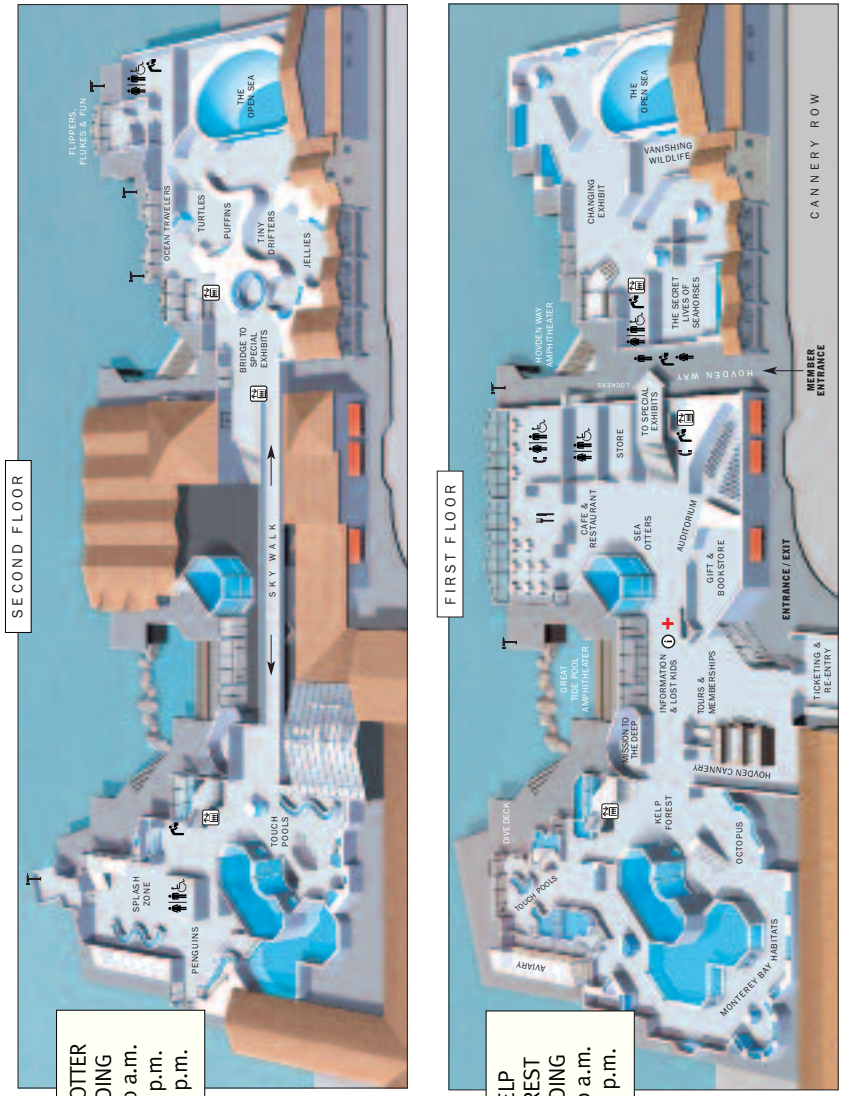
Map



MONTEREY BAY AQUARIUM

Dive into the Deep

NAMES:

Ocean Explorers Observation Guide

Dive into the Deep Review

What did you learn?

- The deep sea, the Earth's largest living realm and the least explored habitat on the planet, is a challenging place to live. It's dark, cold and there's lots of pressure.

- Monterey Canyon, one of the world's deepest underwater canyons and the largest underwater canyon on the west coast, brings the deep sea right to our backyard.

- Animals living in the deep sea have striking adaptations to survive the physical challenges of their habitat.

- Scientists from MBARI (Monterey Bay Aquarium Research Institute) boldly go where few others dare to venture – to the deep sea – using amazing high-tech tools.

- To recognize, understand and learn how to protect the deep sea requires much more time and attention than it does to exploit and destoy it.

Conservation Connections

How can you care for the deep sea?

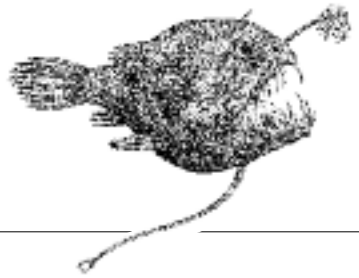
Human impacts on the deep sea—a historically stable, unchanging environment—are increasing. Small changes to an environment that typically sees little change over time can lead to large consequences. As our carbon emissions grow, ocean temperatures and chemistries are changing—even in deep waters. How can you help?

- Reduce the amount of electricity you use. Turn off lights when you leave a room and use energy-efficient light bulbs.

- Reduce the amount of fuel you use. Walk or bike instead of using a car. Put on a sweater instead of turning on the heater.

- Keep learning about the deep sea.
  - Visit the Monterey Bay Aquarium Research Institute's website: www.mbari.org
  - Visit the Monterey Bay Aquarium's *Mission to the Deep* website: www.montereybayaquarium.org/efc/efc_mbari/mbari_home.aspx

- Choose a reusable item like a stainless steel water bottle to use less disposable plastic.



Open Sea

In contrast to the deep sea where food is sparse, food abounds in sunlit surface waters.

Find the fishes pictured below in the Open Sea exhibit. For each fish, find the largest on exhibit and estimate the length and weight (or simply indicate if it is larger or smaller than you).

TUNA

OCEAN SUNFISH

DOLPHINFISH
or *MAHI MAHI*

In contrast to large ocean predators living near the surface of the ocean, most deep sea fishes are very small in size. Why?

Mission to the Deep

MBARI scientists use technology to explore the deep sea and you can too.

Visit the *Mission to the Deep* exhibit and participate in one of three missions to explore the deep sea.

Mission chosen (check one):

MISSION 1 _____	MISSION 2 _____	MISSION 3 _____
Discover Alien Forms	Map Undersea Mountains	Investigate a Sunken Whale

What is the story for the mission you chose?

Kelp Forest

Unlike most deep sea fishes, some fishes living closer to the surface have a swim bladder.

Fishes with swim bladders are able to regulate their buoyancy. One of the fishes pictured below uses a swim bladder to "sit" motionless among the blades of kelp. Which fish is it? Circle your choice.

LEOPARD SHARK

CABEZON

ROCKFISH

SEÑORITA

Why do you think most deep sea fishes lack a swim bladder?

Aquarium-wide

Camouflage is a survival strategy in the deep sea and other habitats. Can you find these masters of camouflage?

Find at least two of these animals and indicate in which habitat you found them in the Aquarium.

CUTTLEFISH *Habitat:*

FLATFISH *Habitat:*

LEAFY SEADRAGON *Habitat:*

BAY PIPEFISH *Habitat:*

GIANT OCTOPUS *Habitat:*

HORN SHARK *Habitat:*

Pick any animal using camouflage in the Aquarium and describe how its camouflage is different than a vampire squid's camouflage.