



LESSON PLAN

Witnessing Icebergs



RELATED PHOTO ESSAY

Melting Away

BY CAMILLE SEAMAN



Witnessing Icebergs

Key Idea

Icebergs play a vital role in global climate stability. In the last 20 years, icebergs have melted at unprecedented rates, changing marine dynamics, the balance of sea levels, and weather patterns.

Background

Since 2003, photographer Camille Seaman has documented the fragile environment of the polar regions. Seaman grew up with a Native American father of the Shinnecock tribe and an African American mother on Long Island. As a child, Seaman's grandfather taught her traditional Native American ways to see and observe the natural world, which has influenced her vision as a nature photographer. In this photo essay, Seaman captures icebergs from Antarctica and the Arctic, including regions of Svalbard, Greenland, and Iceland.

Icebergs are chunks of freshwater ice that have broken off of glaciers and float in the ocean. They are considered icebergs at 16 feet in total length and can weigh up to 100,000 to 200,000 tons. As little as one-eighth of an iceberg is visible above the water and scientists estimate that the lifespan of an iceberg—from the first snowfall on a glacier to the final melting—can be as long as 3,000 years.*

Scientists study icebergs to discover information about the climate and ocean processes. According to National Geographic, there are more than five million cubic miles of ice on Earth and if we continue adding carbon to the atmosphere, the average temperature could rise to 80 degrees Fahrenheit instead of the current 58 degrees. Scientists anticipate that increased ice melt will affect oceanic flow cycles, which would accelerate the impacts of climate change.

* "[Encyclopedic Entry Icebergs.](#)" National Geographic Education.



Class: 60 minutes

SUBJECT AREAS

HIGH SCHOOL

- Anthropology
- Environmental Science
- Modern World Studies
- Photography

COLLEGE

- Cultural Anthropology
- Environmental Studies
- Geography
- Photography

THEMES

- Bearing witness
- Effects of climate change
- Responsibility

MATERIALS

- Access to the photo essay online (or printed copies of it)

PREPARATION

- (Optional) Make copies of the photo essay



Connections to National Standards

Common Core English Language Arts. SL.9-10.5 and SL.11-12.5. Make use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understandings of findings, reasoning, and evidence and to add interest.

Next Generation Science Standards. HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.

College, Career, and Civic Life (C3) Framework for Social Studies State Standards. D2.Geo.2.9-12. Use maps, satellite images, photographs, and other representations to explain relationships between locations of places and regions and their political, cultural, and economic dynamics.

Lesson

SETTING THE STAGE

Introduce the photo essay to the class by telling students they will be looking at images of icebergs from the Arctic regions of Svalbard, Greenland, Iceland, and Antarctica. Ask students if they have ever heard of the phrase “the tip of the iceberg.” This phrase comes from the fact that only one-eighth of an iceberg is visible above water. Explain to students that the biggest iceberg ever found was the B-15 iceberg that broke off in Antarctica in 2000. It was 183 miles long by 23 miles wide. The water contained in this iceberg could have supplied the United States with enough fresh water for 5 years.*

* [“Encyclopedic Entry Icebergs.”](#) National Geographic Education.

ENGAGING WITH THE STORY

Direct students to view the photo essay in pairs. Have students read the text by photographer Camille Seaman that accompanies the photo essay. This text explains Seaman's point of view as a nature photographer. Ask them to write down their observations and impressions. As a photographer, Seaman believed she had a responsibility to share these images of icebergs after she witnessed their beauty, grandeur, and became more aware of climate change.



Witnessing Icebergs

Ask students if they have been a witness to something negative or positive and felt the need to share it with others. What's worth sharing and what's not? How does bearing witness to something create an opportunity for sharing?

Delving Deeper

Lead a discussion with such questions as:

- Seaman says she approaches each iceberg as a portrait of an individual, much like a family photo. How does this perspective affect you as the viewer?
- As a child, Seaman learned how to observe and see the natural world from her Native American father and grandfather. She was raised to know that all things are interconnected, that there is no such thing as separation or isolation. Do you think this worldview influences her point of view as a photographer? If so, how?
- “How sad that my images will be the record for what it once looked like in a time when humans had intellect, technology, and reason but no will to see beyond their own timeline and possessed no desire to be a good ancestor,” said photographer Camille Seaman. What do you think she means by being a “good ancestor”? From your own experience, would you agree or disagree with her perspective that humans have no will to see beyond their own timeline?
- What might the author mean when she says, “I documented what I felt and saw with my camera, I bore witness and knew that with this privilege came the responsibility of sharing that work, sharing the story and the experience of being in that sacred place of our planet.” How can bearing witness initiate an urge to share what you've seen with others? What are some examples from real life experiences, either your own or others, that can support your argument?
- Seaman writes that we can all live in service to each other and that “every action has an effect.” How do your actions affect you individually? How do they have an effect on others?



Witnessing Icebergs

- Why do you think Seaman chose not to use captions in this photo essay? What are some advantages and disadvantages of including captions in a photo essay?

Reflecting and Projecting

Give students one of the following reflective writing prompts to demonstrate their understanding of the story. (Note for teachers: Just as quotes from a book or text are used to prove an analytical thought, students use the photo essay to justify their reasoning.)

1. Included in Seaman's opening description is a poem by John Trudell titled "Crazy Horse." Write a paragraph describing what you think Trudell means in this poem and how it relates to the photo essay.

One Earth, one Mother

One does not sell the Earth

The people walk upon

We are the land

How do we sell our Mother?

How do we sell the stars?

How do we sell the air?

(CCSS.ELA.SL.9-10.5 and SL.11-12.5)

2. Imagine you are a journalist taking a trip to the Arctic regions of Svalbard, Greenland, and Iceland. You will be taking a team of people with you to report on the changes of the melting icebergs of these regions over time. Who would you bring on your team and why? Which photographs from the photo essay would you share with your potential team members to convince them to join you?
(C3.D2.Geo.2.9-12)



Witnessing Icebergs

3. Seaman documented icebergs in the Arctic and Antarctic for over 10 years. This [interactive map](#) from National Geographic shows what it would look like if all of the ice on land melted and drained into the sea. Click on Antarctica to examine the present-day shoreline to compare to the possible future shoreline. What do you notice? (NGSS.HS-ESS2-2)

Resources

(Website) [Camille Seaman](#).

James Estrin, "[Icebergs Frozen in Time by a Portraitist](#)."
New York Times: Lens Blog, July 11, 2012.

(Interactive Map) "[If All the Ice Melted](#)." *National Geographic*.

Jeff Rubin, "[Life on Ice](#)." *Audubon Magazine*.