

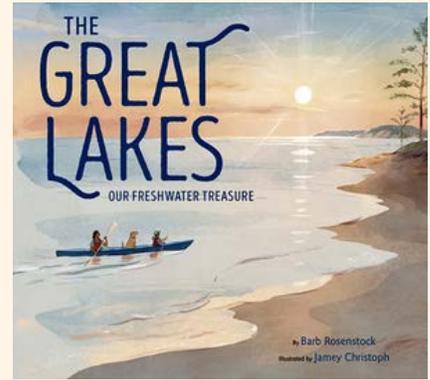
Educator's Guide for *The Great Lakes: Our Freshwater Treasure*

By Barb Rosenstock



Illustrated by Jamey Christoph

Educator's Guide by Lorraine Leddy



About the Book

A stunning picture book about the five largest lakes in North America – how they formed, the importance of their abundant freshwater, and how they've become a national treasure – in the latest book from the author of Caldecott Honor book *The Noisy Paint Box*.

The Great Lakes—Huron, Ontario, Michigan, Erie, and Superior—are five blue jewels set a bit off center in a belt across North America's middle. Bordered by eight states and part of Canada, the Lakes hold 21% of the world's fresh water. How did these incredible lakes get there? And what can we do to preserve such a treasure?

Follow along as a drop of water in this enormous system and uncover its dramatic journey from lake to river to lake, over Niagara Falls to lake and river again, and finally into the Atlantic Ocean.

About the Author

Barb Rosenstock is the author of multiple children's picture books that combine deep research and playful language. Her book, *The Noisy Paint Box*, illustrated by Mary Grandpré, received a Caldecott Honor. Other titles include *The Mystery of the Monarchs*, *Otis and Will Discover the Deep*, *The Secret Kingdom*, and *The Camping Trip that Changed America*. Awards include an Orbis Pictus Honor and a Sydney Taylor Honor, as well as numerous national, educational, and state recognitions. Barb loves sharing stories and inspiring students in schools and libraries across the country. She lives with her family near Chicago.

About the Illustrator

Jamey Christoph has illustrated over 20 picture books including *Stonewall: A Building*, *An Uprising*, *A Revolution* (winner of the Martin Luther King I Have a Dream Prize), *Clackety Track Poems about Trains* (a New York Public Library Best Book of 2019), and *Gordon Parks: How the Photographer Captured Black and White America* (winner of the 2015 NAACP Image Award for Outstanding Children's Literary Work). An old soul, his work draws inspiration from vintage travel posters, comic books, and history paintings alike. A former resident of Ohio, he lives in New Hampshire with his husband and crazy dogs.

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Vocabulary

glacier	millenium	churning
scouring	dunes	plunging
pulverizing	microscopic	invasive
thawing	geological	sludge

Before reading, choose some of these words to introduce, discuss, and define with readers.

During reading, stop to notice these words in context. Connect to definitions and clarify understanding.

Discussion Questions for Interactive Read Aloud

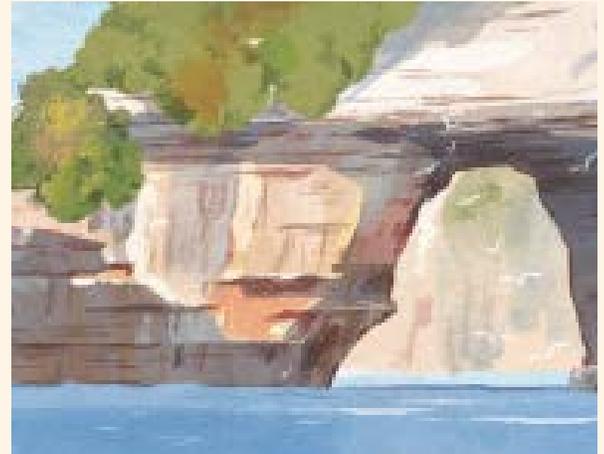
When using *The Great Lakes: Our Freshwater Treasure* for interactive read aloud, discuss any and all of the following questions to prompt deep thinking with your students.

Before Reading

- Have you ever visited the Great Lakes? What do you know about them? (Allow connections to personal experiences as well as prior knowledge from science or social studies.)
- Looking at the cover, we can see the subtitle of this book is “*Our Freshwater Treasure*.” Why might lakes be considered a treasure? Let’s think back to this subtitle as we read the book today.

While Reading

- In your own words, what did we learn about how the Great Lakes were formed? Let’s look back at the illustrations and explain what is happening.
- Let’s use our map to trace the route a water drop would take from Lake Superior all the way to the Atlantic Ocean. What surprises you about this journey? What facts did the author share that interested you?
- Now that you know how little surface freshwater there is on earth, what do you think humans can do to protect this important source of water?



After Reading

- Why do you think the author wrote *The Great Lakes: Our Freshwater Treasure*? What message do you think she is trying to share with young readers who pick up this book?
- What fact about the Great Lakes surprised you most as we read?
- What questions do you still have about the Great Lakes? Where could you go to find answers?
- What do you know about water sources in our community? What questions do you have about how we get and use our water?
- Who do you think should read this book and why?

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Sparking Inquiry

After reading, encourage readers to create the T-chart below in a reader's notebook. Readers can fill in the chart with newly learned facts and follow-up questions. Providing readers time to share their learning with others and research new questions sparks inquiry and supports developing content knowledge.

My New Learning About the Great Lakes

Ex. I learned the Great Lakes only took their current shape 3,000 years ago.

Questions I Have About the Great Lakes

Ex. I wonder what other types of fish and animals call the Great Lakes their home.

Writing Prompts

- Why is it important to protect the Great Lakes? In your response, include 3 key details from *The Great Lakes: Our Freshwater Treasure*.
- How did the Great Lakes come to be? In your response, include 3 key details from *The Great Lakes: Our Freshwater Treasure*.

CCSS.ELA-LITERACY.RI.2.3

Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.

CCSS.ELA-LITERACY.RI.3.3

Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

CCSS.ELA-LITERACY.RI.3.7

Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

Analyzing Text Structure

Depending on the grade level of your students, you can use *The Great Lakes: Our Freshwater Treasure* to analyze text structure as a whole-class, small group, or independent activity. Consider how the author uses **cause & effect** and **sequencing/chronology** to tell the story of how the Great Lakes came to be.

Cause

“People cleared forests, overfished waters, drained swamps, farmed wetlands, dug canals...”



Effect

“Unshaded waters grew warmer, dozens of invasive plants and animals moved in, many native plants and animals died...”



A million years later...



Three thousand years ago...



A few hundred years ago...

CCSS.ELA-LITERACY.RI.3.8

Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).

CCSS.ELA-LITERACY.RI.4.5

Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.

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Biological Evolution Around the Great Lakes

Observing and analyzing fossils can help students learn about organisms of the past and the places they lived. Students can use the thinking stems below to analyze these and other images from the [University of Michigan Museum of Paleontology Online Repository of Fossils](#).

I see...

I think...

I wonder...



NGSS 3-LS4-1.

Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

Animals & Habitats

The illustrations in *The Great Lakes: Our Freshwater Treasure* depict many of the animals that call the Great Lakes home. Learners can research creatures mentioned in the text: crustaceans, perch, trout, walleye, lake sturgeons. What makes the Great Lakes great places for these animals to live? Learners can note the attributes of the Great Lakes as a habitat where these creatures can survive well.



NGSS 3-LS4-3.

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.

Weathering & Erosion

As *The Great Lakes: Our Freshwater Treasure* explains, “Storms move shorelines and sand dunes. Rocks wear down as lake levels surge and fall.” Learners can research erosion happening in high-risk erosion areas on the coasts of the Great Lakes. Using the *I see... I think... I wonder...* routine above, learners can make observations to provide evidence of the effects of weathering and erosion.



Photo by Michigan Department of Environment, Great Lakes, and Energy

NGSS 4-ESS2-1.

Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

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The Great Lakes & Geography



The geography of Great Lakes is intertwined with the geography of 8 U.S. states. After reading *The Great Lakes: Our Freshwater Treasure*, readers can use maps and photographs to explain the relationships between the borders of these 8 states and the Great Lakes. Learners can also research how the states got their shapes and how, in parts, the Great Lakes serve as a natural border between the U.S. and Canada. Understanding this geography will also help learners understand which states are most impacted by the health of the Great Lakes.

C3 Framework D2.Geo.2.3-5.

Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions and their environmental characteristics.

Great Lakes Policies

There are many state and federal policies that address how people interact with the Great Lakes. As a social studies exploration, have students research:

- how building laws in the states bordering the Great Lakes work to protect both the people and the Lakes from erosion
- how fishing regulations impact the native species that call the Great Lakes home



C3 Framework D2.Civ.13.3-5.

Explain how policies are developed to address public problems.

Taking Action

In *The Great Lakes: Our Freshwater Treasure*, readers learn that we can help the Great Lakes “by working with groups that protect the lakes, and making sure our government knows we care about preserving them.” After reading the book and researching how the Great Lakes need our help, have students work independently or with a peer to write a letter to state or federal representatives urging them to protect the Great Lakes.



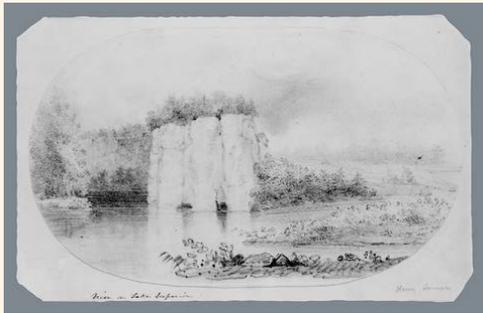
C3 Framework D4.7.3-5.

Explain different strategies and approaches students and others could take in working alone and together to address local, regional, and global problems, and predict possible results of their actions.

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Art Inspired by the Great Lakes

After reading, have students think about the many generations of people who have been inspired by the Great Lakes. Students can analyze art inspired by the Great Lakes to see how it connects to the information they learned in the book. Then, students can create their own artwork inspired by a field trip (either real or virtual!) to the Great Lakes. For more artwork inspired by the Great Lakes, [see this article](#).



"View on Lake Superior"
by Henry Inman (1801-1846)



"Thunder Cape"
by William Armstrong, 1867.



"Behind Dunes, Lake Ontario"
by Homer Dodge Martin, 1887.

Indigenous Peoples

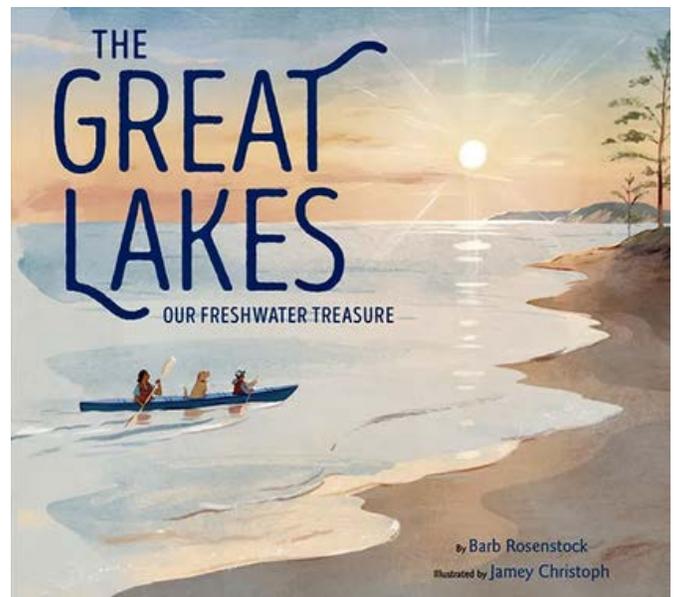
In *The Great Lakes: Our Freshwater Treasure*, readers meet the Native peoples who "cherished the Great Lakes' riches." Students can research the indigenous peoples who call the Great Lakes region home, including the Chippewa, Fox, Huron, Iroquois, Ottawa, Potawatomi and Sioux [1]. The website Native-Land.ca will allow learners to view maps showing the lands of different Native groups in the Great Lakes region.



Thank you for reading this Educator's Guide! For more about the book, please visit the author's website by clicking the link below:

www.barbrosenstock.com

Happy reading and learning!



1. <https://www.eekwi.org/great-lakes/humans-and-great-lakes/native-peoples-great-lakes-region>