

Putting the fun back into science

Solar Schoolhouse, run by Rahus Institute of Sebastopol, teaches educators about solar



Teachers Matt Kracht of Oak Park and Rita Corell of Omaha solder their solar-powered whirlygigs at the Solar Schoolhouse. [JOHN BURGESS/PD]

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Science teacher Tracy Tegtmeier is thinking about assigning cookie baking as homework assignment in the upcoming school year.

Not just any cookies, mind you; cookies baked with solar energy. On Tuesday, Tegtmeier learned how to do just that with a solar cooker made with a cardboard box, some tin foil, plastic wrap and little else.

Tegtmeier, who teaches science at Will Rogers Middle School in Lawndale in southern California, is one of more than 20 teachers gathered this week at Walker Creek Ranch in Marin County for a six-day intensive solar energy course geared toward school teachers.

The Solar Schoolhouse teaches educators how to make solar fountains and sun-powered lunchboxes that energize iPods and boom boxes. They also go over the ins and outs of emerging technology and learn how to translate those lessons for students of all ages.

“They're simple projects to get kids to say, ‘Hey I want to use this!’ ” Tegtmeier said. “Alternative energy, it's an important thing. It's their future.”

She turned to Solar Schoolhouse to help her understand the subject well enough to teach it to middle school students.

Run by the non-profit Rahun Institute of Sebastopol, the eight-year-old program invites teachers from across the country to gather for a week and learn from industry experts how to make widgets and gadgets while gaining a better understanding of volts and watts, wiring and conductors.

“It's one part of our overall mission of basically empowering current and future generations with the tools they will need to be active participants in this clean energy economy,” said Tor Allen, executive director of The Rahun Institute.

Teachers pay \$1,400 for the course, food and lodging, but many of their fees are underwritten by grants or sponsorships.

Tegtmeier won her place by finishing well in the annual statewide Edison Challenge environmental science competition.



John Hervey, who teaches at West Marin School, in Point Reyes Station, checks out the 300-degree solar oven at the Solar Schoolhouse program at the Walker Creek Ranch outside of Petaluma on Tuesday, July 13, 2010. The 8-year-old program is run by the nonprofit Rahun Institute of Sebastopol.

John Hervey, who lives in Sebastopol and teaches at West Marin School in Point Reyes Station, got a spot after another teacher from the Los Angeles area dropped out.

Hervey is using the week to push his own knowledge. The former high school wood shop teacher lost that position a year ago when Tomales High School dropped the program. He now teaches eighth grade science.

Tuesday's lesson on cooking boxes had Hervey jazzed about teaching students career-driven skills.

“These kinds of concepts, they can apply them to building their own home or a job in any of the trades,” he said.

Susan Donnelly, a science teacher at an alternative education high school in Virginia, wrote a grant to attend the course.

On her campus she is leading the charge to convert an old boxcar container into a solar-powered studio. But this week she was excited about using solar power to make nachos and designing a model village to maximize use of the sun's rays.

“Some of the kids, if I show them a PowerPoint, they'll fall asleep or forget it the next day,” Donnelly said. “Doing anything with your hands, that makes an impact on your brain, making kids want to stay involved with it.”

Tegtmeier agreed.

In the wake of federal No Child Left Behind proficiency standards, science classes have veered away from labs and toward more rote lessons, she said.

“Standardized testing is important for making sure kids are getting the content they are supposed to have, but it's not getting kids excited about science,” Tegtmeier said.

“Middle school is key. It's decisive in whether they take the higher level science and math.”



Steve Nagle, left, an auto shop teacher from Kingsburg and Achim Dangerfield, a teacher from Sacramento, test out their solar-powered whirlygig music boxes during the Solar Schoolhouse program at Walker Creek Ranch outside of Petaluma.

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