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Clover High teacher treks to the Arctic Circle for spider research

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Nick LaFave, who will spend six weeks in Alaska this summer working on a research project, teaches many of his environmental science classes in this outdoor education area near Clover High School. JENNIFER BECKNELL — news@enquirerherald.com

Environmental science teacher Nick LaFave doesn't like to give long classroom lectures or rely heavily on a textbook. He prefers his students to learn about science by doing it.

His classes study the populations of species, for example, by trapping turtles. And they can learn about the typical 10-to-1 prey-to-predator ratio by catching fish in a science area on the Clover High School campus.

"It's a lot more meaningful than if they just read it in a book," said LaFave, who aims to inspire as well as educate. "You can stand in front of a group of people and teach, and it doesn't mean that they're learning a thing."

This summer, the Clover High School teacher plans to give the ultimate science lesson. While 38-year-old LaFave treks to the Arctic Circle for six weeks to participate in research on wolf spiders and their impact on the environment, students will follow along on his blog and on a video chat broadcast.

"It's given me a chance to work hands-on, directly in real-life science, and look at ways to tie what they are doing to my students," said LaFave, who teaches classes in environmental science.

LaFave leaves June 3 to join a project led by Duke University researcher Amanda Koltz in the Arctic Circle. They will be living and working out of remote Toolik Field Station, located in the northern foothills of the Brooks Range, about a 10-hour drive north of Fairbanks, Alaska.

The team will be exploring whether the warmer climate and longer growing period for the spiders in Alaska is causing changes, such as bigger spiders and a more numerous population, he said. Those are changes that could influence the delicate structure of food webs in the Arctic.

"We're literally going to be in the middle of nowhere for six weeks," he said, referring to the research camp operated by the University of Alaska. "I think it's going to be an exciting experience."

LaFave — who has been teaching science for about 15 years, the last four years at Clover High — said he has always wanted to take part in a polar research expedition. He was among about 250 educators nationally who applied last fall for 16 research slots.

The opportunity for LaFave and the other teachers who were chosen was made possible through PolarTREC, an educational research experience in which K-12 teachers participate in polar research, working with scientists as a way to improve science education.

PolarTREC is funded by the National Science Foundation. The first expeditions departed in April 2012, with science teachers deploying to Alaska, Norway and Siberia. The Antarctic field season will be in full swing by October and continue through the winter of 2013. Topics range from marine biology to Trans-Antarctic Mountain geology.

During LaFave's summer in Alaska, he and other researchers will be staying in buildings or large tents at the research site. He said his students were interested to learn that he'll be limited to one two-minute shower twice each week, and one load of laundry every two weeks.

"It's not glamorous," he said. "I think it's going to be cold and wet, but I'd rather be outside any day."

LaFave said he'll work six-day weeks, spending half a day sampling the population of wolf spiders, which he said are harmless. He said the large spiders are captured in small cups, called pitfall traps. The rest of the day, he said, he'll be busy doing soil analysis in a lab, which is located in a tent.

LaFave said he has already made contacts with other educators through the program. He traveled to Alaska in February for a 10-day orientation, and attended a conference in Montreal in April with educators from around the world.

LaFave believes sharing such experiences with students is crucial to get them interested in science. "Science in the field isn't at all what I thought it was in high school," he said. "It's really quite exciting."

And he is anxious to share that excitement with his students. "If we don't get our students really interested in science, what's the future our of research programs in the United States?"

LaFave said his advanced students will share in his summer experience. His AP students in the fall will be required to follow his blog over the summer, he said, and they'll watch him on a video chat broadcast, too.

LaFave, who is married and the father of a 3-year-old daughter, said leaving his family for the summer isn't easy, but he said he and his wife realized the project is a once-in-a-lifetime opportunity.

While he's in the Arctic, he said, he'd like to take a dip in the Arctic Sea; he'll have some time to travel

during his one day off each week. And when the research project is complete, he plans to spend two weeks touring.

But his contributions won't be over when he returns from the trip. LaFave said he expects to be doing speaking engagements and other educational events after his return.

LaFave said a colleague in Spartanburg who encouraged him to apply for the program told him it would be life-changing. He agrees. "It's already been a life-changing experience," he said.