

World Lake Day (August 27, 2026)

TEACHING GUIDE

What? World Lakes Day, a day created by the UN to remind us that lakes provide the fresh water we need and that they are now under threat.

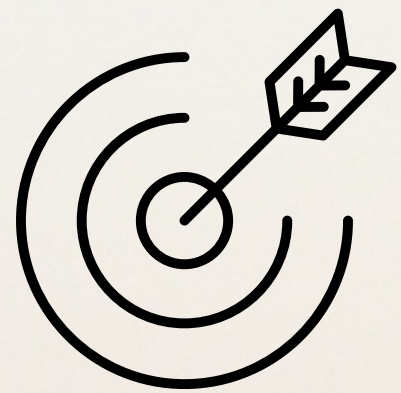
Who? Everyone who lives near a lake or drinks its water.

Where? All over the world, and especially in Japan, near Lake Biwa, where it all began for this special day.

When? Every August 27th since 2025, a date chosen to commemorate August 27, 1984, the day of the first major World Lakes Conference.

Why is it important? Because lakes provide us with drinking water and are home to thousands of species, but they are being damaged by pollution and climate change.

For this activity, your goal will be to learn more about these five important lakes that make up the Great Lakes of North America.



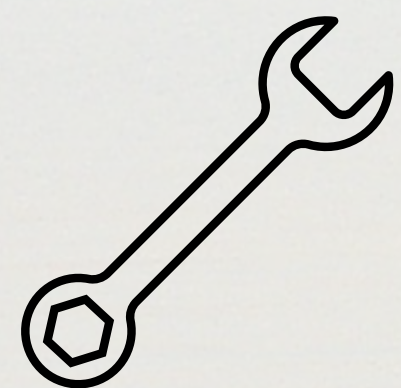
OBJECTIVES

- Discover the five Great Lakes and their relative positions
- Understand that a topographic profile reveals information invisible on a map
- Calculate a depth difference and a distance from a diagram
- Explore the Niagara Falls region using Google Earth



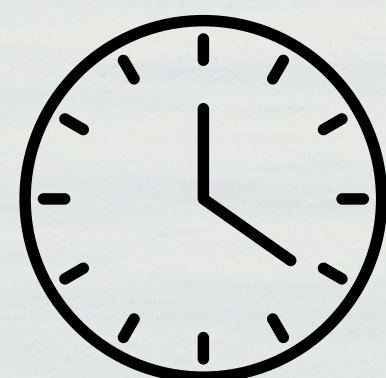
SUBJECTS

- **Geography**
 - Reading a topographic profile
 - Concepts of altitude and depth
 - Borders and shared territories
- **Mathematics**
 - Adding large numbers
 - Subtracting and determining the difference between two values
 - Comparing measurements
- **English**
 - Reading comprehension
 - Short and justified answers
 - Geographical vocabulary



COMPETENCIES

- Read and interpret a technical diagram
- Perform calculations with large numbers
- Search for and interpret information
- Orient oneself in space using a digital tool
- Produce a structured response



DURATION

- Approximately 60 minutes



GETTING STARTED

- Ask the students to name the Great Lakes they know, without help.
- Ask them if they have ever seen a lake large enough that you can't see the other side.
- Show them a map of North America and have them locate the five major lakes.
- Ask them: Who owns a lake located between two countries?
- Gather their hypotheses before beginning.

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QUESTIONS AND ANSWERS

STEP 1 — Discovering the Great Lakes. Watching of a video, then reading of the profile of the Great Lakes system, and answers to five questions combining diagram reading and calculations.

Q1 — Lake Superior is 406 meters deep. Its bottom is below sea level.

Q2 — Lake Michigan (281 m) is deeper than Lake Huron (229 m). The difference is 52 meters.

Q3 — $610 + 97 + 359 + 143 + 380 = 1,589$ km.

Q4 — At 6 meters above sea level.

Q5 — From west to east. The lakes get progressively lower along the route.

STEP 2 — Impressive Niagara Falls. Exploration of the falls area using Google Earth, then answers to four written location questions.

Q6 — Lake Erie and Lake Ontario.

Q7 — The Canadian side.

Q8 — Goat Island.

Q9 — The city of Buffalo, New York.

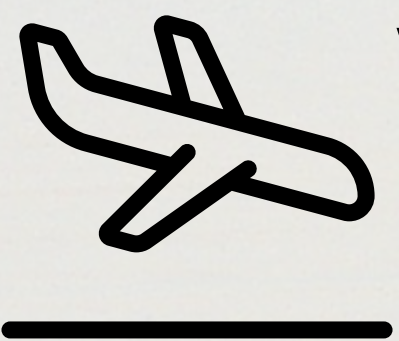
STEP 3 — Lake Ontario or Lake America? Reading of an informational text about the American decree renaming Lake Ontario, then answers to four multiple-choice questions.

Q10 — Lake America.

Q11 — Because its southern shore is American and its northern shore is Canadian.

Q12 — The lake's name appears only on American government documents.

Q13 — The governor of New York, Kathy Hochul.



WRAPPING UP

- Conduct a group review of what the students have learned.
- Discuss what surprised them most (the bottom of Lake Superior being below sea level, the 1,589 km to Buffalo, the name change).
- Ask: If two countries give the same lake two different names, which one is correct?



FURTHER EXPLORATION

 Paula Ellis. *Great Lakes Activity Book*. Adventure Publications

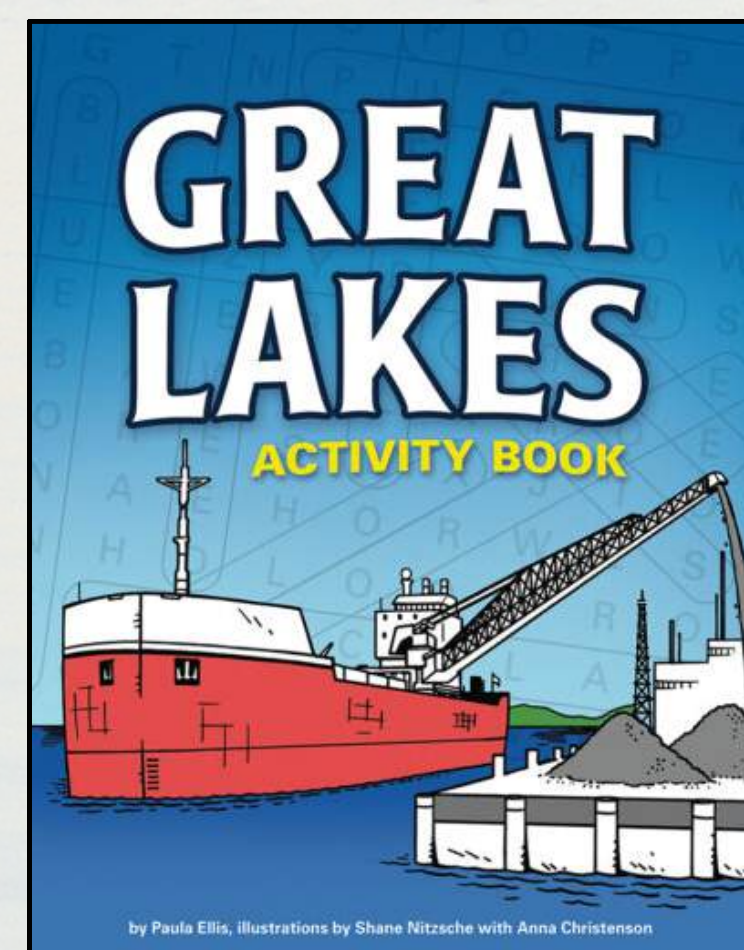


Table to be completed (volume = surface area × average depth ÷ 1,000)

Lake Superior — $82,100 \times 141 \div 1,000 \approx 11,576$ km³

Lake Victoria — $68,800 \times 39 \div 1,000 \approx 2,683$ km³

Lake Tanganyika — $32,900 \times 574 \div 1,000 \approx 18,885$ km³

Lake Baikal — $31,700 \times 744 \div 1,000 \approx 23,585$ km³

Questions

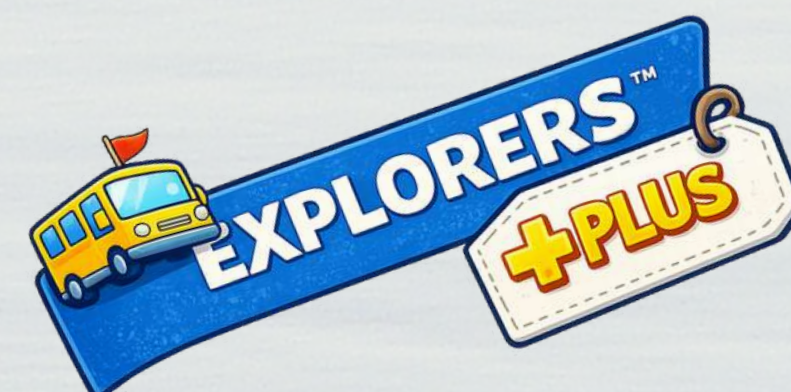
Q1 — $82,100 \div 31,700 \approx 2.6$ times

Q2 — $23,585 \div 11,576 \approx 2$ times

Q3 — $11,576 \div 2,683 \approx 4.3$ times

Q4 — $744 \div 141 \approx 5.3$ times

Q5 — Open-ended answer. Expected clue: A lake is like a container. A large, very shallow dish holds less water than a small, very deep bucket.





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The largest freshwater lakes

You now know about the Great Lakes. Lake Superior is the largest lake on the planet... But is it really the one with the most water?

To find out, you're missing one column: the volume column. It's up to you to fill it in!

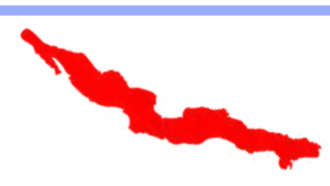
$$\text{Volume} = \text{Surface area} \times \text{average depth}$$

⚠ Watch out for the trap! The surface area is in km^2 , but the depth is in meters. First, multiply the two numbers, then divide the result by 1,000 to get km^3 .

Let's try it with Lake Michigan, which you've already seen. Its surface area is $58,000 \text{ km}^2$ and its average depth is 85 m.

$$58,000 \times 85 = 4,930,000. 4,930,000 \div 1,000 = \text{approximately } 4,930 \text{ km}^3$$

Scientists, however, measured $4,920 \text{ km}^3$. See? It works! 🎯 Now it's your turn to play with the four lakes in the picture!

Lake	Area	Average Depth	Water volume (km^3)
 Superior (North America)	$82,100 \text{ km}^2$	141 m	
 Victoria (Africa)	$68,800 \text{ km}^2$	39 m	
 Tanganyika (Africa)	$32,900 \text{ km}^2$	574 m	
 Baikal (Siberia, Russia)	$31,700 \text{ km}^2$	744 m	

Q1 — Lake Superior is much larger than Lake Baikal. How many times larger is its surface area?

Q2 — Yet, Lake Baikal contains more water! How many times is its volume greater than that of Lake Superior?

Q3 — Lake Victoria has almost the same surface area as Lake Superior. How many times less water does it contain?

Q4 — Compare the depths of Lake Baikal and Lake Superior. How many times deeper is Lake Baikal?

Q5 — In your opinion, how can a lake that is almost three times smaller contain twice as much water? Explain in your own words.

SURFACE AREA vs VOLUME

Two different ways to measure!

Let's use a lake as an example.

SURFACE AREA

It's the measurement of the outside surface. We measure how much space there is on the surface.



We look from above!

Common units: m^2 (square meters) or km^2 (square kilometers)

VOLUME

It's the measurement of the amount of space on the inside. We measure how much water the lake can hold.

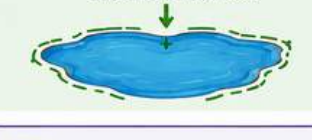


We look inside!

Common units: m^3 (cubic meters) or L (liters)

KEY POINTS

SURFACE AREA = SURFACE
It tells us the size of the top.



VOLUME = CAPACITY
It tells us the amount inside.



EXAMPLE:
Two lakes can have the same surface area, but very different volumes!



Shallow lake
LARGE surface area,
SMALL volume.


Deep lake
SMALL surface area,
LARGE volume.