

# Kids and Renewable Energy

The RESOURCE program pairs UC Davis Ph.D. students with elementary school teachers to help create the next generation of climate change leaders.

RESOURCE—the Renewable Energy Systems Opportunity for Unified Research Collaboration and Education program—pairs UC Davis Ph.D. students working on renewable energy technologies with Sacramento-area 5th and 6th grade teachers to develop new science curriculum. This includes lessons on general energy concepts (renewable vs. non-renewable energy, climate and environmental impacts), as well as lessons related to each Fellow's specific research (e.g., improving biofuel feedstocks, wind turbines).

Fellows provide teachers with information on emerging renewable energy science, while teachers help Fellows improve their communication, collaboration, and teaching skills. The program is funded by the National Science Foundation GK-12 program and is a partnership between UC Davis College of Engineering and the Mathematics, Engineering, Science Achievement (MESA) program.

Participating children learn about renewable energy subjects through lessons with innovative and fun classroom activities. These elements integrate well with the earth sciences, energy, natural resources, and ecology subjects of their current science curriculum. Because at this age students have enough science background to understand energy concepts and are curious about energy technology, the goal of this program is to spark their interest in Science, Technology, Engineering, and Mathematics (STEM) studies.

Fellows serve as role models for children from diverse cultural backgrounds. We expect RESOURCE will enrich participants' knowledge about climate change and encourage some to pursue careers in renewable energy.



▲ Students from Ms. Courtney Harbman's 6th grade class at Foothill Oaks Elementary School demonstrate heat conduction using balloons.



▲ Students from Ms. Suzy Brusca's 6th grade class at Foothill Oaks Elementary School learn about heat loss through an evaporative cooling experiment.



▲ Students from Ms. Kathy Drake's 6th grade class at Foothill Oaks Elementary School cook S'mores using pizza box solar ovens.



▲ Students from Ms. Kevin Hubble's 5th grade class at Isador Cohen Elementary School observe conversion of potential energy to kinetic energy with the Mentos Soda Fountain.



▲ Students from Ms. Kim Williams' 6th grade class at Washington Elementary School respond to a question on types of heat transfer.

## 2010 RESOURCE FELLOWS:

Sherry Blunk, Biological and Agricultural Engineering (biomass-to-energy systems); Nate Kingsbury, Chemical Engineering and Materials Science (biofuels); Ingrid Leth, Chemical Engineering and Materials Science (biofuels); Aubryn Cooperman, Mechanical and Aerospace Engineering (wind energy); and Chao Wei Yu, Biological and Agricultural Engineering (biomass-to-energy systems). Program PI Jean VanderGheynst; co-PIs Allan Bellman, Bryan Jenkins, and Karen McDonald; MESA Director Jean Crowder; and Program Coordinator Larry Joh.

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