

A Renewable Energy Source in Imperial Valley: Understanding Geothermal Energy

Seeley Union Elementary School, Seeley, CA
6th Grade Mathematics and Science Classes

Environmentalists often offer the advice to “act locally, think globally.” In teaching their sixth grade students the importance of renewable energy, Seeley Union Elementary School teachers Maria Shiffer and Ruben Arreola have the good fortune of having a geothermal energy plant practically in their backyard to help them live these words.

In 2006, with the help of a \$5,000 *Student Achievement Grant* awarded by the NEA Foundation, Mrs. Shiffer and Mr. Arreola created a comprehensive lesson plan for their sixth grade physical and earth sciences class that focused on renewable energy in California’s Imperial Valley. With their grant funds, the teachers purchased a laptop and five desktop computers that students used to:

- Conduct research on the geothermal energy industry;
- Create PowerPoint presentations examining the economics of renewable energy; and
- Write a business action plan for the nearby Ormat Nevada Inc. Geothermal power plant.



Students presented several business action plans to plant.

To bring these concepts to life, the teachers concluded the class with a tour of the plant.

Mrs. Shiffer’s and Mr. Arreola’s vision for the project was to create and implement an integrated unit of study in which students would be engaged and actively participate in learning about renewable energy sources.

In order to relate the importance of renewable energy to the everyday lives of students, Mrs. Shiffer and Mr. Arreola began with a lesson on energy

conservation that highlighted all renewable energy sources available and explicitly taught students how energy could be conserved in their homes and community.

From there, students began researching geothermal energy and, more specifically, the operations of the Ormat Nevada Inc. plant. When the students visited the plant, they presented several business action plans to plant officials outlining challenges facing the plant, and recommending solutions.

The project proved to be incredibly successful, as students engaged in an issue that they quickly realized as important not only to them, but to all people globally. The sixth grade students also gained first-hand experience in creating a business plan. And best of all, several of their recommendations were ultimately used by the plant.



Sixth grade science students inform energy plant's practices.

NEA Foundation Grants

Over the past decade, the NEA Foundation has invested more than \$5.9 million in grants to support and grow the ideas of over 2,000 educators nationwide. This year, we will emphasize "green" grants, because some of our most innovative and impactful projects involve students learning about and engaging in environmental preservation and protection. From publishing books on ecological restoration to designing lessons on renewable energy, NEA Foundation grantees are getting results. (08/09)