

Teachers get bright ideas for lessons during solar workshop in Camarillo

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Twenty teachers from across Ventura County learned at a Saturday workshop about solar energy concepts they can bring to their classrooms to inspire students.

Funded by a \$10,000 grant from Edison International to the Sustainability Council of Ventura County, the workshop was offered for teacher professional development in the area of energy and the environment. It was held at Camarillo's Conference and Educational Services Center.

"In order to provide a great program for students, we have to provide the support for teachers," said Debby West, the Oak Park Unified School District's science enrichment specialist. "Edison International gets that."

Tor Allen, with Solar Schoolhouse, led the workshop, which included video and hands-on projects the teachers will bring back to their students.

"We work with teachers to bring solar energy into their classrooms, and in the process introduce their students to energy and get them excited about learning about the practical applications," Allen said.

The initial project, with a solar cell and electricity measuring device called a multimeter, served as a foundation lesson in solar energy as the teachers were gauging amps and volts.

"This was just to experience the magic of solar cells," Allen said. "Turning sunlight into electricity is a magic moment. The next project is learning how to apply it."

Also experiencing the magic was Elizabeth Luce of ACE Charter High School in Camarillo.

"The sun through our beautiful clouds is hitting our cell, pushing electrons through the circuit from plus to minus, and it's showing us on our multimeter how many volts are being pushed through the circuit," Luce said.



Nathan Dybvig (from left) from Triton Academy, Marie Sanderson from Las Colinas Middle School and Pam Bluestein from Sycamore Canyon School hold onto solar cells to make a small radio work during Saturday's workshop, which was funded through a grant from Edison International. [Photos by Juan Carlo]



Elizabeth Luce from ACE Charter High School (left) gets help from Tor Allen of Solar Schoolhouse



Nathan Inouye (left) with Camarillo High School works with Carol Fujita (right) with CSU Channel Islands to make a phone charger using small solar panels during Saturday's workshop in Camarillo.

Linda Thayer-Gaboury of Las Colinas Middle School in Camarillo had an idea of how to bring the lesson home to students.

"This would be fun to do in the classroom with what little light you would have first, and then go outside and do it again and show the difference with the amount of solar energy," Thayer-Gaboury said.

Nathan Dybvig is a middle school teacher at Triton Academy, which is in Camarillo, but serves students with autism across Ventura County.

"The hands-on experience is really exciting to me because I can show that to my students," Dybvig said.

"Anytime you can bring in something you can manipulate with your hands, it increases the level of engagement and the chances of the learning sticking with the student," Dybvig said.

The second project, a *solar zipcharger*, was slightly more complex. A solar zipcharger is a 12-volt direct-current solar device that can charge a range of battery-based electronic devices, such as cellphones and MP3 players.

"This workshop is perfect for teachers to be able to get excited about something, and as we're all talking together, to figure out what we can do in our classrooms," said Pam Bluestein from Sycamore Canyon School in Newbury Park.

Solar lessons can inspire students to understand that they can make a difference in the world, West said.

"The bottom line is it is about empowering students and giving them a voice and helping them to realize that with all these problems we hear about, there are solutions, and with those solutions come opportunities," West said. "When they start thinking they can make a difference and be part of the solution, it's less doom and gloom. Unfortunately, sometimes when we look at some of these really challenging issues like global warming, it's overwhelming. How do we make a difference? This is intended to help teachers to see they can make a difference, but also their students can be involved in those opportunities."



Carol Fujita with CSU Channel Islands (from left) Nathan Inouye with Camarillo High School and Kelly Johnson with Medea Creek Middle School work on making a small fan run on solar power.

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