

OREGON COAST AQUARIUM

GRADES 4-6 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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Plan ahead with our

**FREE Teacher
Preview Pass**



SUPPORTED NGSS STANDARDS AND OCEAN LITERACY PRINCIPLES

NGSS Standards:

- Analyze and interpret data from maps to describe patterns of Earth's features. (4.ESS2.2)
- Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. (4.LS1.1)
- Develop a model using an example to describe the ways the geosphere, biosphere, hydrosphere and/ or atmosphere interact (5.ESS2.1)
- Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. (6.ESS2.6)

Ocean Literacy Principles

- **Ocean Literacy Principle #2:** The ocean and life in the ocean shape the features of Earth.
- **Ocean Literacy Principle #3:** The ocean is a major influence on weather and climate.
- **Ocean Literacy Principle #5:** The ocean supports a great diversity of life and ecosystems.
- **Ocean Literacy Principle #6:** The ocean and humans are inextricably interconnected.

Note: You do not need to print this page. The student packet is pgs. 2 - 6.

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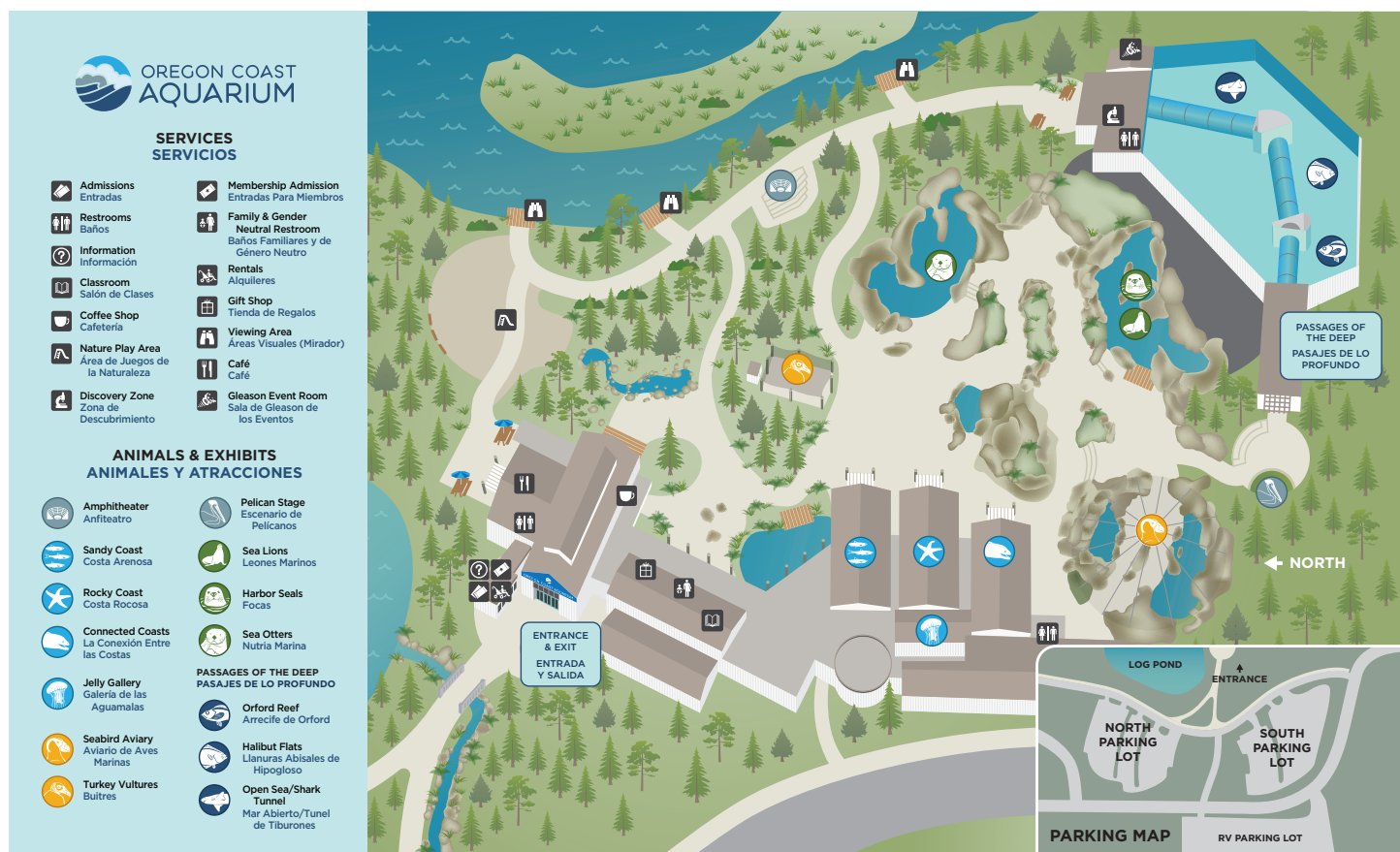


Dear Students!

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 questions 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.

Find 3 animals that are predators.	Find 3 animals that are herbivores.	Find 3 producers. At least one should be aquatic.	Find 3 animals that are either scavengers or filter feeders.
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_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Make An Observation!

1. Choose one of our several jelly exhibits.
2. Examine the tank and draw the jelly's shape in the box below.
3. Then pick one individual jelly to observe for 1 minute.
4. After observing, draw the path your jelly traveled while you were observing it.

Type of jelly observed:



DID YOU KNOW?



Jellies are a type of plankton!

Organisms are considered plankton if they are carried by tides or currents and can't swim well enough to move against them. Because they drift with the current, they allow us to see the path of the flowing water that would otherwise be invisible!

Collect Data!

As you explore the Aquarium, recall your own experiences, collect new observations, and talk to our staff and volunteers to answer each question.

What are ocean temperatures like on the Oregon coast?	Describe the strength of the waves on the Oregon coast.	Where does the water in the Aquarium come from?	Describe the weather at the Aquarium today.

EXPLAIN!

Currents and Climate

Directions: Examine the map in the Connected Coasts Gallery and the ones below. Then use them to explain how offshore currents affect our local climate.

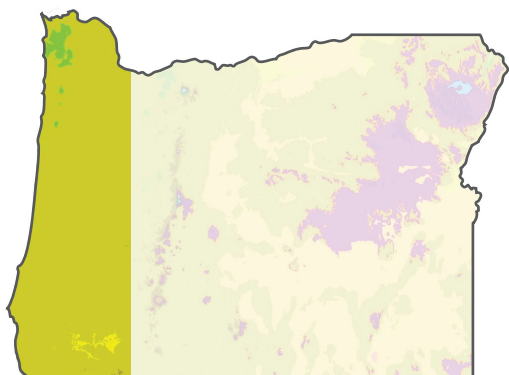
Map: Ocean Currents off the Oregon Coast



What current carries water southward along the Oregon Coast?

Do you think the water this current brings is cold or warm? How might this affect our summer weather?

Map: Oregon Coast Climate Zones



CLIMATE TYPES



Oceanic



Warm-summer mediterranean



Cold-summer mediterranean

What climate zones are on the Oregon Coast?

Based on the maps, how do you think the climate of British Columbia, Canada might compare to ours here in Oregon?

EXTEND

Impact of Tides

Our coast and estuaries are also impacted by the tides - the steady rise and fall of the ocean's height throughout the day. We have 2 high tides and 2 low tides each day caused by the gravitational relationship between the Earth, moon, and to a lesser extent, the sun. We can watch the ebb and flow of the tides from our estuary overlooks.

What time is it now?

Is the tide going out (getting lower) or coming in (getting higher)?

When is/was today's highest tide?

When is/was today's lowest tide?

CHECK OUT TODAY'S TIDE CHART!



EVALUATE

Implications for Living Things

Directions: What adaptations do the animals and plants that live on the Oregon coast have that help them survive in the **cold water** and **strong waves**.

Cold Water	Strong Waves	Cold Water	Strong Waves
			
Harbor Seal	Bull Kelp	Sea Otter	Sea Anemone
ADAPTATIONS	ADAPTATIONS	ADAPTATIONS	ADAPTATIONS

Implications for our Coastline

Directions: How might the **tides**, **waves**, and **currents** affect the physical features of the coastline and the accumulation of marine debris?

