

# STUDENTS LEADING THE WAY 2004-2005



Energy Saving Success Stories  
from California



**ALLIANCE TO  
SAVE ENERGY**

*Creating an Energy-Efficient World*

**ALLIANCE TO SAVE ENERGY**

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## Sponsors

Several organizations have sponsored the Alliance to Save Energy's Green Schools Program in California, which began in 2000.

**Southern California Edison** sponsored the program for the 2000-01 and 2001-02 school years. Funding for the 2002-03 program was provided by **California ratepayers under the auspices of the California Public Utilities Commission**, the **California Energy Commission**, and the **California State and Consumer Services Agency** as part of their Energy Education Program.

Funding for the program in the 2003-04 and 2004-05 school years was provided by **California ratepayers under the auspices of the California Public Utilities Commission**.

More schools will be joining the program through September 2005 in both Northern and Southern California.

Cover Graphic by Jim Carson from *PowerSmarts: Easy Tips to Save Money and the Planet* from Alliance to Save Energy

## San Jacinto High Unites Teachers and Students in Energy-Saving Efforts

**School:** San Jacinto High School  
**District:** San Jacinto Unified School District

### Instruction

The Green Schools team met with school staff to explain the potential for energy savings through implementation of the Green Schools Program.

### Action

Fifty percent of staff adamantly shuts down computers when not in use for more than 30 minutes. About 63 percent turn off monitors not in use during the school day and about 89 percent turn off all power-using devices before leaving campus for the evening.

The Principal determines the appropriate heating and cooling settings for all automatic thermostats, which are then set by the custodian.

### School Involvement

The Green Schools team met with staff and asked for cooperation in energy-efficiency efforts at the school.

### Residential & Community Involvement

Once the Student Energy Audit Training (SEAT) takes place in April, San Jacinto will attempt to reach out to the community more. Students and staff are encouraged to take the energy-saving message home.

"Fifty percent of staff adamantly shuts down computers when not in use for more than 30 minutes. About 63 percent turn off monitors not in use during the school day and about 89 percent turn off all power-using devices before leaving campus for the evening."

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**Residential & Community Involvement**

As part of their energy lessons, students took energy checklist surveys home and tried to save energy over the holidays. Some even bought energy-efficient light bulbs and appliances for Christmas gifts. Students who reduced their home electric bill received extra credit.

The "Watts Up? Power Down!" project was the centerpiece of North Mountain's Science Fair public display and attracted much awareness. Conservation has improved with the awareness. We intend to present the project at a spring district school board meeting.

## "Watts Up? Power Down!" Says North Mountain Middle School

**School:** North Mountain Middle School  
**District:** San Jacinto Unified School District

### Instruction

This is North Mountain's first year participating in the Green Schools Program. The staff is working to integrate the Green Schools program into our Science Standards curriculum. Teachers would also like to see energy conservation themes brought into all curriculums to help permanently change wasteful energy habits.

"As part of their energy lessons, students took energy checklist surveys home and tried to save energy over the holidays. Students who reduced their home electric bill received extra credit."

### Action

Students learned to "dress for comfort" during an experimental contest for the best-insulated jacket. In a class science project called "Watts Up? Power Down!" students raised school awareness of the importance of energy savings by depicting the areas where energy is used and conserved on a large, colored map of the school. Students formed an Energy Patrol and conducted a classroom energy audit using the Green Schools Tool Kit and compiled energy waste and use data. Students put reminder post-cards on doors and light switches. The custodians check monitors, computers, and lights monthly.

### School Involvement

Green Schools has become a campus-wide effort. Students raised awareness amongst faculty of energy consumption through their postcard campaign and "Watts Up? Power Down!" project, and the custodians have been key in helping monitor energy use. The staff recognized the progress of the Science Fair project in staff meetings and as the project continued, teachers and staff improved their energy habits, as evidenced by the colored map. The long-term goal is to increase the green color of the map through the involvement of the whole school.

## Introduction to Green Schools

While young people undoubtedly are the leaders of tomorrow, they also can play a leadership role in today's world. For example, children were the driving force behind the recycling movement, often prodding their parents to "do the right thing" for the environment by sorting bottles and bundling newspapers. The success of that effort and the resulting benefits to the planet are a testament to the power of the young people in our country. We believe it is within the power of students to achieve similar success in saving energy by stimulating their schools, families, and communities to incorporate energy efficiency into their daily habits and purchasing decisions.

Initiated by the Alliance to Save Energy in 1996, the Green Schools Program is a long-term, systemic approach to school energy efficiency. The California Green Schools Program started in Los Angeles County in 1999 and has expanded to include 86 school sites throughout California this school year. The program includes many facets that combine student learning and involvement, lead to improvements in operations and maintenance, spur building upgrades, and encourage professional development for cross-functional teams of teachers, custodians and administrators. The broad combination of interventions makes Green Schools unique, comprehensive, and flexible with the capability of integrating other programs and reaching beyond the school system into the wider community.

### Green Schools Program Goals

- To provide immediate energy savings in schools through no-cost behavior and operations changes, and longer term savings by encouraging school retrofits;
- To strengthen student academic learning using hands-on, project-based instruction and tools;
- To engage students as advocates for energy efficiency improvements in their homes, schools, and local communities and businesses; and
- To open the world of energy and the environment to students as career opportunities

In the Green Schools Program, students learn about energy and then become ambassadors for energy efficiency to their families and communities. The Alliance to Save Energy commends these schools for their efforts and accomplishments and for their contributions to *Students Leading the Way 2004-2005: Energy Saving Success Stories from California*.



Kateri Callahan  
President



Merrilee Harrigan  
Director of Education



Jo Tiffany  
Senior Program Manager

## California Local Project Leaders

The success of the Green Schools Program is a credit to the two local project leaders in California, whose diligent leadership has inspired and encouraged the efforts of teachers, students, custodians, and school administrators.

The San Diego Area and Southern California programs are led by George Barganier of Energy Education Program Influencing Change (EEPIC).



EEPIC staff, from left to right: George Barganier, President/CEO, Don Griggs, Community Relations Manager, Lorraine Gutierrez, Program Manager, Dr. Robert Lewis, Jr., Program Manager, and Stacey Teeter, Student Program Coordinator. Not pictured: Carole Stone, Special Projects Coordinator.

The Northern California Program is led by Cyane Dandridge of Strategic Energy Innovations (SEI).



SEI staff, from left to right, Stephanie Stern, Mildred Dandridge, Cyane Dandridge, and Jennifer Walton, support the Bay Area Green Schools Program.



Kathy Jack Lambert heads up the Humboldt County Green Schools Program.

## Residential & Community Involvement

The SAC team provided its energy audit summary and recommendations for ways to save energy to the School Site Council, which is comprised of teacher, student, and parent representatives and the school principal. The students will also make a presentation of their findings to the San Jacinto Unified School District School Board.

*We would also like to thank our creative and energetic Green Schools teachers for submitting these descriptions of their schools' activities!*

## All-School Energy Audit Puts the Fun in Energy Efficiency

**School:** Mountain View High School  
**District:** San Jacinto Unified School District

### Instruction

Students studied energy resources as part of the Earth Science curriculum and participated in informational background lessons involving solar energy (passive and active, solar cooking, photovoltaic cells), fossil fuels (coal, petroleum, natural gas), energy from water, geothermal energy, wind energy, and nuclear energy. As a result, students became aware of the differences between energy use in industrialized countries and developing countries. We discussed energy efficiency in industry and residential homes and the importance of conservation of energy resources.

"Students became aware of the differences between energy use in industrialized countries and developing countries."

### Action

A Student Advisory Committee (SAC) team was formed and its seven members discussed school energy usage and developed solutions. The SAC team created conservation reminder labels and posted one on each computer, monitor, printer, television, VCR, light switch, and power outlet.

The SAC students participated in the Student Energy Audit Training (SEAT) and conducted an energy audit of De Anza Elementary School and Mountain View High School. The students examined the number of fixtures, watts per fixture, hours of operation per year, kWh consumption per year, rate, consumption in dollars, and kW demand. They entered their data into a spreadsheet and created a bar graph from the results. Students then wrote a narrative summary to include suggestions for improvements and an energy-savings summary in kWh per year and dollars per year.

### School Involvement

The SAC students evaluated the campus's energy efficiency using the Green Schools Tool Kit. The students utilized the building stethoscope, flicker checker, infrared thermometer, light meter, smoke bottle, thermo-hygrometer, and watt meter to evaluate energy efficiency in the school's office, library, and classrooms. They then shared their findings and offered suggestions to improve efficiency.

## Bellevue Elementary Invests in Long-Term Energy Savings

**School:** Bellevue Elementary School  
**District:** Bellevue Union School District

### Instruction

Teachers are using Pacific Gas and Electric's (PG&E's) "Energenius" energy conservation education program with selected classrooms. This program teaches elementary students how to identify energy wasters at home and school and what to do about them.

"Using Bellevue's energy savings from last year, Green Schools teachers purchased a new, energy-efficient refrigerator for the staff room to replace the 20-year-old watt guzzler. Teachers expect the ongoing savings to be substantial!"

### Action

Using Bellevue's energy savings from last year, Green Schools teachers purchased a new, energy-efficient refrigerator for the staff room to replace the 20-year-old watt guzzler. Teachers expect the ongoing savings to be substantial!

Green Schools team members are currently in the process of identifying locations in the school where motion detector light switches can replace conventional ones, such as the teachers' workroom, certain restrooms, etc. With the Green Schools project budget, the team will purchase detectors that the director of maintenance will install. Thus, Bellevue is investing in long-term energy savings.

Thanks to the PG&E Solar Schools program, Bellevue looks forward to the spring '05 installation of a 1.3 kilowatt photovoltaic system. Included in the Solar Schools package is an online monitoring tool that provides real-time data on the system's activity and the amount of electricity generated. Teachers will use this data to show the students how to save more energy.

### School Involvement

Each month, Bellevue recognizes "Energy Stars" in each of its 24 classrooms. Chosen students help ensure that lights are turned off when the sun is shining (except when the teacher complains of the dim lighting over his/her desk!), computers are turned off when not being used, and that doors are not left open when heaters are on. Stu-

dents vie for the opportunity to be the "Energy Stars," as monthly winners receive an achievement award with a gift certificate for a free cheeseburger.

The Solar Schools photovoltaic system online monitoring tool will further involve selected classrooms in monitoring their own energy consumption, allowing immediate verification of effectiveness in energy saving techniques. This data will then be reported to other classrooms for their education.

#### **Residential & Community Involvement**

By using PG&E's "Energenius" energy conservation education program, students take the energy conservation message to their families, as they survey their homes for energy conservation/wastage habits.

The monthly "Energy Star" award program further brings the message home, as students explain to their families how they earned the recognition. They then practice the same conservation techniques at home.

### **Students Excited to Save Energy *Will Save Energy***

**School:** Monte Vista Middle School  
**District:** San Jacinto Unified School District

#### **Instruction**

Monte Vista created an energy audit survey for use in every classroom. The students listed all equipment that runs on electricity on campus, primarily in classrooms. They then estimated the total energy cost per day for the "average" classroom. This helped them appreciate how much we depend on electricity and in most cases, waste it!

"Students estimated the total energy cost per day for the 'average' classroom. This helped them appreciate how much we depend on electricity and in most cases, waste it!"

#### **Action**

The students interviewed teachers about their energy use and then made suggestions on how teachers might save electricity in their classrooms. This motivated students to think of clever ways to save and to help monitor electricity use while they are in their regular classes.

#### **School Involvement**

The Green Schools team started a recycling program. The team also helped the Science Department with Science Fair project ideas, research, and presentations on energy-related topics, such as hybrid cars, renewable versus disposable batteries, etc.

#### **Residential & Community Involvement**

The Green Schools team distributed one flyer with limited success. However, the next flyer will be bilingual with lots of pictures to represent the energy-efficient message!

## Teachers and Students Make Little Changes and Get Big Results

School: De Anza Elementary School  
District: San Jacinto Unified School District

### Instruction

All staff members received educational materials and lessons relating to energy and taught the students how energy is wasted and saved and how energy flows through systems. Students also learned ways to conserve energy at home, as well as at school.

"Teachers are becoming aware that small changes, like turning the lights off in an unoccupied room, shutting down computers at the end of the day, and keeping windows closed when air conditioners or heaters are on, add up to big savings."

### Action

Fifth grade students surveyed the school in assigned groups. They took notes on how the school was conserving or using energy. The students then discussed what they saw and designed a poster depicting the ways the school saved and wasted energy. Students created another poster offering energy-saving tips for teachers on ways to save energy at school.

### School Involvement

The entire staff promotes energy conservation. Teachers are becoming aware that small changes, like turning the lights off in an unoccupied room, shutting down computers at the end of the day, and keeping windows closed when air conditioners or heaters are on, add up to big savings. The fifth grade students not only enjoy reminding teachers to make those small changes, but also compliment those teachers already conserving energy.

### Residential & Community Involvement

The fifth grade students took a "Home Energy Survey" and learned how energy is saved and wasted at home. Students then shared what they discovered with their parents. We also included energy-saving facts and tips in the monthly newsletter that is distributed to all students.

## Kawana Students Learn Connection Between Dinosaurs and Energy

School: Kawana Elementary School  
District: Bellevue Union School District

### Instruction

The Green Schools team wrote up lessons about energy to give to primary and upper grade teachers for use in their classrooms.

### Action

The Green Schools team installed a vending miser on the vending machine and removed the light bulb from the front. They are also purchasing an Energy Star refrigerator to replace one of the school's old ones, as well as an Energy Star microwave. They put timers on lights in two public use rooms and are careful to turn off cafeteria lights whenever there is adequate daylighting. The team successfully lobbied to turn off the light in every other hallway, and they gave checklists to classroom teachers to post above their light switches. They also posted signs in the hallways asking teachers and students to keep their doors shut.

"Local high school students performed a play given from the viewpoint of dinosaurs that eventually become fossil fuels, demonstrating that we need to conserve our precious fossil fuels."



### School Involvement

Kawana recently held an assembly discussing many facets of energy, including "what is energy?", "where does energy come from?", and "how can we conserve energy?" Also at the assembly, local high school students performed a play given from the viewpoint of dinosaurs that eventually become fossil fuels, demonstrating that we need to conserve our precious fossil fuels. The Green Schools team

is holding a school-wide poster contest for the new "Green Schools Bulletin Board."

### Residential & Community Involvement

The team includes energy saving tips in Kawana's weekly newsletter and encourages students to share lessons and energy conservation ideas with their families.

## Vallecito Green Team Rewards Classrooms with Popcorn Party and Energy Saver Flag

School: Vallecito Elementary School  
District: Dixie School District

### Instruction

Vallecito's Green Team is made up of 14 second and third grade students, who meet every week to plan activities and prepare energy saving lessons to present to the school community during monthly assemblies. Lead teachers update school staff on the Green Team's goals and activities at bi-weekly staff meetings. Green Schools teachers give the other teachers a new energy lesson plan each month, with directions on adapting the lesson for their grade level.

"In order to motivate the students and staff at Vallecito to save energy, the Green Team created a super energy saver award named after the school custodian - the 'Dannie Award.'"



### Action

The Green Team created door hangers for every room, including the library, café, and office, to remind students and staff to save energy. Each class is responsible for closing the door and turning off the lights when they leave the room, setting the thermostat to 68 degrees in the winter, and finally, unplugging the class vacuum "vampire plug" after it has completed charging. The Green Team performs weekly energy patrols around

campus to ensure everyone is doing their part to follow these rules. Students on the Green Team attended a staff meeting to help the teaching staff identify energy-wasting appliances in the teacher's lounge and office.

### School Involvement

In order to motivate the students and staff at Vallecito to save energy, the Green Team created a super energy saver award named after the school custodian - the "Dannie Award." Classrooms that save the most energy each month, as determined by

## 'Energy Wranglers' Wrestle Energy Usage in the School and at Home

School: Clayton A. Record, Jr. Elementary  
District: San Jacinto Unified School District

### Instruction

Teachers led an energy-related lesson plan every month, such as "Energy Detectives," in which students find evidence of energy around the school and make draft detectors to help them find leaks at home.

"Energy awareness is strong within the school community thanks to activities being planned and implemented on a regular basis."

### Action

We created an "Energy Wranglers" team of third, fourth, and fifth grade students who visit classes and discuss different ways the school can save energy. Some of the tips include using only one bank of lights, turning off computer monitors when not in use, and keeping doors and windows closed. Office and support staff follow similar methods to reduce energy usage in other areas of the school.

### School Involvement

Energy awareness is strong within the school community thanks to activities being planned and implemented on a regular basis. Students, teachers, support staff and administration all worked together to conserve energy around the school.

### Residential & Community Involvement

Activities like the draft detectors encouraged families to be more aware of their energy conservation efforts. In addition, the Energy Wranglers included tips for families in our school newsletter.

## "Word of Mouth" Makes the Greatest Difference at Fontana Community Day School

**School:** Fontana Community Day School  
**District:** San Bernardino County School District

### Instruction

In recent classroom instruction, Green Schools teachers highlighted stories about countries that have no electricity. From this, classes discussed our own country at a time when citizens depended on oil lamps for light and had to use wood and coal for heating and cooking.

"The biggest tool in encouraging change in student and teacher behavior was 'word of mouth.' The change began with a few students, but after a while, others wanted to become self-starters and join the Green Schools Energy Conservation Team."

### Action

The students monitor all thermostats closely and report the rooms that have their thermostats too low or too high. All vending machines were removed from the school, all bathrooms now have fluorescent lamps instead of incandescent bulbs, and all equipment in classrooms has surge protectors.

### School Involvement

The biggest tool in encouraging change in student and teacher behavior was "word of mouth." The change began with a few students, but after a while, others wanted to become self-starters and join the Green Schools Energy Conservation Team.

### Residential & Community Involvement

The students shared with their parents the energy-saving message they learned in school and examples of the behavioral changes they witnessed.

the energy patrols, receive a large, blue flag to proudly hang outside their door. Dannie also rewards winning classes with a popcorn party. The Green Team announces the award winners at Vallecito's monthly assemblies.

### Residential & Community Involvement

The Green Team wrote several articles in the PTA newsletter, informing parents about the various ways to save energy at home. The principal's newsletter often includes energy efficiency tips. Finally, the Green Team described their program to the Dixie School Board, updating them on their activities around campus, and encouraged the school board members to save energy in their offices as well.



## Fortuna Middle Shares Energy-Saving Success at Service-Learning Conference

**School:** Fortuna Middle School  
**District:** Fortuna Union Elementary School District

### Instruction

At Fortuna Middle, all eighth grade science classes did energy experiments on topics such as classroom lighting, fluorescent versus incandescent bulbs, computer energy use, and classroom heating energy.

"Green Schools team members gave a PowerPoint presentation on energy savings at a Service Learning conference attended by teachers, students, and community members."

### Action

As a result of the findings of the science experiments, the classes recommended that half of the lights be turned off in all classrooms. Through similar experiments, teams are learning ways to conserve hallway and classroom heat. Students made posters concerning saving energy by turning off lights and heat and hung them in every room in the school.

### School Involvement

The eighth grade students gave presentations on saving energy to every class, as well as two presentations to the board of education.

### Residential & Community Involvement

Green Schools team members gave a PowerPoint presentation on energy savings at a Service Learning conference attended by teachers, students, and community members.

## Dorothy Gibson High Teachers Make Home Energy Audit Part of Class

**School:** Dorothy Gibson High School  
**District:** San Bernardino County School District

### Instruction

Green Schools teachers distributed lesson plans for home energy audits to each of the teachers at Dorothy Gibson. The teachers are also teaching the home energy audit lesson plan in conjunction with the home energy audit survey that was sent home with each student.

"Teachers sent Green Schools home energy audit surveys home with each student."

### Action

- Weekly check of all classrooms' electric usage and water conservation.
- Energy conservation stickers placed about each light switch in the school to help conserve energy.
- Green School kick-off to heighten conservation awareness at school and at home.

### School Involvement

The custodian turns off lights after cleaning each room at the school.

### Residential & Community Involvement

Teachers sent Green Schools home energy audit surveys home with each student.

## Urbita Elementary "Earth Savers" Take their Jobs Seriously

**School:** Urbita Elementary School  
**District:** San Bernardino City Unified School District

### Instruction

Urbita established an after-school environmental club called Earth Savers for grades first through sixth. Volunteer teachers used the Green Schools curriculum to instruct students in energy sources and conservation. Club members researched energy sources with a focus on solar energy and shared the information with others. They impressively constructed solar cars and conducted experiments with solar energy. They also learned ways to conserve energy, such as checking for drafts in rooms and turning off lights.

"For Christmas, Earth Savers made draft guards for classrooms to help cut down on energy loss."

### Action

Earth Savers share weekly energy-saving tips with the school. They did an energy survey of classrooms and shared what they found with teachers. We were surprised to learn how many classrooms have refrigerators and microwaves. For Christmas, Earth Savers made draft guards for classrooms to help cut down on energy loss. The club is currently working on a multimedia presentation to share energy tips.



### School Involvement

The Green Schools team shared energy-saving tips at staff meetings, reminding teachers to turn off computers and printers over weekends and holidays and to turn off lights when leaving the room. Earth Savers are constructing an energy-saving tips display for the Earth Day celebration in April.

### Residential & Community Involvement

Urbita will share our Earth Day multimedia and picture displays at the Inland Empire Environmental Expo, an event at Cal State, San Bernardino in April, in which thousands of people participate. Earth Savers have also conducted home energy surveys and made guards for their homes in an effort to help make their homes more energy-efficient.

## South Fortuna Students Build Circuits to Learn About Electricity

**School:** South Fortuna Elementary School  
**District:** Fortuna Union Elementary School District

### Instruction

The fourth grade teacher at South Fortuna developed a hands-on electrical unit that was taught in all fourth grade classrooms. In the unit, students built circuits and learned about magnetism and alternate forms of energy.

"The fourth grade teacher at South Fortuna developed a hands-on electrical unit that was taught in all fourth grade classrooms."

### Action

Student energy teams made presentations to each classroom. As a result, most students and teachers are more mindful of not wasting energy.

### School Involvement

Green Schools committee members made presentations at staff meetings, PTA meetings, School Site Council meetings and School Board meetings.

**Fortuna High Green Schools Team  
Influences Energy-Efficiency of Construction Plan**

**School:** Fortuna High School  
**District:** Fortuna Union High School District

**Instruction**

The science department at Fortuna High is covering energy loss through systems.

**Action**

Fortuna's Green Schools team completed a detailed lighting audit. They de-lamped several classrooms, making the classrooms more appropriate for learning. They also lobbied the administration to change construction plans for the science building to include 95 percent efficient heaters instead of 80 percent. The heaters will pay for themselves in 5 years!

"Fortuna's Green Schools team lobbied the administration to change construction plans for the science building to include 95 percent efficient heaters instead of 80 percent. The heaters will pay for themselves in 5 years!"

**School Involvement**

The team gave presentations about their energy findings to the teaching staff and the administration. Also, to spread word of the Green Schools Program, they gave presentations to administrators at other schools around the north coast.

**Residential & Community Involvement**

Staff at Fortuna are working to get a grant for three of their students to be paid to audit businesses in the community over the summer.

**Roosevelt Elementary Teaches Energy Efficiency  
with Staff and Parent Surveys**

**School:** Roosevelt Elementary School  
**District:** San Bernardino City Unified School District

**Instruction**

The fourth and fifth grade teachers incorporated the Green Schools energy curriculum into their regular science instruction, and we will conduct an energy essay contest in May. The Thursday after-school program also uses the energy lessons.

**Action**

Staff board members are reminded often to save energy. The school community turns off unnecessary lighting regularly and shuts down computers at the end of every day and before every weekend. Roosevelt is currently researching different types of light sensors and working to have them installed in the bathrooms.

**School Involvement**

We are preparing a staff energy survey that will be completed by all staff members on all tracks.

**Residential & Community Involvement**

The student council is preparing a parent home survey, which will be sent home with the majority of students in April; the rest will be sent in May.

"The school community turns off unnecessary lighting regularly and shuts down computers at the end of every day and before every weekend."

## Palm Avenue Elementary Students Take Energy-Savings Lessons Home

School: Palm Avenue Elementary School  
District: San Bernardino City Unified School District

### Instruction

Teachers implemented conservation measures in the classroom and on campus. Teachers also taught energy conservation lessons in conjunction with state standards and core curriculum.

"As a homework assignment, upper grade students assessed all the electrical appliances plugged in at their home."

### Action

Sixth grade students made energy switch light covers for every classroom. Teachers displayed the creative and colorful light switch covers in all classrooms. Some classrooms completed group science projects that focused on energy conservation, which included backboards and a plethora of pictures depicting ways to save energy.

### Residential & Community Involvement

As a homework assignment, upper grade students assessed all the electrical appliances plugged in at their home. The students distinguished low- and high-priority appliances to have plugged in continuously and shared the results with their parents.

## Green Team at Jacoby Creek Involves School by Auditing Classrooms and Producing "It's Electrifying" Play

School: Jacoby Creek Charter School (K-8)  
District: Jacoby Creek Charter School District

### Instruction

The fifth grade classes studied electricity and how to use it efficiently as part of their science class curriculum. In a collaborative science and art project, students are creating energy posters to hang in classrooms.

"The Green Team completed a lighting survey for all classrooms at Jacoby Creek and is currently working on recommendations for conserving energy based on the findings."

### Action

Students are putting on a musical production for the whole school and parents called, "It's Electrifying," to educate the school community about electricity: what it is, how it is used, and ways to conserve it.

The fifth grade classes completed classroom audits of all electronic devices at the school. During this process, they made brief presentations to students in those classrooms. The Green Team completed a lighting survey for all classrooms at Jacoby Creek and is currently working on recommendations for conserving energy based on the findings. In addition, students are planning to audit plug loads in each classroom. The custodian has switched out several incandescent light bulbs with compact fluorescent light bulbs and has installed energy efficient LED lights in school exit signs.

### School Involvement

The Green Team visited classrooms to discuss the use of electricity in the school. The team is posting conservation signs in all classrooms and around the school and plans to hold a school-wide energy conservation poster contest. The entire school is planning to attend the "It's Electrifying" play production.

### Residential & Community Involvement

The Green Team highlights program activities in the Service Learning bulletin, which goes out to student families.

## Ben Franklin Raises Energy Awareness Through Monthly PSAs

**School:** Ben Franklin Middle School  
**District:** Jefferson Elementary School District

### Action

Once a month, the energy patrol tours the entire school to be sure everyone is doing all they can to save energy. Every classroom has an energy checklist on the door to remind students to turn off lights and computers. At every faculty meeting, the Green Schools teacher discusses the teams' actions and reports on Ben Franklin's energy saving progress.

"As a result of the PSAs and progress reports at faculty meetings, the Green Schools team feels that the school-wide community has a much higher awareness for energy conservation."

### School Involvement

Each month the Green Schools team includes a Public Service Announcement (PSA) in the school bulletin about energy conservation, including a blurb about how much energy is being saved at Ben Franklin. As a result of the PSAs and progress reports at faculty meetings, the Green Schools team feels that the school-wide community has a much higher awareness for energy conservation.

## Faculty Member "Lights the Way" towards Energy Efficiency

**School:** Kimbark Elementary School  
**District:** San Bernardino City Unified School District

### Instruction

Kimbark Elementary has an Environmental Resource teacher who conducts environmental awareness lessons for all grades. Energy awareness, from sources to consumption, is now a part of the curriculum. The teacher also incorporated many lessons from the Green Schools Instructional Resources binder into the environmental curriculum.

"Energy awareness, from sources to consumption, is now part of the curriculum."

### Action

Kimbark turns half its lights off wherever possible, which in addition to its energy-saving benefit, has had a calming effect on the students. Students created signs to go on the light switches encouraging the last person out of the room to turn them off. Green Schools teachers put in a proposal to eliminate unneeded appliances and a request to examine the school's monthly energy bill so as to track the results of our efforts.

One faculty member, after surveying the school's fluorescent fixtures and replacements, extensively researched possible benefits of full spectrum lighting for the overall health of the school environment and increased learning by the students. The faculty member concluded that enough evidence exists to petition the school district for a complete retrofit of school lighting.

We are also investigating the possibility of installing wind and solar electricity generators to further reduce dependence on the power grid.

### School Involvement

Energy awareness and conservation are now a regular part of the curriculum in Environmental Studies. In the near future, we intend to implement project-based learning linked to technology and have students create multimedia presentations.

## Belvedere Elementary Poster Contest Highlights Energy-Saving Ideas in the School and at the Home

**School:** Belvedere Elementary School  
**District:** San Bernardino City Unified School District

### Instruction

Students participated in an energy conservation poster contest displaying their favorite way to conserve energy.

### Action

Students, the *Green Schools* teacher, and the custodian continue to monitor areas of energy waste in the school campus.

### School Involvement

Before introducing the energy conservation poster contest, the *Green Schools* team led discussions of ways energy can be saved in the school, home, and other facilities.

### Residential & Community Involvement

Students went home and described to their families their plans and ideas for the energy conservation poster contest and discussed the possibility of winning an award for their art work.

"Students went home and described to their families their plans and ideas for the energy conservation poster contest and discussed the possibility of winning an award for their art work."

## Active Principal Promotes Energy Efficiency at FDR Elementary

**School:** Franklin D. Roosevelt Elementary School  
**District:** Jefferson Elementary School District

### Instruction

The principal at FDR makes weekly morning announcements about saving energy. Teachers often incorporate the information from these announcements into their lessons.

### Action

Students meet each week and use energy analysis tools from the *Green Schools Tool Kit* to conduct tests, such as determining light levels, in each room in the school. They fill out a form and communicate their findings to the staff.

### School Involvement

The students who are doing the testing attend staff meetings to discuss their findings and update all of the teachers. They also made signs to place near every light switch to remind everyone to turn out the lights.

### Residential & Community Involvement

The principal includes articles and information about saving energy in the weekly newsletter sent to students' families.

"The principal includes articles and information about saving energy in the weekly newsletter sent to students' families."

## At JFK Elementary, Energy Patrol is "Envy of the Entire School"

**School:** John F. Kennedy Elementary School  
**District:** Jefferson Elementary School District

### Instruction

Green Schools teachers are presenting an energy lesson at a staff meeting in hopes that other teachers will use it in their own classes. They are also making posters and a graph detailing energy savings, which will be posted in the multi-use room for all students to see.

"A successful energy patrol continues to prowl classrooms and hallways, but this year they are outfitted in capes adorned with lightning bolts! They are the envy of the entire school."

### Action

A successful energy patrol continues to prowl classrooms and hallways, but this year they are outfitted in capes adorned with lightning bolts! They are the envy of the entire school. Classrooms that are doing the most to save energy get rewards. The Green Team gave reminders to the custodian to turn off lights in rooms that are unoccupied. He has also been consistently turning off the boiler.

### School Involvement

The Green Team promotes energy awareness on one of the main bulletin boards in school.

### Residential & Community Involvement

Parents will be filling out an energy use survey that will then be compiled and used to send energy saving tips home later in the year.

## Students Teach Students about Saving Energy

**School:** Curtis Elementary School  
**District:** Rialto Unified School District

### Instruction

Students learned about non-renewable and renewable energy resources and different forms of energy and precious metals. One assignment asked students to devise a plan to save and/or conserve assigned non-renewable resources, and the winning plan won a free lunch with the teacher.

"Teachers sent one representative from each class to discuss energy and efficiency and compile an events calendar. Students brought the information back to their classes and taught the rest of the class two tips from the conservation tip list."

### Action

Teachers sent one representative from each class to discuss energy and efficiency and compile an events calendar. Students brought the information back to their classes and taught the rest of the class two tips from the conservation tip list. These school representatives are monitored by "Energy Busters" to make sure energy is being conserved.

### School Involvement

- Annual Health Fair
- Poster contest
- Energy tip poster fashion show

### Residential & Community Involvement

- Annual Health Fair
- Edison Representative
- Weatherization
- Sears Energy

## First Year Program Flying High in Awareness and Energy Savings

School: Mojave High School  
District: Hesperia Unified School District

### Instruction

This is Mojave High School's first year participating in the Green School Program. Mrs. Puentes began by forming a Green School Club, which meets weekly to plan and discuss ways to present energy conservation to the staff and community. Mrs. Puentes has also integrated energy conservation into her physical science lessons.

"The Green School Club published energy-saving tips in the schools weekly bulletin to raise awareness, as well as posted daily energy use checklists in each classroom."

### Action

Our Club began action with a PowerPoint presentation at a faculty meeting, with the topic "What Green Schools is About." Club members toured the campus with the custodian and identified energy offenders and possible solutions. Thanks to this information, future Student Energy Auditing Training (SEAT) club members will be able to design a custom plan for each classroom.

### School Involvement

The Green School Club published energy-saving tips in the schools weekly bulletin to raise awareness, as well as posted daily energy use checklists in each classroom.

### Residential & Community Involvement

The Mojave Green School Club, with the help of the production class, plans to create awareness commercials to be aired on the monthly Mojave report.

## MP Brown Green Team Targets Electricity Use in Classrooms and Homes

School: Margaret P. Brown Elementary School  
District: Jefferson Elementary School District

### Instruction

The school science curriculum includes energy awareness activities.

### Action

The Green Schools team de-lamped certain areas of the school where they felt it could be done...no one has even noticed the missing lights!

### School Involvement

Each classroom made a list of things that use electricity in their classrooms. The Green Team is hoping this will make both students and teachers more aware of how much energy they are using.

### Residential & Community Involvement

The Green Schools team asked students and families to fill out a home energy survey.

"Each classroom made a list of things that use electricity in their classrooms. The Green Team is hoping this will make both students and teachers more aware of how much energy they are using."

## Students at Tobias Issue "Tickets" to Energy Wasters; Teachers Use Tickets as Teachable Moment

**School:** Marjorie H. Tobias Elementary School  
**District:** Jefferson Elementary School District

### Instruction

At Tobias, students discuss energy savings in the classroom and in assemblies. The still-successful energy patrol issues tickets to staff members where they find energy waste, such as lights or computers left on or classroom doors left open on cold days. Teachers use these tickets as teachable moments, discussing energy-saving strategies with their students.

"The still-successful energy patrol issues tickets to staff members when they find energy waste, such as lights or computers left on or classroom doors left open on cold days. Teachers use these tickets as teachable moments, discussing energy-saving strategies with their students."

### Action

The night custodian is careful only to use lights in the room in which he is working. Everyone makes a concerted effort to turn off lights when leaving a room and turning off the computer when finished. Tobias uses natural daylight as much as possible while keeping the lights off and turns off all machines at the end of the day.

### School Involvement

Working daily, the energy patrol, students, and staff conserve energy wherever possible. The Green Schools team holds assemblies to promote enthusiasm and mark successes.



### Residential & Community Involvement

Tobias has shared its efforts to save energy and its success thus far with parents and the larger community through the principal's weekly newsletter, student writing, Back-to-School Night, PTA, and Open House.

## Power Patrollers Keep Lime Street Elementary Green

**School:** Lime Street Elementary School  
**District:** Hesperia Unified School District

### Instruction

This is Lime Street Elementary School's second year in the Green Schools Program. Fifth grade teachers Mrs. Cummings and Mr. Ross and the school's custodian Mike Apaga are the Green School Leads. Lime Street continues the same practices started last year and keeps students, faculty, parents, and the local community involved.

"Some of last year's Power Patrol team members returned this year to help train the new members of the team."

### Action

Some of last year's Power Patrol team members returned this year to help train the new members of the team. Power Patrol team duties include:

- Giving weekly conservation facts, tips, and results during morning announcements;
- Doing energy conservation checks in classrooms every Friday and shutting down computers, printers, TVs, and VCRs on power strips for the weekend;
- Presenting information and status of Green Schools at staff meetings; and
- Patrolling the school for classrooms with doors/windows open and the air conditioner running at the same time.

### School Involvement

The entire school is involved in being a Green School. Students stay involved by:

- Being part of the Power Patrol;
- Participating in poster, bookmark, and slogan contests;
- Putting together information for newsletters and upcoming events; and
- Keeping their eyes open for "energy wasters" and trying to correct the problem.

The school's day custodian helps students with energy equipment, as well as reports problems, issues, and concerns about energy use. The night janitor verifies that all lights are off and turns the parking lot lights off a half hour earlier than normal.

### Residential & Community Involvement

Lime Street has increased parent involvement this year.

## All Grades at Juniper Elementary are Aware of Saving Energy

**School:** Juniper Elementary School  
**District:** Hesperia Unified School District

### Instruction

Each grade level uses the *Green Schools Instructional Resources* binder. The teachers provide positive feedback, and they are using the lessons to supplement science curriculum.

### Action

The school implemented "Awareness Week," for which each class made posters depicting the ways in which they are working to save energy.

### School Involvement

Each classroom completes a monthly survey sheet to evaluate how they are saving energy. These sheets are collected at the end of each month and the principal rewards winning classrooms.

### Residential & Community Involvement

Juniper sent flyers home to show efforts to save energy at school and encourage the same efforts at home to avoid rolling blackouts.

"Each classroom completes a monthly survey sheet to evaluate how they are saving energy. These sheets are collected at the end of each month and the principal rewards winning classrooms."

## Thomas Edison Students Discuss Energy Conservation with Family Members

**School:** Thomas Edison Elementary School  
**District:** Jefferson Elementary School District

### Instruction

Teachers at Thomas Edison Elementary incorporated energy conservation and the generation of electricity into their science lessons.

### Action

Students made light switch plates in art class to remind others to turn off lights when they leave the room. They also established an energy patrol, which makes rounds of the school to be sure all of the lights are turned off.

### School Involvement

Thomas Edison Elementary held "brown out" days through the entire school to help save energy.

### Residential & Community Involvement

Students took the light switch plates that they created in art class home to their parents. Students also brought home an energy conservation guide and discussed it with their parents.

"Students brought home an energy conservation guide and discussed it with their parents."

**Lagunitas Green Schools Team  
Targets Vending Machine and Studies Energy Bills**

**School:** Lagunitas/San Geronimo School (K-8)  
**District:** Lagunitas School District

**Instruction**

Teachers at Lagunitas School incorporate energy conservation into their lessons. They also created a math project called "Bringing Down the Energy Bill."

"Teachers at Lagunitas School incorporate energy conservation into their lessons. They also created a math project called 'Bringing Down the Energy Bill.'"

**Action**

Lagunitas recently got rid of their vending machine, and they are hoping that will make a big difference in their energy use. Students are asked to keep an eye on their classrooms to be sure lights and computers are turned off at the end of the day.

**School Involvement**

Green Schools teachers post energy saving tips on one of the big posting boards for everyone to see.



**Residential & Community Involvement**

Teachers at Lagunitas make sure any energy-related hand-outs they give to their students are also sent home to parents.

**Hollyvale Elementary Student Monitors Teach Others  
Energy-Saving Techniques**

**School:** Hollyvale Elementary School  
**District:** Hesperia Unified School District

**Instruction**

Hollyvale involved Student Council Officers and classroom representatives in energy-saving lessons. These students then took the information that they learned to their classes. Last year's successful results motivated students to continue saving money by reducing the amount of energy the school is using.

"Last year's successful results motivated students and staff to continue saving money by reducing the amount of energy the school is using."

**Action**

At Student Council Meetings students discussed ways that the school could save electricity and gas. They each decided that monitoring their own classrooms would be the best way to achieve this. Student Council representatives took the responsibility of making sure doors were closed, lights were turned off when leaving classrooms, computers were shut down, and power strips were turned off and all items unplugged when not in use.

**School Involvement**

Staff and students supported the program by keeping doors closed, lights off, and electrical items turned off or unplugged. Reminders of energy-saving plans were presented at staff meetings. Student representatives reminded their classes of plans after weekly meetings. The Principal also gave reminders in school-wide morning announcements.

**Residential & Community Involvement**

Many teachers used lessons that encouraged family involvement, giving students the opportunity to share energy-saving ideas at home with their families. Students participated in essay and poster contests promoting energy-saving awareness.

## High Energy-Saving Awareness at Hesperia Middle School

**School:** Hesperia Middle School  
**District:** Hesperia Unified School District

### Instruction

The teacher integrated the *Green Schools* curriculum into the greater classroom instruction.

### Action

The custodian monitors to make sure that anything that is left on unnecessarily is shut off, such as lights, computers not in use, and other appliances like fans and heaters.

"The whole school has been involved and is aware that electrical appliances and other energy-consuming devices need to be turned off completely at night and during the holidays when the school is closed."

### School Involvement

The whole school has been involved, and everyone is aware that electrical appliances and other energy-consuming devices need to be turned off completely at night and during the holidays when the school is closed.

### Residential & Community Involvement

So far, not many things have been done to promote community and residential involvement for the second year of the *Green Schools* Program.

## Arcata High Reaches out to Local School and Community

**School:** Arcata High School  
**District:** Northern Humboldt Union High School District

### Instruction

Students in Arcata High School's CEDAR academy lead the *Green Schools* initiative at Arcata High School. Students spend lab time on *Green Schools* activities, including conducting a detailed energy audit of the school and compiling recommendations for the school district. The students are also preparing a presentation to the *Global Physical* classes. The *Green Schools* team incorporated energy conservation and renewable energy into physical studies labs.

"Students gave a presentation to the fifth grade classes at Jacoby Creek School to explain the basics of performing an energy audit."

### Action

Several Arcata students participated in the Student Energy Auditor Training and used lab time to perform a detailed energy audit of the school building. Students are currently compiling recommendations to present to the school district and maintenance staff. The team also placed reminder signs on all school computers.

### School Involvement

The team puts fun facts about energy conservation in the bulletin several times a month. The team plans to have an event at the high school on Earth Day to educate students about energy conservation.

### Residential & Community Involvement

Students gave a presentation to the fifth grade classes at Jacoby Creek School to explain the basics of performing an energy audit. The students are also planning a community event that will focus on energy conservation. There will be speakers, music and various community and cultural groups involved.

## McKinleyville High Secures Grant for Community Outreach

**School:** McKinleyville High School  
**District:** Northern Humboldt Union High School District

### Instruction

Because of the McKinleyville Green Schools Team, ACT, teachers at the school are more aware of their energy usage, as well as how their students use energy. They are now more likely to mention energy topics in their classes and remind students to turn off lights.

"The Green Schools team at McKinleyville wrote and received a mini grant to purchase auditing equipment and to provide awareness to the community."

### Action

The team completed an energy audit of lighting, heating, building envelope, and plug loads and figured out what things the school can change to save energy. They wrote up a report and plan to make a presentation to the school board and/or school administrators. They are hoping the school will put weather stripping on all of the doors and put heater controls in the classrooms.

### School Involvement

This is the first year McKinleyville has had a Green Schools team. The team organized an interested group of students, came up with a name, and started school involvement. They started with two students and now have a group of ten! Four students completed the Student Energy Auditing Training, and these students have shared their accumulated knowledge with the rest of the team and the school.

### Residential & Community Involvement

The Green Schools team at McKinleyville wrote and received a mini grant to purchase auditing equipment and to provide awareness to the community. They are just beginning their community involvement, and the extra funding will help them reach out to the community.

## Hesperia High Uses Cash from Last Year's Energy Savings

**School:** Hesperia High School  
**District:** Hesperia Unified School District

### Instruction

The Green School Committee hopes that the Green School Program will become a required portion of the curriculum, further passing on the savings in energy to the community.

### Action

Hesperia High used the funds from last year's energy savings to install mini blinds in about 30 classrooms, which will create more savings in the future and enhance the instructional environment of the high school campus. In addition, the school purchased a computer for energy management that allows our on-site manager to program the heating and cooling needs of the school.

"Hesperia High used the funds from last year's energy savings to install mini blinds in about 30 classrooms, which will create more savings in the future and enhance the instructional environment of the high school campus."

### School Involvement

The students acquired more control over the school's energy usage and we hope this will lead to a greater involvement among the students in the coming year.

### Residential & Community Involvement

If the total integration of the Green School Program on campus is successful, the community involvement will also expand this coming year. We plan to involve local appliance distributors in our conservation efforts particularly through the replacement of older and less efficient refrigerators currently being used by the staff with newer and more efficient ones. We would like to see a consolidation of refrigerators and a complete elimination of personal refrigerators in the coming years.

## Teachers Take the Lead as Models of Energy Efficiency at Eucalyptus Elementary

**School:** Eucalyptus Elementary School  
**District:** Hesperia Unified School District

### Instruction

Multiple classes chose student monitors to turn off lights and unplug unused equipment. Teachers also incorporated lessons from the Green Schools Instructional Resources binder into existing curriculum in math, science, and language arts.

"Our hope is that by modeling positive energy-saving habits, students will practice them at home and model them for their families."

### Action

Student monitors patrolled the classrooms and made sure the "lights are out when we're out." Eucalyptus installed timers in staff restrooms and storage areas, replaced standard light bulbs with fluorescent bulbs, and placed outlet insulators in 18 classrooms. In addition, many of the portable classrooms shut down the AC/heater units during the day once a comfortable temperature was reached.

### School Involvement

Teachers and staff serve as models for energy conservation by turning out lights and unplugging unused items in the classroom. Eucalyptus also makes school-wide announcements on Fridays and before breaks to turn off and unplug as many items as possible.

### Residential & Community Involvement

Our hope is that by modeling positive energy-saving habits, students will practice them at home and model them for their families.

## Peninsula Involves All Grades Levels in Energy Saving Activities

**School:** Peninsula Union School (K-8)  
**District:** Peninsula Union School District

### Instruction

Kindergarten and first grade students at Peninsula read books about saving energy. All teachers at the school discussed with their students what "saving" means and why we should not waste energy.

### Action

All classrooms turn off lights and computers when not in use, as well as close doors when the heater is on. The school also turns heaters off 21 hours per week to keep costs down. The second and third grade classes created laminated signs for each classroom encouraging students and staff to close doors. The sixth, seventh, and eighth grades created PowerPoint signs emphasizing turning lights off to save energy and money.

"The second and third grade classes created laminated signs for each classroom encouraging students and staff to close doors. The sixth, seventh, and eighth grades created PowerPoint signs emphasizing turning lights off to save energy and money."

### School Involvement

All of the staff at Peninsula discussed potential steps to take to save energy. Every classroom created an "energy monitor" who is responsible for turning off lights and shutting doors.

### Residential & Community Involvement

Peninsula posts energy-saving messages on the school marquee.

## Mary Collins' Teachers Target Appliance Use; Students Perform Home Energy Audits

School: Mary Collins at Cherry Valley Elementary School  
District: Petaluma City Schools

### Instruction

One of the Green Schools teachers did an energy unit with his third grade class. Third grade teachers incorporate energy conservation into their lessons. They are hoping to spread their success to other grades.

"Green Schools teachers reminded all staff to turn off and unplug all appliances before going on break. They expect to see substantial savings from those actions."

### Action

Third grade students made posters about energy conservation and hung them around the school.

### School Involvement

Green Schools teachers reminded all staff to turn off and unplug all appliances before going on break. They expect to see substantial savings from those actions.

### Residential & Community Involvement

While on break, students did an energy unit on their own, performing home audits and conducting energy surveys.

## Students Auditors Shed Light on Desert Trails High Energy Savers and Energy Guzzlers

School: Desert Trails High School  
District: Hesperia Unified School District

### Instruction

Mr. Romero, our Green Schools-trained teacher, "electrified" his classroom with Green Schools Secondary Instructional Resources binder assignments.

"Students completed the Student Energy Audit Training (SEAT) in March and are ready to audit the world (or at least our little corner of the world)."

### Action

The students have:

- Completed schematic drawings of classrooms and offices. These drawings have included computers, microwaves, refrigerators, and all sorts of other equipment.
- Conducted a room-by-room survey of energy-saving and energy-depleting equipment.
- Visited the Mitsubishi Cement Plant in Lucerne Valley. This plant recycles EVERYTHING including old vehicle tires. The plant also has an active recovery and re-vegetation program to repair as much of the mining damage as possible.

### School Involvement

Students from all three SUCCESS classes and Mojave High School completed the Student Energy Audit Training (SEAT) in March and are ready to audit the world (or at least our little corner of the world).

### Residential & Community Involvement

The Green School Program has been introduced to the parents through articles in several issues of the Oasis, the newsletter sent to students' homes. In addition, in an upcoming parent meeting, we plan to ask for parent assistance with the implementation of energy-saving projects, such as awnings and glare reflecting film for the south-facing windows on campus.

## Carmel Elementary Keeps the Lights Off and Energy Bills Down

School: Carmel Elementary School  
District: Hesperia Unified School District

### Instruction

Teachers at all grade levels presented lessons on energy conservation. Students became more aware of conservation strategies through whole group discussion and cooperative learning.

"Through energy conservation lessons in class, students learn ways in which they can conserve energy at home."

### Action

Every classroom uses a power strip and turns it off each night. The lights are cleaned regularly by the custodian. We continue to have "lights off" signs posted in the staff bathrooms and plans are being made to install timers in teacher workrooms.

### School Involvement

Students and teachers turn off all lights when they are not in use, as well as power strips in the classrooms and lounge.

### Residential & Community Involvement

Through energy conservation lessons in class, students learn ways in which they can conserve energy at home.

## Petaluma Students Study Energy in the News and Perform Home Energy Audits

School: Petaluma Junior High School  
District: Petaluma City Schools

### Instruction

Several science classes and the Independent Living class at Petaluma use energy conservation curriculum materials. Lessons include energy use at school, home, in the community, and "current events" in the news.

"Lessons include energy use at school, home, in the community, and 'current events' in the news."

### Action

Students learned to measure, monitor, and make simple adjustments to energy usage, ranging from closing doors to turning off computer monitors. Students also made posters and distributed energy "savings tips" flyers.

### School Involvement

The school was recently modernized to run on a computerized gas and electric plan. Staff are becoming more involved in the program and seem more aware of energy efficiency. Staff and students are working on ideas and ways to fine tune energy efficiency in the school site.

### Residential & Community Involvement

Students took audits home and discussed what they learned with their parents. Petaluma also sent energy efficiency information home in the school newsletter.

## Valley Vista Students Meet Monthly to Discuss School Energy Use

School: Valley Vista Elementary School  
District: Petaluma City Schools

### Instruction

A group of students at Valley Vista meet once a month to learn about ways to conserve energy and discuss ways to save energy around the school campus.

"Students made posters and surveyed teachers, parents, and students in order to assess their energy usage."

### Action

Energy Team members patrol the school on a weekly basis looking for classrooms that have lights on during sunny days or windows/doors open when the air/heat is on. They leave posters and notes for teachers and students in the classrooms that are wasting energy. Students made posters and surveyed teachers, parents, and students in order to assess their energy usage.

### School Involvement

The team put up posters around the school and students wrote letters to staff members asking them to help conserve energy.

### Residential & Community Involvement

Valley Vista sent letters to parents asking them to save energy at home.

## Students Strive to Keep Cool and Still Save Energy at Zimmerman Elementary

School: Zimmerman Elementary School  
District: Colton Joint Unified School District

### Instruction

Fourteen of our science club students, ranging from fourth to sixth grades, participated in energy conservation at our school.

"Students are writing articles on energy conservation tips for the school newspaper, 'The Zinger,' with hopes to share the energy-saving campaign with the community."

### Action

Energy Patrol students organized into teams and walked through the school with the custodian to determine energy source monitors and found thermostats, air conditioners, and the cafeteria to be the hot spots. Using the infrared thermometer provided with the Green Schools Tool Kit, one of the Energy Patrol teams, Team A, compared the temperature of the cafeteria with its doors closed and with its doors open and filled with students eating lunch. The students calculated a difference of 11 degrees Fahrenheit.

### School Involvement

Understanding that the cafeteria doors need to stay open for lunch, the Energy Patrol recommended solar curtains to help save energy. As a result, Team A and the school custodian are currently designing solar curtains for installation. Team B students created door hangers to be displayed on classroom doors and remind teachers to close their doors.

### Residential & Community Involvement

Students are writing articles on energy conservation tips for the school newspaper, "The Zinger," with hopes to share the energy-saving campaign with the community.

## Energy Club Patrols the Waste of Sycamore Hills Elementary

**School:** Sycamore Hills Elementary School  
**District:** Colton Joint Unified School District

### Instruction

Sycamore Hills Elementary created an Energy Club made up of first to sixth graders that meets every other Wednesday. The club created an Energy Survey on staff waste at the school. The students then took the information and picked the problem areas of the campus. The Energy Club also does a weekly energy patrol to find waste and correct it.

"The Energy Club made energy slogan stickers to place by the light switches to help remind teachers and staff to turn off the lights."

### Action

The Energy Club made energy slogan stickers to place by the light switches to help remind teachers and staff to turn off the lights. The Energy Patrol also looks for waste and administers Energy Citations.

### School Involvement

The staff at Sycamore Hills Elementary began to assign light monitors for their classrooms. The Energy Club plans on producing a play for the student body in April 2005.

### Residential & Community Involvement

The Energy Club is in the process of designing an Energy Newsletter, which will provide energy tips and information about the school.

## Hacienda Students Study Energy Topics Weekly in Science Lab

**School:** Hacienda Elementary School  
**District:** San Jose Unified School District

### Instruction

As an environmental science magnet school, Hacienda has been able to integrate energy and energy conservation into the weekly science lessons in the science lab. They have used almost the entire curriculum offered in the Green Schools binder!

"As an environmental science magnet school, Hacienda has been able to integrate energy and energy conservation into the weekly science lessons in the science lab. They have used almost the entire curriculum offered in the Green Schools binder!"

### Action

Students learned about energy and then worked in teams to complete an energy audit of the whole school.



### School Involvement

After completing the energy audit, students wrote a plan to allow Hacienda to conserve energy throughout the entire school.

### Residential & Community Involvement

Students worked with their families to write New Year's Resolutions to save energy in their homes.

## San Jose High Students Study Appliance Use at Home

School: San Jose High Academy  
District: San Jose Unified School District

### Instruction

Teachers at San Jose have integrated energy usage and conservation into units on the Earth's resources. Teachers tie electricity into their discussions of oil since oil is used to produce much of U.S. electricity.

"The Green Schools team purchased Kill-A-Watt meters, and students are taking them home and recording how much electricity different appliances use in one day."

### Action

Students and teachers turn off lights in the upper hallways and turn off all of the computers in every computer lab at night.

### School Involvement

The Green Schools team made announcements on the school's PA system regarding how students and teachers can save energy. The team also made posters to hang around the school that promote energy conservation.

### Residential & Community Involvement

The Green Schools team purchased Kill-A-Watt meters, and students are taking them home and recording how much electricity different appliances use in one day. They then bring their comparisons back to school and discuss the differences.

## "If You're Not Using It, Unplug It," Say Gerald Smith Elementary Students

School: Gerald Smith Elementary School  
District: Colton Joint Unified School District

### Instruction

Two classroom teachers are piloting the program and are using the Green Schools Tool Kit to instruct and inspire energy conservation both at home and on campus.

"The primary students, who are piloting the program, serve as energy conservation ambassadors, inspiring interest in energy efficiency through their classroom visits and reminding users to conserve energy by turning off and unplugging unused electrical devices."

### Action

The most significant action the team took was a "Power-Down," in which the team encouraged the school to turn off and unplug every non-essential electrical device before adjourning for winter recess. The team is currently waiting for data from the electrical utility provider and district information agency. Once received, the team will provide this data to the staff to encourage electrical conservation at the home and the school.

### School Involvement

The primary students, who are piloting the program, serve as energy conservation ambassadors, inspiring interest in energy efficiency through their classroom visits and reminding users to conserve energy by turning off and unplugging unused electrical devices.

### Residential & Community Involvement

We hope that a significant savings on the utility bill will affect a policy change within the district and behavioral change amongst district employees.

## Third and Sixth Graders Unite to Make Crestmore Elementary More Energy Efficient

**School:** Crestmore Elementary School  
**District:** Colton Joint Unified School District

### Instruction

Two third grade teachers recruited four sixth grade "Energy Engineers" to lead their classes in energy-saving lessons and games. Custodian Toby Villa led the sixth graders on a tour of the school's energy plant. The students got excited about what they learned and were eager to teach the third graders. After studying the "Story of Max," a lesson plan in Green School's Instructional Resources Binder, they taught it to the third grade classes. The sixth graders also led the younger students in the Energy Detective game. To decide which third graders would be chosen as Energy Helpers we had an essay competition, and the three best essayists won. All the third and sixth grade students plan to check classes for energy use and give teachers energy-saving tips. Other future plans include writing and performing a play for the third and sixth grades that highlights energy-saving ideas for the school and home as well as holding an energy-saving banner contest.

"The other teachers are intrigued by our fun and want to be included in the lessons next year."

### Action

The Energy Engineers have begun to survey the energy use in each room at the school and give recommendations. They plan to test the energy waste of the staff lounge's old refrigerator. They also plan to involve the Social Committee and perhaps use some school funds to replace it with a more energy-efficient ENERGY STAR® appliance.

### School Involvement

The team began with four rooms this year and plans to get more teachers involved with the program next year. The other teachers are intrigued by our fun and want to be included in the lessons next year.

### Residential & Community Involvement

Students shared their energy-saving coloring books with their families at home.

## Willow Glen Green Team Promotes Energy Conservation Through Newsletters and Home Energy Surveys

**School:** Willow Glen Middle School  
**District:** San Jose Unified School District

### Instruction

Different student groups work on the Green Schools curriculum and complete an energy project. These groups generate weekly reports.

"Green Teams sent surveys home to parents and a newsletter to the PTA that discussed student and teacher energy use."

### Action

Green Schools teachers monitor the daily use of resources in the school, such as lights and electronic equipment.

### School Involvement

Green Teams made posters and newsletters to promote general awareness of energy conservation.

### Residential & Community Involvement

Green Teams sent surveys home to parents and a newsletter to the PTA that discussed student and teacher energy use.

## Montgomery High Green Team Shares Energy Saving Tips Through Video and PowerPoint Presentations

School: Montgomery High School  
District: Santa Rosa City Schools

### Instruction

Teachers at Montgomery are using the school's past participation in the Savings Through Energy Management (STEM) program and integrating the curriculum into their physical science classes and the environmental health class.

### Action

Green Team members at Montgomery produced a video bulletin that showed how to save energy at the school by closing drapes, keeping doors closed when the heat/AC is running, turning off computers, and using ambient light in the classrooms rather than overhead lights.

### School Involvement

The Green Team made a PowerPoint presentation to the faculty on the same topics as mentioned above, as well as adding in information about global warming. The presentation was very well received.

"Green Team members at Montgomery produced a video bulletin that showed how to save energy at the school by closing drapes, keeping doors closed when the heat/AC is running, turning off computers, and using ambient light in the classrooms rather than overhead lights."

## Bloomington Middle Tackles Energy-Saving Challenges

School: Bloomington Middle School  
District: Colton Joint Unified School District

### Instruction

Instructors and custodial staff received training on the benefits of energy savings, and students formed a small group to monitor these savings.

### Action

The Green Schools committee conducted an extensive audit of classroom energy usage and offered energy-saving recommendations to plant operations personnel, such as purchasing thermostats with a "fan-only" feature to allow teachers to circulate air without having to turn on the air conditioning. Also, the committee's measurements influenced the recent decision to shut down power strips and individual computers in computer labs instead of allowing them to transition into sleep mode. During the audit, the committee also found that many classrooms and resource facilities are employing half-bank use of fluorescent lighting when practical. The committee is also planning a study to examine the advantages of a paperless environment as they have discovered many of the schools' computers are printing excessive amounts of paper. Several classrooms have experimented with the paperless environment technique with considerable success.

"The Green Schools committee conducted an extensive audit of classroom energy usage and offered energy-saving recommendations to plant operations personnel."

### School Involvement

The Green Schools committee continues to search for savings opportunities, especially in less obvious areas such as saving paper. The committee also generated memos to all staff suggesting energy conservation techniques and displayed ideas and posters.

### Residential & Community Involvement

Bloomington conducted several workshops for parents to discuss energy-saving issues. As the majority of parents are Spanish-speaking only, Bloomington Middle is exploring the possibility of developing energy-saving materials in Spanish and/or holding energy awareness workshops in Spanish.

## Website, Posters, and Classroom Improvements Raise Energy-Efficiency Awareness at Bloomington High

**School:** Bloomington High School  
**District:** Colton Joint Unified School District

### Instruction

The students from Ms. Sutter's Integrated Physical Science class and Biology class learned to use the Green Schools Tool Kit's energy measuring tools after receiving the hands-on Green Schools Student Energy Audit Training (SEAT).

"To help reduce energy costs associated with maintaining a comfortable temperature throughout the whole classroom, the students recommended installing curtains on the east facing window."

### Action

Both groups of students discovered a significant difference in temperature in different parts of their classroom. To help reduce energy costs associated with maintaining a comfortable temperature throughout the whole classroom, the students recommended installing curtains on the east facing window. In addition to this improvement, a group of the biology students made posters with energy saving tips and displayed them around the campus, while another group calculated the energy usage of light fixtures in various rooms of the school. One student even began constructing a web site designed to provide information on how to conserve energy.

### School Involvement

The Faculty Supervisor accompanied the students on a walk through of certain areas of the campus to check for any lighting that needed to be replaced. He then performed the required maintenance.

### Residential & Community Involvement

Students extend the knowledge they have acquired from their training in energy conservation to their homes and communities.

## Analy High Students Help Teachers Teach About Energy

**School:** Analy High School  
**District:** West Sonoma County Union High School District

### Instruction

Students in the Earth club are preparing lessons from the Green Schools Instructional Resources binder. They will present these lessons to the faculty and then provide support to interested faculty members in their classes.

"Students in the Earth club are preparing lessons from the Green Schools Instructional Resources binder. They will present these lessons to the faculty and then provide support to interested faculty members in their classes."

### Action

The Art classes designed energy awareness posters and put them up at school. They are hoping the posters will create more awareness and encourage teachers and students to change their energy use habits. Participating teachers receive a "green room" sticker.

### School Involvement

The Green Schools team is organizing an energy awareness week, as well as a walk/ride/carpool to school effort.

### Residential & Community Involvement

The Green Schools team sends updates about the program home in the monthly newsletter.

## Laguna High Students Focus on Community Outreach

School: Laguna High School  
District: West Sonoma County Union High School District

### Instruction

Science classes at Laguna are designed to bring alternative energy into instruction. Teachers use the ecology unit as a tool to increase student awareness of energy consumption and alternatives to fossil fuel use.

"Students posted energy conservation signs in local business windows. They also handed out 'easy energy conservation tips' flyers to the public."

### Action

Students created "energy conservation tips" posters and posted them around the school and in the community. Students are investigating what types of equipment at Laguna use the most energy and how they can be replaced with more efficient units.

### School Involvement

Laguna posted "Lights off, Computers off, Doors Shut" signs on every door in the school.

### Residential & Community Involvement

Students posted energy conservation signs in local business windows. They also handed out "easy energy conservation tips" flyers to the public. Students also set up an energy conservation awareness booth in front of local businesses to discuss saving energy with passersby.

## Warner Students Survey Energy Awareness of Entire High School

School: Warner High School  
District: Warner Unified School District

### Instruction

As part of the science fair, high school students surveyed the ninth through 12<sup>th</sup> grades to determine which class was the most energy conscious. Students analyzed the results and determined that the tenth grade class was most aware of energy conservation. The survey helped students become more alert about energy use.

"As part of the science fair, high school students surveyed the ninth through 12<sup>th</sup> grades to determine which class was the most energy conscious."

### Action

Green Schools has done a wonderful job supporting the school in learning more about energy conservation. Teachers have encouraged students to take an active role in helping Warner High School save energy.

### School Involvement

Students will be working with the maintenance department to analyze the energy efficiency of well water pumps.

### Residential & Community Involvement

During the next three months, students will be conducting energy audits in the community. Hopefully the hands-on experiences provided through the curriculum have motivated students to conserve at home, as well as tell their friends and family to do the same.

## Chet Harritt Students Study Effects of Energy Use on Ecosystems And Growth Rate of Shade Trees

School: Chet F. Harritt School (K-8)  
District: Santee School District

### Instruction

Integrating energy into seventh grade instruction is a bit of a challenge because of the Life Science content standards; however, during a unit on leaves as solar collectors (photosynthesis), students compared and contrasted how energy is used within the building. Students are now viewing energy through the lens of an ecosystem and are readily making comparisons and analyzing the effects of human-generated energy systems to the ecosystem.

"Students are now viewing energy through the lens of an ecosystem and are readily making comparisons and analyzing the effects of human-generated energy systems to the ecosystem."

### Action

Last year, students planted trees strategically to shade AC units on the east side of portable classrooms. Students in this year's class have been monitoring the growth of the trees, the leaf mass area, and how effective (or ineffective) the shade is at this time. Students will use data on rate of growth of trees to predict how many years it will be before the trees truly shade the AC units.

### School Involvement

Seventh graders involved in the Green Schools Program make presentations about energy usage to the third grade, where energy is a content standard. One of their favorite presentations to make is "Energy Detectives," a lesson from the Green Schools Instructional Resources binder.

## Windsor High Students Plan Energy Fair for School Community and Local Charter School

School: Windsor High School  
District: Windsor Unified School District

### Instruction

The Environmental Science curriculum at Windsor High includes a segment on energy and energy conservation. As part of the curriculum, students are creating projects on alternative energy to be showcased at the upcoming energy fair.

"The Environmental Science curriculum at Windsor High includes a segment on energy and energy conservation. As part of the curriculum, students are creating projects on alternative energy to be showcased at the upcoming energy fair."

### Action

Ten students from Windsor attended the Student Energy Auditor Training. They discovered that because Windsor High is a fairly new building, there are only a few things the school can do differently to save energy. They will be presenting their recommendations on those changes to the faculty and school board. They also intend to make suggestions to the faculty to help increase their energy awareness. Green Schools teachers are installing vending misers on the vending machines on school property.



### School Involvement

The Environmental Science students are creating an energy fair that will be attended by the entire school. An art class at Windsor is creating energy awareness posters that they will hang around the school campus for everyone to see.

### Residential & Community Involvement

Environmental Science students will make a presentation on energy to a fifth grade class at Brooks Elementary School, a local school in the district. Cali Calmécac Charter School, another Green School in the Windsor District, plans to attend the energy fair with their seventh and eighth graders.

## Cali Calmécac Students Study Global Energy Use and Build Solar Ovens

School: Cali Calmécac Charter School (K-8)  
District: Windsor Unified School District

### Instruction

The eighth grade curriculum involves a segment on energy use and conservation, as well as a focus on solar and renewable energy. Cali offers an elective class called "Global Issues," which discusses global energy use. Students in the class did energy audits, built solar ovens, gave conservation presentations to younger students in the school, and prepared an energy fair and field trip to the Solar Living Institute.

"Students in the *Global Issues* class did energy audits, built solar ovens, gave conservation presentations to younger students in the school, and prepared an energy fair and field trip to the Solar Living Institute."

### Action

The Green Team at Cali gave presentations and sent letters to staff sharing energy conservation tips, including turning off lights, computers, monitors, and closing doors. Students created door cards that remind everyone to turn lights and computers off before they leave. The Green Team also met with maintenance staff to work on better thermostat settings.



### School Involvement

Students gave energy-related presentations to younger students, and the staff is organizing energy fair activities to share with other grade levels. The Green Team purchased tools and materials to share energy education with other teachers.

### Residential & Community Involvement

The Green Team included energy conservation tips in the school newsletter sent home to parents and invited parents to attend Earth Week activities. Eighth graders brought the conservation message home through various homework assignments. A local newspaper, the Windsor Times, printed an article about Cali energy conservation activities.

## Thurgood Marshall Students Ponder Life without Electricity

School: Thurgood Marshall High School  
District: Juvenile Court and Community Schools

### Instruction

Students at Thurgood Marshall worked on two large posters about energy conservation. They developed Velcro stick-on activities and placed them on the poster on a scale of importance. The students also made individual posters about energy conservation.

"The class completed a unit from the *Green Schools Instructional Resources* binder, 'Life without Electricity,' where the students learned about how much of their daily activities are dependent on the use of electrical appliances."

The class completed a unit from the *Green Schools Instructional Resources* binder, "Life without Electricity," where the students learned about how much of their daily activities are dependent on the use of electrical appliances. The class also worked on the *Green Schools* curriculum activity "Letter to Kenya."

### Action

The classroom is part of a strip mall that is not owned by the school, which made it difficult to undertake energy efficiency measures in the building.

### School Involvement

By working on the various instructional activities, the students became aware of their own electrical use at home.