



# Explore a Kelp Forest

## Introduction

A kelp forest is an underwater forest filled with giant brown algae plants that provide food and homes for many different animals. Kelp forests are only found in cool, nutrient-rich, constantly-moving coastal waters. Kelp is large seaweed that grows very fast and has no roots, stems, leaves or flowers. Kelp **blades** look like leaves and use sunlight to produce food for the plant. A kelp **stipe** looks like a stem and provides support for the plant. Kelp attaches itself to rocky surfaces on the sea floor with a **holdfast** that resembles roots. Some animals use kelp as food or attach to it for safety, while others hide or hunt in the kelp forest. Granny's clan travels through kelp forests in search of salmon, their favorite dinner. Salmon, especially juveniles, can often be found hiding out and feeding in kelp forests. Sometimes the orcas use kelp as toys in their games.

## Key Concepts

- ◆ A kelp forest provides habitats for a variety of animal species.
- ◆ Kelp plants don't have roots, stems, leaves or flowers.
- ◆ The kelp forest provides an important habitat for young salmon.

## National Science Education Standards

### Life Science:

- Characteristics of Organisms.
- Organisms and their Environments. (K-4)

### National Council for Teachers of English/ International Reading Association Standards:

4. Students adjust their use of spoken, written and visual language to communicate effectively with a variety of audiences and for different purposes.
8. Students use a variety of technological and information resources to gather and synthesize information and to create and communicate knowledge.

## Inquiry Questions

- ◆ What different ways does a kelp forest help the animals who live there?
- ◆ How is a kelp forest like a land forest? Different?
- ◆ How does a kelp forest help Granny and her clan survive?

# Explore a Kelp Forest (Continued pg 2)

## Activity #1- Visit a Kelp Forest

In this activity, students design a travel brochure to tell visitors about the plants and animals that live in a kelp forest.

**Materials Needed:** drawing paper, markers, photos, glue, crayons, colored pencils

### Procedure:

1. Visit Monterey Bay Aquarium Kelp Forest to view kelp forest and animals.  
<http://www.montereybayaquarium.org/videos/Video.aspx?enc=JTRsYWKpW4kWexwxCFGvKg==>
2. Look at sample travel brochures to see different designs and layout.
3. Fold over drawing paper into tri-fold sections. Use each section for different information.
4. Design your brochure. What unique kelp forest plants and animals should visitors look for? What should visitors pack for their trip? Why is a kelp forest special? Who will be their guide? What should visitors watch out for? Describe food, weather, water temperature, length of trip, transportation.
5. Illustrate brochure with drawings or photos of kelp and kelp forest animals.
6. As tour guide, include a message from the animals asking the human travelers to travel gently through their home.
7. Display your travel brochures on a bulletin board.

## Activity #2- Make an Orca Windsock

**Materials Needed:** construction paper, crepe paper streamers, yarn or string, markers, crayons, tape, glue, decorations (glitter, stickers, ribbons)

### Procedure:

1. On a piece of construction paper, design an orca windsock. Add photos, drawings and other decorations.
2. Roll up windsock into cylinder with slight overlap. Glue or tape edges together.
3. Glue/tape crepe paper streamers or ribbons around the inside bottom of windsock. Punch two holes at the top. Loop string or yarn through holes and tie together to hang.



# Explore a Kelp Forest (Continued pg 3)

## Activity #3-Kelp Forest Diorama

In this activity, students create a miniature kelp forest ecosystem.

**Materials Needed:** shoebox or tissue box per student, construction paper, acrylic paint, photos, colored pencils, crayons, markers, string or monofilament fishing line, scissors, glue, tape, brushes

### Procedure:

1. Imagine you have been asked by the animals of a kelp forest to create a new home for them.
2. Select the plants and animals that will be in your diorama.

#### Kelp Forest Plants and Animals

*Sea Otter* – Dives for crabs and sea urchins and floats in kelp at surface.

*Kelp Crab* – Has a brown shell and clings to kelp for safety and eats it for food.

*Sea Cucumber* – Looks like pickle as it creeps along sea floor on tiny suction cup feet.

*Blue Rockfish* – Swims among kelp to search for shrimp and jellyfish.

*Brown Snail* – Eats and lives on upper blades of kelp plants.

*Salmon* – Hides in kelp to escape predators. Hunts shrimp and small fish for food.

*Resident Orca* – Swims through kelp to search for salmon to eat.

*Harbor Seal* – Dives in kelp for salmon and rockfish.

*Red Abalone* – Attaches to rocks and catches passing seaweed for food.

*Sea Lemon* – Yellow sea slug that lives on kelp, rocks and sea floor.

*Bat Star* – Lives on kelp forest floor and eats seaweed and small animals.

*Transient Orca* – Swims through kelp to search for seals.

*Giant Kelp* – Is largest kelp on Pacific coast and forms thick forests.

*Gray Whale* – Feeds in kelp beds for small animals that cling to kelp.

*Red Sea Urchin* – Lives on sea floor with body shaped like ball with long sharp spines.

*Green Anemone* – Looks like green sea flower and has poisonous tentacles around body.

3. Choose a box (tissue or shoe) and cut off front panels.
4. Plan layout of your habitat and make a list of materials you need.
5. Paint or glue construction paper to inside top, back and sides of box to resemble kelp forest.
6. Use green construction paper cut in squiggly lines or green pipe cleaners to make kelp. Hang from inside top panel.
7. Draw plants, animals and rocks. Attach some to background panel. Glue some to cardboard or construction paper for backing. Make center, side and bottom tabs and attach to these plants, animals and rocks. Position and glue tabbed plants, animals and rocks to sides, bottom and back of box.
8. Hang other animals from top of box with thread or fishing line.