

Grosvenor Teacher Fellowship: A Life-Changing Expedition to the Arctic

By Jenny Bolch

Hearing the thunderous crash of a glacier calving next to you, in the bright sunlight of midnight, isn't something you can read about in a textbook and appreciate. Without feeling how powerful this is, with the percussion and reverberating boom, and nearby icebergs spinning from the impact, then why would you care about connected issues like the glaciers melting and climate change as a part of our daily reality?

Each year, National Geographic and Lindblad Expeditions select thirty teachers to go on expeditions through the Grosvenor Teacher Fellowship Program (<https://www.nationalgeographic.org/education/programs/grosvenor-teacher-fellows>), to help solve this problem. As one of these teachers, it is my job to find ways to bring this experience back to my classroom and community.

As we explored Svalbard, Jan Mayen, Greenland's east coast, and Iceland's west coast via the National Geographic Explorer ship, I felt like I was on board a floating school. We had experts from around the world teaching us throughout the expedition. We landed almost every day in a new and remote location (field trips!) and spent the evenings having the day's information presented to us like classes. As we hiked through the snow, experts in arctic flora pointed out the Svalbard poppy that only grows in tiny ravines where it can be protected from the harshest winds and drink the limited water that collects there. Experts in arctic fauna explained the differences between each whale that popped up next to our ship and why it wasn't a good idea to break too much ice, despite the ship's icebreaking capability, , because it would cut back on the polar bear's hunting season. National Geographic photographers gave us tips on how we could get better shots to share our stories. Geologists and polar divers passionately explained the changes that warming temperatures have on the arctic regions. Deep sea and arctic explorer Joe MacInnis spent hours inspiring me with his stories and wisdom about teamwork and leadership in high risk environments. Here is a video interview I did with him about how children can become explorers:

<https://www.youtube.com/watch?v=8KVuQkYxGcw&feature=youtu.be>

I took copious notes on everything we learned and worked with the teen group on board the ship to turn each major concept into a hands-on experiment that a second grader could learn from. Each experiment would need to be something that could be replicated by teachers that were not on board the ship, but in their own classrooms, as well as have some larger "what's the point?" connection. We constructed scientifically-accurate glaciers out of ice cream and learned about why glacial rivers are silty, how climate change effects glaciers, and what we can do to help. We took a presentation on thermoclines and designed an experiment with hot and cold water dyed with food coloring to show why arctic waters are more productive and how this could be effected with even a few degrees of temperature change in our oceans. We used melting ice cream and an apple to demonstrate the effects of permafrost and then designed a structure to

keep the apple from sinking into the ice cream, explaining why houses in Svalbard and other places with permafrost can't be built directly on the ground. Over the next few months, I will be trying out these lessons and many others I have been working on with the second graders in my class. When the full curriculum is completed, teachers will be able to access it here:

<https://www.teacherspayteachers.com/Store/Jenny-Bolch>

Another project I'm working on is writing and illustrating a series of children's books about important global issues. This expedition inspired one about climate change and how it affects animals in polar regions in a way that is consumable by young children. It will have a non-fiction section in the back of the book that tells ways that kids and teachers can take action to help make a difference.

This opportunity has been incredibly inspiring and powerful for me. It has launched me in a direction that will allow me to share what I have learned with my students and teaching community, a direction that will hopefully make a small difference in the world.



Svalbard has 1/3 of the world's polar bears



The ship we were on



Glacier viewing at midnight



Painting a walrus seen that morning as a study for my book



Polar bear found dead of starvation on Svalbard



Svalbard poppy covered in frost



One of the teenagers in my group building a glacier out of ice cream



Me standing in front of a glacier in Svalbard



Permafrost experiment