

# OREGON COAST AQUARIUM

## GRADES 3-4 SELF-GUIDED TOUR GUIDEBOOK



Dear Teacher,

Thank you for choosing the Oregon Coast Aquarium for your field trip! The activities in this guide are intentionally not exhibit specific, so they can be completed at multiple locations in the Aquarium allowing flexibility and freedom for your students to choose where and how they want to explore. Our trained volunteers and staff are always happy to help students and answer any question they might have.

This guidebook is designed using the **5E's Model** to help engage your students during their visit and provide additional reinforcement and application for the standards covered in your class.

**ENGAGE:** The purpose of the first E is to peak student interest and assess prior knowledge. This can begin as early as your first announcement about your field trip to the Aquarium and may include a variety of activities done in class prior to your trip. Be sure to check out our Teacher Resources page for ideas and materials.

**EXPLORE:** The purpose of the second E is to encourage students to get out and explore different areas of the Aquarium to begin building their own understanding and connections from what they find.

**EXPLAIN:** After students have had a chance to wander and wonder, the purpose of the third E is to invite them to dig deeper into the lives of the animals and ecosystems in ways that support key NGSS standards for their grade level.

**EXTEND:** The fourth E asks students to be involved in their learning by asking a question, or thinking about connections to their own lives.

**EVALUATE:** Towards the end of their visit, the fifth E asks students to apply what they have learned by providing supporting evidence for a claim based on the previous activities.

Please let me know if you have any questions or if I can support you in any way!

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### TARGETED NGSS STANDARDS AND OCEAN LITERACY PRINCIPLES

#### Grade 3:

- Construct an argument that some animals form groups that help members survive. (3.LS2.1)
- Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (3.LS4.3)

#### Grade 4:

- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. (4.LS1.1)

#### Ocean Literacy Principle #5

- The ocean supports a great diversity of life and ecosystems.



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## GRADES 3-4 SELF-GUIDED TOUR GUIDEBOOK

Dear Students!

We are so excited that you are here at Oregon Coast Aquarium! This guidebook is designed just for you. Each activity can be completed at multiple locations in the Aquarium, so you and your group can choose where you want to explore. As you investigate the Aquarium, our trained volunteers and staff are always happy to help you and answer any question you might have.

**A few things** to keep in mind:

- We are so glad you are here!
- You and your chaperone must remain together at all times. If your chaperone gets lost 😞 let a staff person know and we can help you find them.
- The gravel can be surprisingly slippery, so walking is always recommended.
- Animals at the touch pool **are alive**. Be sure to listen to directions and treat them with care and respect.
- Aquatic animals are more sensitive to vibrations than we are. Tapping or thumping on the glass can be frightening and stressful for them.
- Ask questions, explore, and have fun!



**EXPLORE!**

**Scavenger Hunt!**

Explore the Aquarium to find the answers to each clue!

<p><b>Find two examples of animals that live in a group to help them survive.</b></p>	<p><b>Find two examples of animals that trap air within their fur or feathers to help them stay warm.</b></p>	<p><b>Find two examples of animals that use camouflage (shape or color) for protection.</b></p>
<p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>	<p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>	<p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>

**Make An Observation!**

The shape of different animals can help scientists understand the habitat they live in and their common behaviors. Choose a pair of animals from the list to the right and compare the shape of their tails, fins, mouths, feet or bodies. (*You can either draw or write a description.*) What might their shapes tell you about their lifestyle, behaviors, and habitat?

**Animal Pairs:**

- Seals and Sea Lions
- Puffins and Turkey Vultures
- Yellow Jacks and Rockfish
- Sea Stars and Sea Urchins

<p><b>Animal 1:</b></p>	<p><b>Animal 2:</b></p>
<p> </p>	<p> </p>

## EXPLAIN!

### Better Together

Many different types of animals live together in groups. Find one of the types of animals at the Aquarium that live in groups. Observe them for several minutes and record your observations in the table below.

What animal are you observing?				
Animal observed:				
Time	Circle what the animal is doing.			
0:00 min	sleeping	flying/walking/swimming	eating	grooming/preening
1:00 min	sleeping	flying/walking/swimming	eating	grooming/preening
2:00 min	sleeping	flying/walking/swimming	eating	grooming/preening
3:00 min	sleeping	flying/walking/swimming	eating	grooming/preening

Circle some ways THIS animal might benefit from living in a group.					
protection	finding food	staying warm	finding mates	socializing	raising young

### Form and Function

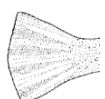
The shape of a fish's tail can tell you a lot about that fish and how it moves. Choose two fish and compare their tail shapes. List them in the table and identify which habitat you found them in.



A **forked** tail is good for swimming most of the time, with the deepest forks on the most active fishes.



A stiff, quarter-moon, **crescent** tail is best for the fastest swimmers.



A short, **square** tail indicates a lifestyle that needs short bursts of speed rather than continuous fast swimming.

Fish Name	Habitat
	<input type="checkbox"/> Estuary <input type="checkbox"/> Rocky Shores <input type="checkbox"/> Sandy Shores <input type="checkbox"/> Kelp Forest <input type="checkbox"/> Sand/Mud Flat <input type="checkbox"/> Open Sea
	<input type="checkbox"/> Estuary <input type="checkbox"/> Rocky Shores <input type="checkbox"/> Sandy Shores <input type="checkbox"/> Kelp Forest <input type="checkbox"/> Sand/Mud Flat <input type="checkbox"/> Open Sea

**EXTEND!**

**Check out one of the animal feedings or presentations!**

- Otter Feed
- Pinniped Feed
- Seabird Aviary Feed
- Ambassador Animal Presentations

What are two questions you have for our staff or volunteers?

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**Staff at the Aquarium have many different jobs.**

**Mammalogist:** (mam-mah-luh-gist) a scientist who works with mammals like the sea otters, harbor seals, sea lions.

**Aviculturist:** (ah-vi-cul-tur-ist) a scientist who works with birds like the turkey vultures, puffins, and murre.

**Aquarist:** (ah-kwar-ist) a scientist who works with fish and invertebrates like the sharks, rays, sea anemones, rockfish, sea stars and jellyfish.

It takes many people doing many different jobs to keep the Aquarium running including: teachers, accountants, mechanics, electricians, chemists, photographers, journalists, chefs, baristas, gardeners, and many more! No matter what job you are interested in for the future, we can use you at the Aquarium!

**EVALUATE!**

**Make A Prediction!**

Based on what you have discovered while exploring the Aquarium, choose an animal and predict where it is most likely to live? (You can choose more than one habitat.) What evidence (behaviors, body structures, diet, etc.) supports your choice(s)?

Animal	Predicted Habitat	What evidence supports your choice(s)?
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Coastal Forest</li> <li><input type="checkbox"/> Estuary</li> <li><input type="checkbox"/> Rocky Shores</li> <li><input type="checkbox"/> Sandy Shores</li> <li><input type="checkbox"/> Kelp Forest</li> <li><input type="checkbox"/> Sand/Mud Flat</li> <li><input type="checkbox"/> Open Sea</li> <li><input type="checkbox"/> Other: _____</li> </ul>	