



Sequoia High students explore biofuel process as part of Earth Day recognition

By Neil Gonzales

Posted: 04/14/2011 10:31:20 PM PDT

REDWOOD CITY -- Fossil-fuel costs draining your wallet?

Students in a Sequoia High School biotechnology lab are turning to an organic source for a clean-fuel alternative -- plants.

"Obviously, our planet's resources are running out," safety-goggled Connor Clot, 18, said Thursday while handling vials of liquid. "Labs like this are striving to find ways to use other natural resources."

The students in science teacher Kirstin Milks' class are exploring the process that converts plant material into fuel for vehicles and other uses.

The project is a tribute to Earth Day this month and part of Milks' fellowship from the Knowles Science Teaching Foundation, which seeks to increase the number of skilled high school science and math teachers across the country.

Named a 2009 Knowles fellow, Milks earned \$150,000 over five years to enhance her science instruction and bring hands-on projects to her students.

"The kind of teaching that fosters creative thinking and problem-solving abilities in students is an incredibly complex undertaking that takes years to master," Nicole Gillespie, Knowles' associate director for teaching fellowships, said in a statement. "KSTF is committed to providing professional support and mentoring to beginning math and science teachers so they can prepare students to understand and deal with environmental issues in the future."

The fellowship challenges Milks to do meaningful activities "with and for students," she said. "Bringing a real world piece of science in the classroom is something I'm learning about through my fellowship."

In a region known for innovation and high-tech enterprises, Milks' students are getting a glimpse into the process by which scientists make biofuel. The students are learning how scientists use enzymes to break down plant matter to produce the alternative fuel, Milks said.

In the lab, the students tested the reaction of enzymes under different water temperatures, carefully working with pipettes, small tubes and spectrophotometers.

Studying biofuel is timely given the escalating prices at the gas pump, Milks said. Earth Day, the nationwide program that raises environmental awareness and promotes eco-friendly projects, is also just around the corner on April 22.

"The cool thing is doing something relevant to the students' lives today," Milks said. "And they're getting training in lab safety and how to use equipment properly."

For Clot, the biotech experience at Sequoia High is good preparation for his upcoming stint at Cal Poly San Luis Obispo. "I'll be studying agricultural business at Cal Poly," the senior said. "And Cal Poly focuses on a lot of advertisement