

**plankton**

**Definition:** Masses of tiny plants and animals that drift in the water

**Context:** Baleen whales eat plankton by filtering them from the water.

**predator**

**Definition:** An animal that kills other animals for food

**Context:** Manta rays are predators of surgeonfish.

**prey**

**Definition:** An animal that is hunted by another for food

**Context:** Young yellow-fin tuna are common prey for spinner dolphins.

**Academic Standards**

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

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

**Credit**

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