



Student Guide Book
Grades 6-8

Dear Teachers:

We are so excited you chose the Oregon Coast Aquarium for your field trip. Use the activities and questions in this book with your students to make the most of your visit. Make a double-sided copy of this guidebook for each of your students. All of the activities can be conducted in the galleries and exhibits throughout the Aquarium. There are also trained volunteers onsite that are more than happy to help students and answer any question they might have.

Keep in mind:

Students and chaperones must remain together at all times.

Please don't use our tanks as a writing surface – they are easily damaged.

Over 500 different species of animals live here. Keep in mind that tapping on the outside of their tanks won't make them come closer; it will probably scare them into hiding.

Thank you for coming to the Oregon Coast Aquarium!



Critter Classification

To **classify** means to group ideas or objects into groups based on their similarities. Scientists that classify living things into groups are called **taxonomists**.

Rocky and Sandy Shores

Invertebrates are animals that lack a backbone. About 97% of all animals on earth are invertebrates. The ocean has a great diversity of invertebrates and some invertebrate groups can only be found in marine environments. Clams, jelly fish, anemones and crab are all examples of invertebrates.

Make and record observations of invertebrates in the Rocky Shore and Sandy Shore galleries. Observations can be recorded in words and pictures.

Species: _____

What characteristics could be used to classify these animals into groups?

- 1.
- 2.
- 3.
- 4.

Extension: When you return to your classroom, use the internet, a dichotomous key or your textbooks to classify these organisms into the following phyla.

Porifera

Cnidaria

Echinodermata

Mollusca

Arthropoda

Which of these phyla are only found in marine environments?



Amazing Adaptations

An **adaptation** is any structure or behavior that helps an organism live in its environment. Adaptations develop in a population over a long period of time.

Aviary

The main purpose of a bird's beak is to get food in the easiest and most effective way possible. The shape of a bird's beak is an adaptation to help it eat certain food in its environment. The shape of a bird's beak can tell you a lot about the diet of a bird species.

Make and record observations of bird species' beaks at the Oregon Coast Aquarium. Observations can be recorded in words and pictures.

1. Species: _____

3. Species: _____

2. Species: _____

4. Species: _____

What tools and utensils do these beaks remind you? (Examples: chisel, spatula)

- 1.
- 2.
- 3.
- 4.

A **hypothesis** is an educated prediction based on observations, research, and prior knowledge. What is your hypothesis of the diet of each species based on beak shape?

- 1.
- 2.
- 3.
- 4.

Ask a volunteer what the diet is of these different species?

- 1.
- 2.
- 3.
- 4.

Extension: Create a photo journal of different bird species found on the Oregon Coast. Describe the shape of each species beak, diet and environment. Explain how the beak shape is an adaptation to help the species live in its environment.

Conservation

The ocean and humans are closely connected. Humans use the ocean for natural resources, transportation, recreation and food. We have direct impacts on ocean ecosystems. Everyone is responsible for caring for the ocean.

Marine debris is defined as man-made objects or trash discarded into ocean environments. It may enter the environment from a boat, or indirectly, when washed out to sea through the watershed (streams, rivers and storm drains). Marine debris can have negative effects on ocean organisms and environments.

Research Question:

WHAT EFFECTS HAS MARINE DEBRIS HAD ON OCEAN ECOSYSTEMS?

Form a Hypothesis:

Choose an exhibit or a species on display that you think has been affected by marine debris. If you are having trouble identifying a species, ask an aquarium volunteer for ideas.

Form a hypothesis about how marine debris has affected an ocean species or ecosystem.

Marine debris has affected _____ (ecosystem or species)

by _____.

Test your Hypothesis:

Create a plan of how you will collect evidence that proves or disproves your hypothesis.

PLAN

1. What observations can you make about the species, where they live and their physical and behavioral characteristics?
2. How can you use resources at the Oregon Coast Aquarium such as staff, volunteers and signs to test your hypothesis?
3. What additional resources could you use outside of the aquarium to test your hypothesis?

DO

1. Make careful observations of the species or ecosystem. What do you observe about species' behaviors and physical characteristics? What do you observe about the environment?
2. Ask volunteers and/or staff and read signs for additional information that helps test your hypothesis.

Analyze your Data:

1. From your observations, highlight evidence that supports or disproves your hypothesis.
2. Do you have enough evidence to prove or disprove your hypothesis?
3. Do you need to collect more information?

Draw Conclusions:

Write a conclusion sentence describing your evidence of how marine debris has affected the species or ecosystem you studied. Was your hypothesis proven?

What can humans do to reduce the impact of marine debris on ocean ecosystems?

Share your Results:

How can you share your results about the impact of marine debris with others?

Extension: When you return to the classroom, study the effects of marine debris on your species or ecosystem even more. Share your results with other students, parents, teachers, etc.

Creative Writing

Rockfish are one of the longest living fish, possibly living as long as 200-years in some areas of Alaska. Write the story or thoughts of a wise old rockfish.