



Jennifer Gross teaches the fundamentals of electricity to students at Warner Elementary. Photo by Ben Dunsmoor.

ENLIGHTENING STUDENTS

Teachers, Co-ops Take Energy Education to the Classroom

Billy Gibson

billy.gibson@sdea.coop

Jennifer Gross doesn't know it for a fact, but she has a sneaking suspicion she has saved someone's life. Maybe more than once.

Gross is not a nurse, or a doctor, or a firefighter or an emergency medical technician. She serves as the education and outreach coordinator at Madison-based East River Electric and oversees the organization's Co-ops in the Classroom program. In that role over the past five years, Gross has instructed thousands of students on the importance of electric safety.

She goes into the classroom and covers a wide range of concepts in less than an hour, including how electricity is generated, how it can be conserved and how potentially dangerous it can be. She's been accused of speaking at the speed of light because there's so much for the students to grasp.

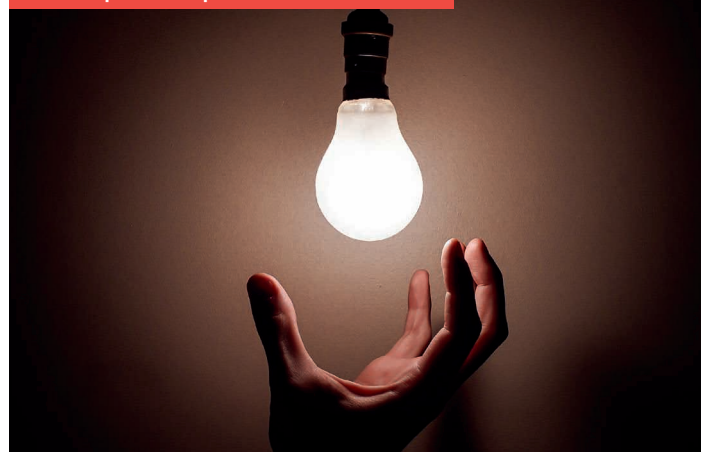
"Our follow-up evaluations sometimes show that I talk too quickly," Gross said with a chuckle. "But there's a lot to cover, so many things they need to know that could keep them safe and free from harm. These are things they're going to learn and use for the rest of their lives. It's a lot to pack into an hour, but it's important information."

Gross is one of many cooperative employees across the state who teach students the importance of understanding the benefits and potential dangers of electricity and how to use it wisely. In fact, member and community education is one of the Seven Cooperative Principles that guide South Dakota's electric cooperatives.

The classroom program that Gross delivers includes how electrical power is generated, how it's transmitted, how it's conserved and how use it safely. The program also includes information that distinguishes electric cooperatives from investor-owned and municipal electric utilities. And one of those differences is a commitment to education and youth leadership development.

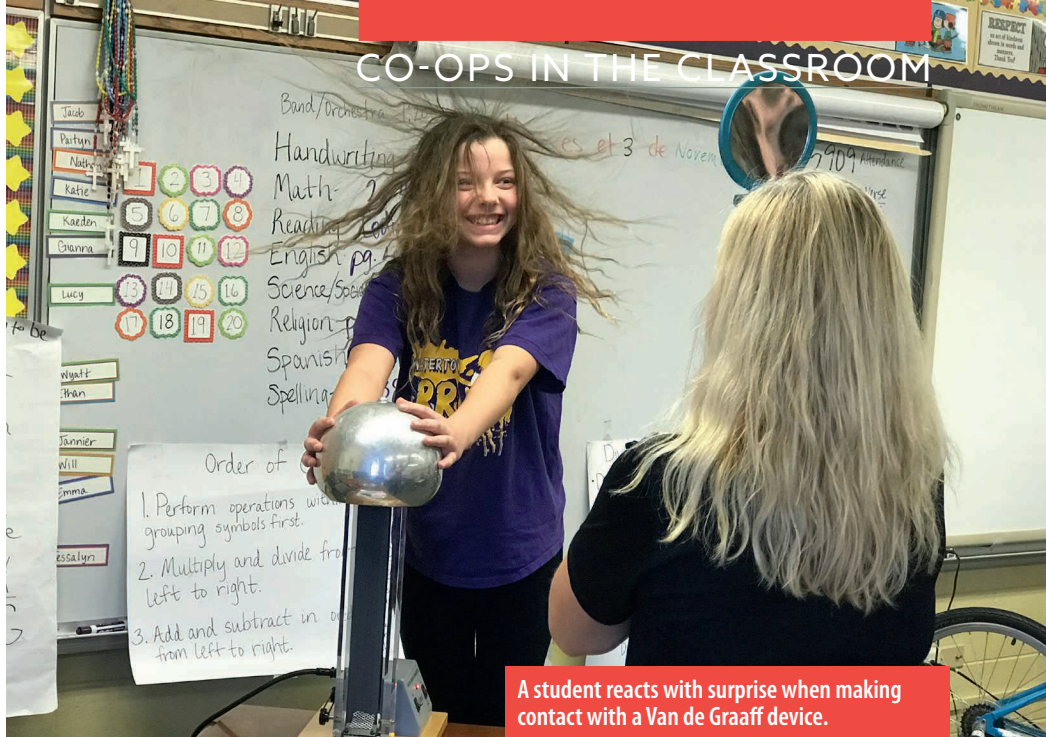
"We teach them that there are all kinds of cooperative businesses out there – food co-ops, clothing co-ops, housing co-ops, marketing co-ops and others – and we're here to do more than

Students learn incandescent light bulbs cost more to operate compared to LEDs.



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A student reacts with surprise when making contact with a Van de Graaff device.

just provide electrical power. We're here to deliver this information because we care about the welfare and well-being of our members, and we're always here for them if they have questions about electricity."

Gross was a social worker before she joined East River as support staff in the engineering department more than 10 years ago. Since taking over the Co-ops in the Schools program, she has interacted with many primary and secondary educators who also see the need to teach the fundamentals of electricity.

One of those is Jami Heinrich, a fifth-grade teacher at Warner Elementary School where Gross recently delivered her presentation. She has seen how students respond to discussions about electricity and see the direct application to their everyday lives.

"It's something that's always around them and they deal with all the time," Heinrich

said. "It's good to get them the information they need to make better choices. When Jennifer was talking about insulators, one of my students brought up that his grandparents' cell phone chargers were worn out and you could see the wires. He said, 'So, this is a bad idea.' It brought up a good discussion in the classroom. Safety around electricity is definitely a priority, and teaching children about it will lead them to make safer choices."

South Dakota's electric cooperatives extend their education outreach well beyond elementary school classrooms. The cooperatives have invested in an electrical safety demonstration trailer that makes its way around the state not only to instruct linemen but also to attend public events and show the various components of a grid-based power delivery system. During the demonstration, facilitators send an electrical current through a hotdog, grapefruit and tree branch to show how much destruction unharmed and mishandled electricity can do.

To view a video of the safety demonstration trailer, visit youtube.com/watch?v=FBzB1b-BYsH0&t=55s.

Cooperatives have also supported programs such as the Washington D.C. Youth Tour and the Youth Excursion

that teach high school students not only about electricity but also some of the political considerations surrounding the electric utility industry and the history of the country's rural electric cooperative movement.

Many elementary and secondary school educators throughout the state – including Gross – have attended the annual teacher education seminar sponsored by the Lignite Energy Council, which attracts 130 participants from Minnesota, Montana, South Dakota and North Dakota. The four-day program takes place at Bismarck State College and offers professional development credits for attendees.

The seminar focuses on how lignite is mined and used to produce electricity for homes, farms and businesses. In addition, the seminar covers lignite's economic impact on the region, as well as important environmental issues affecting the lignite industry. Since 1986, more than 3,400 teachers have attended the seminar.

Roger Lawien, director of member services at Moreau-Grand Electric in Timber Lake, underscores the importance of electric education: "Member education is a vital part of what we do as co-ops. We have a program we call 'Neon Leon,' and one day after a safety demonstration a woman came up with her two boys and said, 'I just wanted to thank you for what you do here. Because of what you taught my boys at last year's demonstration, my husband is alive.' That really shows how important it is."



Science is at the center of learning about how electricity is generated and used.