

VIRTUAL FIELD TRIP TEACHER'S GUIDE

View from A Canoe: Exploring the World's Largest Coastal Temperate Rainforest

Grades: 3-8

Subjects: Science, Social Studies, Geography

Purpose: This guide contains information on teacher preparation for the event, technical information, as well as a variety of student materials, which can be used before, after, or during the virtual field trip. It also contains links to additional resources.

Description of Virtual Field Trip: Can you imagine a place with 100 million acres of forest and 30,000 miles of coastline? It exists. The Emerald Edge is home to the largest intact coastal temperate rainforest, and is more than 800 years old. Take your students on a Virtual Field Trip led by Tsimka Martin of the Tla-o-qui-aht First Nation, to explore this beautiful landscape that stretches from Washington State to Canada's Coastal British Columbia to Southeast Alaska, and find out how nature and people are interconnected.



Tsimka Martin,
Tla-o-qui-aht First Nation

Your students will learn about the importance of conservation and stewardship of the land by indigenous people. Plus, they'll get to see the spectacular wildlife—orcas, salmon, bears, eagles, whales—that call this place home, and play a fun identification game throughout the trip. Glide through the water in a hand-carved canoe, while learning how canoes have connected people to each other and to the lands and waters of this breathtaking place—since time immemorial. It's an experience to remember!

Materials: PDF versions are available online on the VFT page.

Elementary School

- **Nature Spy Handout**
This handout includes images of animals and other items that students will see during the field trip. Print it off and have students check off the images as they see them.
- **Virtual Field Trip Log**
This one page handout can be printed and used before, during, and after the field trip for students to think about what they hope to see, what they learned, what they want to know more about.
- **Vocabulary Graphic Organizer**
This handout includes five vocabulary words used during the virtual field trip and provides a structure for students to define and use them in a sentence.

Middle School

- **Virtual Field Trip Discussion**
This handout can be used during and after the virtual field trip. You can modify the questions as needed or use them as discussion prompts after the trip. The answer key is located at the end of this teacher's guide.

Standards:

Next Generation Science Standards Disciplinary Core Ideas

- ESS2.A: Earth Materials and Systems
- ESS3.A: Natural Resources
- ESS3.C: Human Impacts on Earth Systems
- LS4.C: Adaptation
- LS4.D: Biodiversity and Humans
- LS2.C: Ecosystem Dynamics, Functioning, and Resilience

National Geography Standards

- 4- The physical and human characteristics of places
- 6- How culture and experience influence people's perceptions of places and regions
- 9- The characteristics, distribution, and migration of human populations on Earth's surface
- 14- How human actions modify the physical environment
- 15- How physical systems affect human systems
- 16- The changes that occur in the meaning, use, distribution, and importance of resources

Related Resources: The following lesson plan and video can be used to supplement the virtual field trip.



“Since Time Immemorial”: How Indigenous People Are Reviving Traditional Stewardship

<https://vimeo.com/200720195>

In this video, learn about the 100-million-acre band of living forest and ocean stretching from Washington State, through British Columbia, Canada, to Southeast Alaska. See how Tsimka Martin, of the Tla-o-qui-aht First Nation, uses music to share the history of stewardship. Learn how the revitalization of ancestral stewardship roles is helping indigenous peoples regain authority over their native lands.

Other Related Resources:



The Nature Conservancy's Yellow Island Land Steward, Phil Green, shares amazing animal sounds via SoundCloud. Check out all the sounds here: <https://soundcloud.com/user-444804177>

Orcas

<https://soundcloud.com/user-444804177/orcas-170609-0506>

Dawn Chorus

<https://soundcloud.com/user-444804177/dawn-chorus-august-6-2017-oystercatchers-eagles-seal-pups>

Humpback Whales

<https://soundcloud.com/user-444804177/humpback-20161028-1900>



Tsimka Martin raps, composes music, and writes for her company's blog. Check out some of her posts for a personal up-close view on canoeing, whaling, and Nuuchahnulth culture.

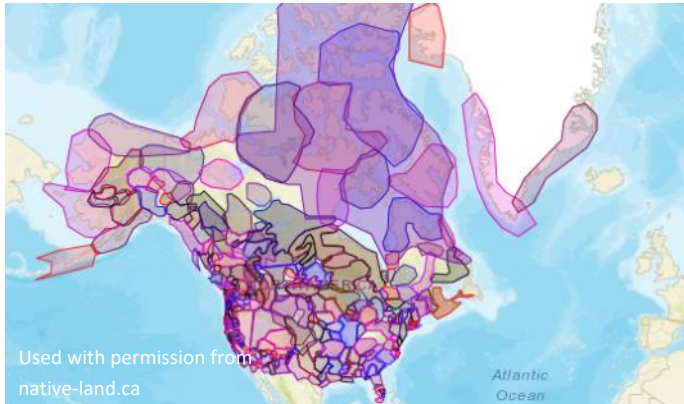
New Word, New Canoe: revitalizing language and naming a canoe
<https://tofinopaddle.com/new-word-new-canoe/>

Kakawin (Orca) and Qwayatsik (Wolf): using animals as family crests and role models

<https://tofinopaddle.com/kakawin-and-qwayatsik/>

Tla-o-qui-aht Whale Hunt: the history of whale hunting and its cultural importance

<https://tofinopaddle.com/tla-o-qui-aht-whale-hunt/>



Native-Land.ca is a resource to help North Americans learn more about the indigenous history of their area. This interactive map can be used to show territories, language families, and treaties.

Explore more at <https://native-land.ca/>



Learn more about The Nature Conservancy's work in the Emerald Edge through a variety of blogs and stories composed by staff.

<http://www.washingtonnature.org/emeraldedge/>

Titles include:

- How do we share indigenous stewardship knowledge?
- Learning the language of a land
- "Nature does not express values; only humans do"
- And many more!

Discussion Questions: You can use or adapt these questions for a follow-up discussion with your students after viewing the virtual field trip. Older students may be able to follow along and answer the questions while viewing.

1. What does First Nation mean?

Answer: First Nations is a term used for the indigenous peoples of North America, in what is now Canada.

Take It Further:

Does this phrase apply in the United States?

Answer: In the U.S. the phrases Native American or American Indian are more commonly used. Native Americans and First Nations people are descendants of the first indigenous peoples in North America. The Inuit were the last native people to arrive to the arctic regions of North America.

2. Tsimka climbed trees outside as a child, and now she enjoys canoeing. Describe the types of things you like to do outside.

Answer: Answers will vary. Some children love to climb up trees and out nature. Parks, nearby forests, streams, and beaches are all places to explore and find wonder in the world.

3. What is unique about the coast line of the Emerald Edge?

Answer: It's about 30,000 miles long due to its inlets and islands, and is the edge of a coastal temperate rainforest. The mountains are also very close to the sea.

Take it Further:

What is a Sound? Are there Sounds where you live?

Answer: A "sound" is a coastal waterway that connects in two or more places to one or more bodies of water. Clayoquot Sound is a sound because it connects to the Pacific Ocean near Tofino and north and south of Flores island. Answers will vary, but Puget Sound in Washington is an example.

4. What is a coastal temperate rainforest?

Answer: A coastal temperate rainforest is rare, occurring in few places around the world. These are rainforests in the temperate climate zones, which means the average temperature is between 39°-45° F, and they receive heavy rainfall. They have seasonal changes as well. They can have broadleaf trees as well as coniferous, like those seen in Clayoquot Sound.

Take it further:

What is the difference between a temperate rainforest and a tropical rainforest?

Answer: Temperate rainforests are located between the equatorial regions and the poles. They have a boarder range of temperature, between 39°-45° F, as well as seasonal changes. They can have frost, tropical rainforests do not. Tropical rainforests are located within the tropical regions of the world. Their temperate range is smaller, a monthly average of 64°F, and they tend to be humid. They only have two seasons, wet and dry. There is heavy rainfall for both types of rainforest.

5. Think of the weather where you live and describe how it is different from a coastal temperate rainforest.

Answer: Answers will vary. There are varying climates around the United Sates, but most of the country doesn't get the same amount of rain that the rainforest does. Some places are most sunny, others are dry.

6. Food is important in almost every culture, like salmon is for the Tla-o-qui-aht. Describe a traditional food for your family, your community, and your country.

Answer: Answers will vary.

7. What important skills do canoeists need when traveling on the ocean? What are similar activities that need a knowledge of nature and natural processes like weather?

Answer: Canoeists need to have knowledge of the tides, wind patterns, and be informed of the latest weather forecasts for the duration of their travel. Hiking, sailing, birding, and other outdoor activities require a knowledge and awareness of weather.

8. Describe the full life cycle of a canoe, from tree seedling to final product.

Answer: A canoe starts as a cedar tree. The tree grows taller and wider for hundreds of years. A canoe carver goes into the forests to find the perfect canoe tree, which once found, they must fell (cut down). The trees are so large that piece must be cut from the tree to make it easier for people to move it to a place where they will carve the details of the canoe. First Nations canoe carvers spend months hand carving canoes.

9. What is logging? What is one effect it has on the landscape?

Answer: Logging is when people cut down trees to make paper or wood products. When a lot of trees have been cleared from a mountainside, rainwater can wash all the way down with nothing to slow or stop it. This causes erosion and clogs rivers with washed-away soil. When there is a lot of sediment or soil in rivers, it can affect the health of organisms like salmon that live there.

10. What is biodiversity?

Answer: Biodiversity is the variety of life in a habitat or ecosystem.

Take It further:

Why is biodiversity important?

Answer: It is important for several reasons including:

- *A variety of plants provides food for insects and other animals and those organisms can provide food for organisms higher up the food chain.*
- *A larger number of plant species means more food variety for all organisms, especially if one were to get diseased and/or die out.*
- *Many medical discoveries have been the result of research into plants and animals and every time an animal or plant goes extinct, we may have lost crucial insight into new medicines for human diseases.*
- *Healthy, biodiverse ecosystems provide services to humans like clean air, clean water, tourism, food, etc.*

What is an ecosystem?

Answer: An ecosystem is a community of interacting organisms and the physical environment in which they live, including biotic (living) and abiotic (nonliving) factors.

11. What is stewardship and why is stewardship by First Nation's people important for Clayoquot Sound?

Answer: Stewardship is the careful and responsible management of something. The indigenous knowledge of place comes with a deep respect for nature. This respect allows for the views on stewardship to encompass ecosystem wide thinking, sustainability of resources, and an understanding of people's place in nature. The goal for everyone is to make sure ecosystems are healthy now and into the future, while being mindful and respectful of culture and heritage.

View from a Canoe: View from a Canoe:

Exploring the World's Largest Coastal Temperate Rainforest

Virtual Field Trip Discussion Questions

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Take it Further:

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2. Tsimka climbed trees outside as a child, and now she enjoys canoeing. Describe the types of things you like to do outside.

3. What is unique about the coast line of the Emerald Edge?

Take it Further:

What is a Sound? Are there Sounds where you live?

4. What is a coastal temperate rainforest?

Take it Further:

What is the difference between a temperate rainforest and a tropical rainforest?

5. Think of the weather like where you live and describe how it is different from a coastal temperate rainforest.

6. Food is important in almost every culture, like salmon is for the Tla-o-qui-aht. Describe a traditional food for your family, your community, and your country.

7. What important skills do canoeists need when traveling on the ocean? What are similar activities that need a knowledge of nature and natural processes like weather?

8. Describe the full life cycle of a canoe, from tree seedling to final product.

9. What is logging? What is one effect it has on the landscape?

10. What is biodiversity?

Take it Further:

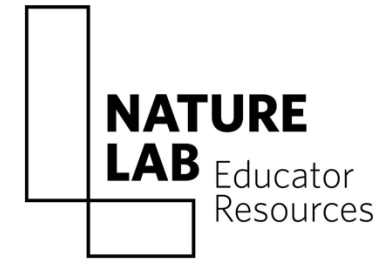
Why is biodiversity important?

What is an ecosystem?

11. What is stewardship and why is Stewardship by First Nation's people important for Clayoquot Sound?

NATURE SPY

You're invited to play a game called Nature Spy. The goal is simple—spot as many animals from the list below during the virtual field trip and check the boxes as you see them. Photos are for inspiration; items may look slightly different during the event. Good luck being a nature spy!



BALD EAGLE



GREY WOLF



SALMON



ORCA



SEA GULL



BLACK BEAR

View from a Canoe Virtual Field Trip Log

BEFORE

I know that..._____

I wonder if..._____

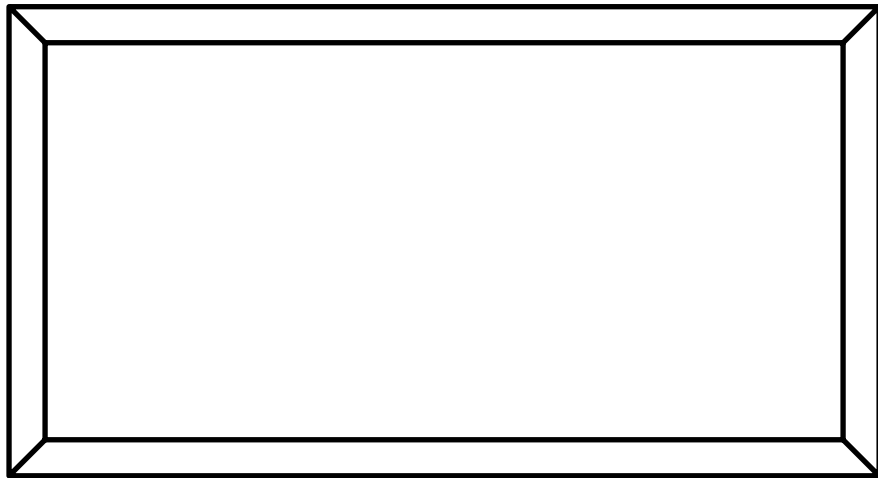
I hope that..._____

AFTER

I want to know more about..._____

My favorite part was ..._____

I learned that..._____



Imagine you are in the coastal temperate rainforest of Clayoquot Sound—what would you be doing? On the left, draw a “selfie” of yourself on your trip.

Rate this virtual field trip by coloring in the number of stars you would give it!

What does it mean?

Word: **First Nation**

Definition:

Part of speech:

- Noun
- Verb
- Adjective
- Adverb

Sentence:

Word: **Temperate
Rainforest**

Definition:

Part of speech:

- Noun
- Verb
- Adjective
- Adverb

Sentence:

Word: **Logging**

Definition:

Part of speech:

- Noun
- Verb
- Adjective
- Adverb

Sentence:

Word: **Biodiversity**

Definition:

Part of speech:

- Noun
- Verb
- Adjective
- Adverb

Sentence:

Word: **Stewardship**

Definition:

Part of speech:

- Noun
- Verb
- Adjective
- Adverb

Sentence: