



MEEC

MOJAVE ENVIRONMENTAL EDUCATION CONSORTIUM



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Teachers Explore Nevada Desert During 2010 EnviRetreat

MEEC's 2010 EnviRetreat was held on November 17th and 18th with five specially selected teachers taking part in the two-day event, which introduced them to a host of interesting and environmentally relevant educational sites.

The annual EnviRetreat Conference is designed to promote quality EE learning in a "place-based" environment, with this year's event held at numerous sites throughout Newberry Springs, the Mojave Preserve and surrounding areas. The following five teachers participated in the event: Robin Olsen, Littlerock High School, Littlerock; Janet Schneider, Apple Valley High School, Apple Valley; Lisa Harmon, Anaverde Hills Elementary, Palmdale; Cyndee Dodge, Del Sur Elementary, Lancaster; and Rebecca Kobold, Academy for Academic Excellence, Apple Valley.

The educators started their first day at the Mojave Desert Air Quality Management District office in Victorville, where they departed for Newberry Springs. Each teacher received a MEEC backpack that included a binder with detailed data of each point of interest they would visit, as well as a CD that contained a copy of the "Mojave Desert Junior Ranger in the Classroom Curriculum Guide," and the Mojave Desert Discovery curriculum provided by Joshua Tree National Park and the Mojave Preserve.

The teachers' visit to Newberry Springs included a tour of the Hector Mine, owned and operated by Elementis Specialties. President Michael McGath personally guided the teachers on a tour of the mine, where they learned about "hectorite", a rare earth mineral that is mined from the site, as well as the geological requirements necessary to produce it. Lunch was provided at the beautiful and exclusive Sarkisian Ranch in Newberry Springs, and the teachers were treated to the

delightful experience of visiting the Ranch's desert tortoise sanctuary and hatchling nursery.

After lunch, the teachers visited an area near the Mojave River that over the past 25 years has produced a large "sand blow", resulting in more than 40 homes being abandoned. The constantly shifting and blowing sand has almost entirely buried the structures and the surrounding land, making the area uninhabitable. It was an eye-opening first hand look at how the environment was able to reclaim previously high quality agricultural croplands.



EnviRetreat teachers visit Elementis — (Left to Right) Standing: Michael McGath, Elementis President; Christie Robinson, MEEC Program Specialist; Robin Olsen, Janet Schneider. Seated: Cyndee Dodge, Lisa Harmon, Rebecca Kobold.

From that point, the teachers headed out along Interstate 40 toward their evening destination of Laughlin, Nevada. Here, the teachers attended a reception aboard the Colorado Riverboat *Celebration*, sponsored by the California Desert Air Working Group, which was simultaneously hosting its annual conference at the Aquarius Hotel on the River. Proceeds from the annual CDAWG Conference, which is sponsored by the Mojave Desert Air Quality Management District, directly benefit MEEC. The 90-minute river cruise provided the teachers with an opportunity to mingle with MEEC sponsors, supporters and other environmental professionals.

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MEEC Honors 2010 MEEC Teacher of the Year 2011 Nominations **NOW OPEN!**

More than 80 educators, students, business and civic leaders turned out for the annual MEEC Teacher and Student of the Year Awards and Recognition Banquet, which took place May 13, 2010 at the Marriott Courtyard Ballroom in Hesperia.

Academy of Academic Excellence teacher Matthew Huffine was named MEEC's 2010 Teacher of the Year in recognition of his efforts to promote environmental stewardship among his students. Huffine was also a recipient of MEEC's EE Mini Grant in 2010, which provided him with funding towards the purchase of textbooks for use in AAE's new Advanced Placement Environmental Science program. Huffine was awarded a plaque and a check for \$300.00 in recognition of being named MEEC's Teacher of the Year.

Kelly Miller and Crystal Kerns were each named runner-up 2010 "Teachers of Excellence" for their exceptional work with students and environmental education at their respective schools. Each runner-up received a plaque and a check in the amount of \$100.00.

Miller has an uncanny ability to reach her students at Amargosa Creek Middle School in Lancaster by creating opportunities where they can gather, dialogue, and problem solve about the negative impacts people can have on the environment. In just two years, Miller has established and administrated the school's Ecology Club of

over 100 students. Miller and her students helped to raise awareness and improve the school by starting a recycling effort, called "ACMS Goes Green". Miller was also selected by MEEC to attend the Key Issues Institute in Colorado in 2008, EnviRetreat in 2008, and was instrumental in bringing the Antelope Valley's first YELC conference to ACMS in 2010.



2010 MEEC Teacher of the Year recipients, L-R: Kelly Miller, Crystal Kerns, Matthew Huffine

Kerns has been a teacher at Galileo Academy 101 in Victorville for the past two years and has been active in developing the "Green Gladiator Club", as well as promoting individual and societal environmental responsibility among her students. Presently Kerns is promoting a newspaper recycling drive that has students collecting and recycling newspapers around their neighborhoods. Kerns has been awarded several MEEC EnviroBus Bucks transportation grants.

Nominations for the MEEC 2011 Teacher of the Year are now open through April 15, 2011. Visit www.meeconline.com for more information.

PIUTE PONDS

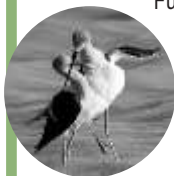
KITS NOW AVAILABLE



Piute Ponds, an enhanced natural marshland located on the southwest corner of Edwards Air Force Base, offers teachers and students a unique "place-based" learning environment. The ponds cover between 600-800 acres, depending on the season, and are a stop for thousands of egrets, heron and pelicans, to name just a few of the more than 200 bird species that stop here as they travel on the Pacific Flyway, a common route between the north and south. The ponds were created by a dike and are kept full by treated reclaimed water released from Lancaster's sewage treatment plant.



Piute Ponds boasts an observation deck, shade trees, and informational signs placed along the walking path that loops around some of the ponds. A welcome sign with a map shows the route of the walking tour while six signs provide information about plants, animals and insects that inhabit the area.



Funding provided by Edwards AFB and Lockheed Martin was used to develop wetlands education kits for use in the classroom and at the ponds. The classroom kit contains track molds, a night sounds CD, bird talons display, skull replicas, casting kits, owl pellet kits, pond discovery kits, field press and dryers, and much more. The outdoors pond kit contains field microscopes, hand-held magnifiers, field guides to birds, reptiles, and insects, aquatic macrovertebrate life cycle cards, collection vials, water test kit, and scopes for use while visiting Piute Ponds.

The kits are now available for teachers to check out at the MEEC Environmental Resource library located at the Antelope Valley Air Quality Management District Office in Lancaster, and may be checked out individually or as a pair. For details on the kits, contact Christie Robinson at (760) 245-1661 ext 6101 or email: christier@mdaqmd.ca.gov. For information on the AVAQMD's hours of operation, call (661) 723-8070. To arrange authorization to visit the Ponds or for more information, please contact Wanda Deal at (661) 810-9622, or email: wanda.deal@edwards.af.mil



A Banner Year for Sponsor Workshops

The past school year has been chockfull of MEEC teacher workshops, far surpassing even last year's schedule. In the 2009/2010 school year, MEEC provided more than 17 teacher workshops throughout the Mojave Desert, including Needles and Yucca Valley, for more than 200 teachers.

The majority of these workshops were funded through a generous \$25,000 grant from Boeing and other MEEC-sponsors. Abengoa Solar and Lockheed Martin Aeronautics both sponsored "Solar Energy 101" workshops, which provided educators with an overview of renewable energy sources, specifically solar. These workshops were filled to capacity and



Teachers tour High Desert Power Project during "Energy & Society" workshop

were offered in both the Antelope Valley and Victorville. Each teacher that attended Boeing's "Clean Air" and "Energy and Society" workshops received a special education kit. The "Clean Air" kit included a curriculum-based activity guide, lab materials for the activities, and the Mojave Desert Air Quality Management District's new "Adventures of Ozzi and Parti" standards-based curriculum in hard copy and DVD, as well as a Fuel Cell car kit. The "Energy and Society" kit provided by Project Learning Tree is an interactive standards-based curriculum program that includes songs and dances for grades Pre K-8, and is easily adaptable for all grade levels.

MEEC Receives \$25,000 Grant from Boeing Charitable Trust For Second Consecutive Year



The Boeing Company Charitable Trust has once again awarded MEEC a \$25,000 grant for teacher programs during 2011. This grant will be used to enhance existing FREE teacher workshops and develop a new Renewable Energy workshop program. These workshops will be available to more than 200 teachers at several locations throughout the High Desert. Grant funds will also be used to purchase new materials for both the Victorville and Antelope Valley Environmental Resource Libraries, and to fund a scholarship for one teacher to attend a five-day EE training session at the Key Issues National Training Institute in Silverthorne, Colorado.

The Renewable Energy workshops are designed to increase High Desert teachers' awareness of alternative energy in their communities and to improve their understanding of the science of energy, and the environmental effects of energy use. The program strives to lay the foundation for environmental stewardship through critical-thinking and problem-solving investigations in the classroom, while providing teachers with tools and information that they can incorporate into daily classroom activities.

Clean Air Teacher workshops presented under the Boeing grant will again feature the MDAQMD's newly developed "Adventures of Ozzie & Parti" air quality curriculum, which uses lesson objectives that include understanding the density of air and the causes and effects of ozone. Students can also create their own statistics about recycling in their classroom and design ways to make a concrete contribution in the fight against air pollution. Each teacher attending the Clean Air workshops will receive a clean air kit which includes K-12 standards-based curriculum, lab supplies and a hydrogen fuel cell car kit.

The grant will also fund the Joshua Tree Desert Studies Teacher Workshop, an overnight workshop held at the Joshua Tree Retreat Center, with day hikes to both the Joshua Tree National Park and Morongo Preserve. Both sites provide teachers the opportunity to receive instruction and experience in the desert's environment. Ten teachers will be selected to work in an outside environment with biologists, researchers, and a Wildlife Biologist and Photographer. All meals, lodging and curriculum materials will be provided as part of the workshop.

"Boeing's grant will allow MEEC to expand its services to teachers throughout our jurisdiction, especially those in outlying areas", commented Violette Roberts, MEEC's Executive Board Chair. "We are truly grateful to Boeing for their commitment to High Desert communities and to EE."

CORDINATOR'S CORNER



As we enter the winter session, and what will in just a few months be the end of another school year, MEEC is continuing to bring the most up-to-date tools and resources available to provide our teachers with new and fun standards-based workshops, contests, grants, and training opportunities. Visit our website at www.meeconline.com often to learn about these FREE opportunities!

The FREE Antelope Valley and Victorville MEEC Teacher Resource libraries are continually expanding the materials available to educators at no charge. Check out some of the new additions available for use in the classroom such as the Van De Graff generator (pictured at right), an impressive electrostatic generator that is capable of producing large static electric potentials including awesome displays of corona and lightning! As an added



convenience to our teachers' busy schedules, library materials can be mailed directly to you. Simply access the list of library resources by visiting www.meeconline.com, click on the "Teacher" tab and access the contents of the library. Visit our website and check out all the new material available onsite or online! And don't forget MEEC's Speakers/Mentors Bureau. Just visit and click on the "Speakers/Mentors Program" hotspot button on the right side of the homepage, where you can select a classroom presentation speaker from a pull down menu on almost any environmental topic. There are even job shadow and senior project resources to help your students with environmental information for their senior projects!

As a reminder, I am available to attend teacher staff meetings, Superintendent Meetings, and District in-service trainings to provide information on MEEC's many programs, including FREE workshops, EE resources, mini-grants, EnviroBus Bucks transportation grants, and other free benefits offered to teachers. I'm also available to visit your school or classroom for career events, Stormwater Presentations (using the EnviroScape model), environmental science presentations, and more!

Call today to schedule a presentation at (760) 245-1661 ext 6101 or email me at christier@mdaqmd.ca.gov.



Teacher Uses EnviRetreat as Launching Pad for Student Learning

The 2009 EnviRetreat provided participating teachers with an environmental learning experience like no other. It particularly left a lasting impression on one of those teachers, Diana Valdez- Bartlett. Diana taught fifth grade at Cottonwood Elementary in Palmdale and the majority of her students are from Los Angeles and had never ventured beyond the Antelope Valley. Diana was amazed by the beauty of Death Valley during her EnviRetreat visit and wanted to share her experience with her students. It was through EnviRetreat, which was organized by MEEC Program Specialist Christie Robinson, that Diana had the opportunity to meet with several of the Death Valley Rangers. The Park Rangers gave the teachers a private tour of the park, and during one of the tours into Golden Canyon, the teachers were able to observe a classroom of students studying ancient rock formations, as part of the Death Valley R.O.C.K.S- Recreational Outdoor Campaign for Kids thru Study. Stephanie Kyriazis, Park Education Specialist, shared information about the program, which is funded by the Park and also supported by the Death Valley Historical Society, whose mission is to bring students into nature in an effort to explore the beauty and science this unique environment has to offer.

Within five months after EnviRetreat, during spring break, Diana had chartered a bus full of students, their eyes filled with excitement as they anticipated their adventure. Diana's students enjoyed every aspect of the program, from their visit to Badwater to their analysis of ancient rock formations.

The Dutch oven dessert led by Ranger Richard was a hit, and the students still talk about the tastiness of that lesson. They also learned a great deal from the night hike, the investigation of the Salt Creek pupfish, the science behind the architecture of Scotty's Castle, and the visit from the Las Vegas Astronomy Club. The students concluded their learning experience with the exploration of Dune Detectives, an activity where students search for answers as to how sand dunes were formed and what lives in them. They had a blast rolling down the dunes with

Ranger Jay after the lesson!

According to Diana: "The program truly exceeded my expectations. Many of the students never experienced the great outdoors and the program enabled them to connect with nature in a new and exciting way. When I conclude a day teaching children I reflect on the following: Did the students learn anything new? Did I inspire them to reach higher and be their best? In those days out at the park, the Death Valley R.O.C.K.S program helped me accomplish those two goals repeatedly, and for that I will always be grateful. I am also appreciative of organizations, such as MEEC, who strive to help teachers access resources and make connections. It is those partnerships that will truly make a difference in our classroom. I know for my students, they couldn't stop talking about the trip, and for most of them, it was the most exciting adventure they ever took!"



Students investigate Salt Creek Interpretive trail for indigenous habitats.

Diana Valdez-Bartlett is currently a home school teacher for Westside Union School District educating student's grades k-8 in an alternative setting,

TEACHER

FEATURE Meet Robin Olsen

Robin Olsen is an Agriculture Science Instructor and Coordinator at Littlerock Agriculture and Environmental Science Partnership Academy, also known as "Littlerock A&E". Ms. Olsen's family had "roots" in the Midwest and with her love of horses, the Future Farmers of America (FFA) program at her High School provided the perfect combination of agriculture and horses.



Robin Olsen at Key Issues Institute, Colorado 2010

Once Ms. Olsen became involved in agriculture studies in college, she knew that she wanted to be an "Ag" teacher. Ms. Olsen has now been teaching Agriculture/Natural Resources for seventeen years.

In 2009, the Academy changed its focus from Agri-business to the Environment. The goal of the Academy is to educate students about the environment and prepare them for work in this growing area of world-wide concern. The FFA is actively involved at Littlerock and this year's theme reflects the program's commitment to the environment, "Going Green with Blue and Gold". National Blue and Corn Gold are the official FFA colors.

Ms. Olsen uses lessons and resources provided by MEEC and its partners to fill out the curriculum currently offered by her district. Ms. Olsen was also selected by MEEC to attend the Key Issues training at the Keystone School in Colorado in July of this year and has since effortlessly introduced the Keystone EE program into her classrooms. Currently, the Natural Resources class is working on the Silver City lesson from Keystone which walks students through a variety of lessons designed to study possible causes and uses the Scientific Method to "rule out" each erroneous problem and find the "real" culprit. The project will culminate with a mock town council meeting and letter to the Contamination Team where students must decide the best solution for the town.

In 2010, Ms. Olsen invited MEEC to support her department's, annual "Agriculture and Environmental Expo" which hosted over 220 people in the community of Littlerock. Students helped residents learn about Agriculture and Sustainability with such activities as Xeriscaping, Recycling Demonstrations, water and waste management information and other numerous booths and exhibits from the students in the Academy and FFA. MEEC is also an active member of the Academy's Stakeholder group, with representatives presenting frequently to Ms. Olsen's classes on careers in natural resources and green jobs. Ms. Olsen is a regular MEEC workshop attendee and encourages all her Academy peers to participate in the organization's workshops. Ms. Olsen was also selected to participate in the 2010 EnviRetreat this past November. "I am signed up for more workshops and am looking forward to all that MEEC has to offer for my Academy staff and students," said Ms. Olsen.

5th Annual MEEC "Students of the Year" Announced MEEC CONGRATULATES ITS 2010 STUDENTS OF THE YEAR!

During the 2010 Award and Recognition Banquet, six High Desert students were recognized as outstanding individuals who "lead by example" in their commitment to promoting environmental awareness and positive change within their schools and communities.



Left - Right: Priscilla Rodriguez, Erika Parke, Brittany Clemandot, Shantelle Padilla, and Emily Johnson

During the Teacher of the Year Ceremony on May 13th, each Student of the Year recipient received a plaque, \$60.00 in cash, as well as a \$60.00 Staples gift card. Students were nominated by their teachers or principals for promoting environmental leadership and stewardship. This year's outstanding students were: Brittany Clemandot, Desert High School, Edwards AFB; Chris Meza, Alpine Elementary, Littlerock; Priscilla Rodriguez, SOAR High School, Lancaster; Shantelle Padilla, Hesperia Jr. High School, Hesperia; Emily Johnson, Serrano High School, Phelan; and Erika Parke, Amargosa Creek Middle School, Lancaster.



Nominations for 2011 are now being accepted. Visit www.meeconline.com to download a nomination form.



2010 Grads Awarded MEEC Scholarships APPLICATIONS NOW BEING ACCEPTED

For the second year, MEEC was pleased to award its Environmental/Science Scholarships for the 2009/2010 academic year to five graduating High School seniors residing within MEEC's boundaries, which include the High Desert portion of San Bernardino County and the Antelope Valley.

The five students who were selected to receive the \$1,000.00 scholarships were required to declare a major in Environmental Science, Environmental Engineering, or another closely related Science or Engineering field. Recipients were selected based on a submitted essay, GPA and SAT scores.

Congratulations to the following MEEC scholarship recipients: Andrew Clarke, Granite Hills HS, Apple Valley; Emily Johnson, Serrano HS, Phelan; Suna Park, Antelope Valley High School, Lancaster; Emily Warner, Antelope Valley High School, Lancaster; and Cherie Magennis, Yucca Valley High School, Yucca Valley. These students are currently attending colleges throughout the United States.

Applications for 2011 are now being accepted. Visit www.meeconline.com to download an application packet.

Seven Lucky Teachers Selected for 2010 Key Issues Training; 2011 Applications Now Available



Key Issues is a national training institute located in Silverthorne, Colorado which is held each summer. Using Colorado's spectacular ecosystems as its setting, Key Issues combines classroom time with outdoor exploration of the natural environment.

For the ninth year, this once-in-a-lifetime educational opportunity was made available to seven teachers via full scholarships provided by the Antelope Valley Air Quality Management District, Antelope Valley College, Boeing Company, Lockheed Martin Aeronautics-Palmdale, the Los Angeles County Sanitation Districts, and MEEC.

The Keystone Center's Key Issues program equips educators with the skills and confidence to explore local and global environmental issues with their students using a non-biased, standards-based framework.

The teachers selected by MEEC to attend this year's Key Issues session in July were: Cyndee Dodge, Del Sur Elementary, Lancaster; Lisa Harmon, Anaverde

Hills Elementary, Palmdale; Robin Olsen, Littlerock High School, Littlerock; LaWanda DuBoise, Ed.D., Palmdale Learning Plaza, Palmdale; Ian Armstrong, Shadow Hills Intermediate School, Palmdale; Arlene Corte, Wrightwood Elementary, Phelan; and Janet Schneider, Apple Valley High School, Apple Valley.

In addition to enjoying professional networking opportunities with teachers from across the country, each participant received interdisciplinary, standards-based curriculum materials and software to take back to their classroom. Airfare, lodging and meals were all included as part of the scholarship recipients' awards. The experience is not only eye-opening and engaging, but as one teacher stated, it was life-changing. "I look at how I teach in the classroom differently now and the workshop has enhanced my skills as an educator", said Cyndee Dodge.

Applications for a full-scholarship to attend the 2011 Key Issues training in Colorado are now being accepted through April 15, 2011. Visit www.meeconline.com to download a package, or call MEEC Executive Board Chair Violette Roberts at (760) 245-1661 ext. 6101 for more information.

Enter the MDAQMD's Clean Air Month Poster Contest

Enter the Mojave Desert Air Quality Management District's 2011 Clean Air Month Poster Contest whose theme is: **"Air Pollution – I'm the Solution!"**

The Poster Contest is an annual event hosted by the MDAQMD for the purpose of raising public awareness about the importance of clean air and a healthful environment. Starting in 2011, the contest has been moved up to coincide with National Clean Air Month in May. Students ages 4 through 18 are encouraged to enter, and twelve winning posters in three age categories will be selected. Prizes will be awarded as follows:

- ★ First place - \$100 savings bond
- ★ 2nd place - \$75 savings bond,
- ★ 3rd & 4th place - \$50 savings bond.



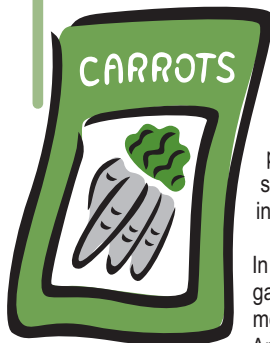
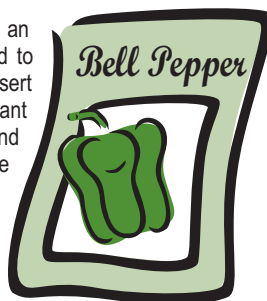
Each entry received will also be entered into a drawing to win one of two bicycles. The winning posters, along with the artists will be featured in the MDAQMD's annual calendar published for the following year, such as the 2011 calendar pictured at left.

Posters must be postmarked or delivered to the MDAQMD Office at 14306 Park Avenue, Victorville, CA 92392, no later than 5 PM on Thursday May 12, 2011. Posters will also be accepted at MDAQMD's Booth in Building 2 at the San Bernardino County Fair only until Sunday, May 15, 2011.

To view this year's winning posters go to www.mdaqmd.ca.gov. Free copies of the MDAQMD's 2011 Clean Air Poster Calendar are available from the MDAQMD office at 14306 Park Ave., Victorville, CA 92392 or by calling (760) 245-1661 ext. 6717 while supplies last.

MEEC School Garden Grant Program Continues to Grow

A "Garden in Every School" continues to be an exciting new mini grant program being offered to MEEC educators who teach in the High Desert portion of San Bernardino County. Through a grant sponsored by the Alliance for Water Conservation and Awareness (AWAC), more than 12 local schools have already received a grant for "seed" money to provide them with the basic tools and materials necessary to start a school garden in 2009 and 2010. The 12 schools were awarded grants ranging from \$134.00 to \$500.00.



Garden projects included demonstration gardens, organic gardens in existing greenhouses, a curriculum-based "living laboratory", a wildlife habitat garden, raised vegetable beds, a sustainable vegetable and flower garden, an apple and pumpkin water-wise garden, a small fruit tree orchard, and a student reading garden. Almost all of the gardens are organic in nature, and of course, water-wise.

In the grant application, teachers were required to explain how gardening could effectively be incorporated into the curriculum by meeting state standards for Life Science, Math, Art, Language Arts and Biology.

A curriculum-based school garden can serve as a living laboratory and outdoor classroom. Many teachers also believe that gardens can open new realms of learning, and connect students with responsible stewardship, citizenship, and leadership in future conservation of our land.

This past October, grant recipients were invited by MEEC to attend a unique half-day "School Garden" workshop that was developed specifically to provide the tools and resources necessary to achieve success in their gardens. Teachers were provided with valuable composting/gardening information and fact sheets on Greencycling options, container gardening, uses for fresh mulch and composted green waste, and best of all, Vermi-composting (worms). Other topics that were



covered during the 4-hour workshop included educational uses of School Gardens; Garden Basics (drip irrigation, weeding, pest control, and more); Designing Your School Garden; Composting Successfully; Resources for Successful School Garden Programs; Choosing Plants and Planting Times; Safety in the Garden; Academic Connections to School Gardens; and School Garden Resources (includes funding and grant opportunities, learning standards, student guides, and more). The teachers were also provided with curriculum, activities, and CD lessons. Special guest speaker Anita Matlock from Rain Bird Corporation presented each teacher with a drip irrigation kit valued at more than \$100.

Tamara Alaniz, Water Conservation Program Manager, Mojave Water Agency, and AWAC Coordinator presented each teacher with a "Beautiful High Desert Gardening" CD.

The following schools received their 2010/2011 grants the first week of August, just in time for fall harvests: Galileo Academy 101, Victorville; Krystal Science, Math & Technology, Hesperia; Pathways to College, Hesperia; St. Timothy's Preparatory, Apple Valley; and Yucca Valley High School, Yucca Valley.

Edible Aquifers a Hit at West Creek Middle School

MEED Program Specialist Christie Robinson presented the "Edible Aquifer" program to approximately 60 students at West Creek Elementary in Victorville on May 21st. This fun and informative hands-on activity instructs students through the process of building an aquifer made of ice cream, candies, and soda. Using clear plastic 8-16 ounce cups, students "build" the aquifer by layering the following ingredients: crushed ice (to simulate gravel and soil); lemon-lime soda (water); vanilla ice cream (confining layer); chocolate sprinkles (soils); blue or red food coloring (contamination), a straw (well pump). The students were instructed through each phase and completed the activity by eating their aquifers!



2011 YELC is Coming to Victorville and Lancaster this April

APPLICATIONS NOW BEING ACCEPTED FOR “R.E.A.C.H.” YOUTH ENVIRONMENTAL LEADERSHIP CONFERENCE

Applications are now being accepted for the sixth Annual Youth Environmental Leadership Conference hosted by the Mojave Desert Air Quality Management District and the Mojave Environmental Education Consortium. The free action packed, one-day, leadership training conference is open to students in grades 3 through 12 and is made possible through the generosity of MEEC's community business partners.

YELC is strategically designed to promote environmental awareness while building student leadership skills and encouraging service-learning projects that give back to the community. Attendees hear motivational speakers, and participate in three to four hands-on workshops on today's environmental issues. Additionally, students enjoy a scrumptious lunch and have the opportunity to win great prizes!



This year's theme is “R.E.A.C.H.” - Real Environmental Action Changes Habits.

There are two dates & locations to select from:

- Saturday, April 2, 2010 at Amargosa Creek Middle School, Lancaster or
- Saturday, April 30, 2010 at Victor Valley College, Victorville

Both events will begin at 9 AM and conclude by 3 PM. During the one-day events students will have fun while enjoying hands-on activities related to air quality, renewable energy, recycling, water conservation and much more!

YELC applications must be submitted and/or postmarked by March 9, to attend the April 2nd event and by April 6, to attend the April 30th event. Don't delay, space is limited! For an application or more information, contact YELC Coordinator Cynthia Wray at (760) 245-1661, ext. 6717. Applications may also be downloaded from MEEC's website at www.meeconline.com/student/yelc.

FREE TEACHER WORKSHOPS OFFERED AT YELC

For the second year, YELC will simultaneously offer two teacher workshops absolutely FREE to credentialed educators currently teaching at schools within the MDAQMD's or AVAQMD jurisdictional boundaries. The workshops will provide teachers with standards-based environmental education curriculum and offer training on presenting the information in the classroom.

“Clean Air” Teacher Workshop: 1:00-3:00PM

Provided by a grant from the Boeing Company, the “Clean Air” teacher workshop presents a hands-on training session which provides teachers with the tools to enable students to conduct scientific research on an environmental problem (air pollution), draw conclusions, and develop critical thinking skills while learning how to reach logical conclusions and find pollution solutions. Each participant will receive a Clean Air Kit valued at over \$100!!

“What Happens When it Rains” Workshop: 9:30-11:00AM

Using the interactive EnviroScape® 3-D tabletop model dramatically demonstrates sources of pollution — and its prevention. Engaging and effective in creating a real sense of understanding through hands-on demonstrations, the EnviroScape® models cross cultural, language, learning and age levels to make



seemingly complex issues clear. The workshop participants will actively “pollute” the model using food products that represent chemicals, pollutants, and other items that we commonly use in our everyday life, and show how when used improperly they eventually can end up in our groundwater. This fun hands-on workshop will demonstrate a unique, interactive learning experience that will help your students make the connection between their daily actions and how they can impact environmental quality.

Both workshops are being offered at both YELC event locations:

- Saturday, April 2nd, Amargosa Creek Middle School
- Saturday, April 30th, Victor Valley College.
- A \$10 deposit is required to attend. Deposit will be refunded at workshop.

Registrations will be accepted through March 9th for the Lancaster event and through April 6th for the Victorville event.

Call Cindi Wray, YELC Program Coordinator at (760) 245-1661 ext 6717

Inaugural Joshua Tree Desert Studies Workshop Held In November

On November 7th and 8th, MEEC and Boeing hosted a one-of-a-kind EE photography workshop for ten specially selected educators. This unique workshop took place at the Joshua Tree Retreat Center in Joshua Tree, with teachers staying at the historic Ding Le Mei House, designed by the famous architect Frank Lloyd Wright. David Lamfrom, California Desert Program Manager, National Parks Conservation Association, and Wildlife Biologist/Photographer, presented the workshop which included day hikes into Joshua Tree National Park and Big Morongo Preserve. The teachers were provided guidelines by Lamfrom on photograph composition and utilizing arts and group facilitation to achieve more investment from students. Teachers were also instructed on using digital photography, pen and ink drawing, and other media to help students comprehend concepts and retain information by making it more personal and relevant.

The workshop was developed to infuse Environmental Education into standards-based curriculum by training teachers to utilize concepts like exposition and sense of place to deepen and enrich the content of any lesson. Subjects such as history, literature, and science benefit from an understanding of the environment where they were formed and took place.

The first day of the workshop concluded with a delicious BBQ dinner, followed by each teacher presenting their picture story from that day's hike, while relaxing in front of the large fireplace. The second day began with a breakfast buffet, and then

the group gathered to begin a relaxed hike through the beautiful Big Morongo Preserve. The teachers were treated to viewing more than 27 species of birds that use the area as a resting stop along their migratory path. The workshop ended around noon with a tailgate lunch.

The workshop will be offered again in Fall 2011 and the scholarship application will be announced in Spring 2011.



Desert Studies Workshop Participants:

Back Row L-R: Linda Hoover, Riverside Preparatory, Helendale; David Lamfrom, NPCA; Terri Eddy, Maple Elementary, Hesperia; Kathleen Meyer, Apple Valley HS

Front Row L-R: Linda Bunch, Barstow JHS; Paul Lewis, Barstow JHS; Shannon Pruitt, Victor Valley HS; Susan Sztain-Edminister, Eastside HS, Lancaster; Debra Tidwell, Quartz Hills Elementary; Catherine Conterno, Quartz Hills Elementary

Teachers Explore Nevada Desert During 2010 EnviRetreat *Cont'd from Page 1*

After the cruise, the teachers enjoyed dinner at Saltgrass Restaurant, and then had the remaining evening for personal time along the River.

The second day of EnviRetreat began at the Aquarius' "Windows on the River" restaurant, where the teachers shared their thoughts on the previous day's educational adventures. Upon leaving the hotel, the group crossed over the Colorado River to Arizona where they visited the Colorado River Museum, and received a personally guided tour by docent Vickie Salyer, recognized as an authority on early life along the Colorado River and the local Native Americans indigenous to that region. Mrs. Salyer explained the early history and development of the region along the river and surrounding areas to the teachers, and provided the group with materials for their next stop, Grapevine Canyon.

A short drive later, the group arrived at Christmas Tree Pass, just seven miles from Laughlin. The two-mile trouble-free, off-road drive back to the canyon also produced a sighting of a local inhabitant of the area: a large brown tarantula. The group was able to view the creature on the road, which almost seemed to pose for the cameras as the teachers stood within inches, taking its picture.

The road brought the group to the trail head of Grapevine Canyon, where more than a thousand ancient Indian petroglyphs are visible along the stream bed. An undemanding quarter-mile hike was well worth the effort. The teachers were literally

surrounded by the most amazing assortment of petroglyphs that were just a touch away. Some of the two-story rocks were covered with hundreds of petroglyphs. With a printed sheet to assist them with deciphering the symbols, the canyon provided an enjoyable and informative look into a lost civilization. After spending a couple of hours at Grapevine Canyon, the group began the long drive back to Victorville, but not before two more stops.

The next stop was the old Walking Box Ranch which had once served as the 6,000-plus acre working cattle ranch of silent film star Clara Bow and her husband Rex Bell, an early western film star. Recently purchased by the University of Nevada and the Bureau of Land Management, the ranch is currently undergoing renovations and will soon be a desert studies research site available to educators from both Nevada and California.

A short distance from the Ranch is the small historical town of Nipton, California. Located on the perimeters of the Mojave Preserve and just south of Interstate 15, this little town provides its own solar operation for all of its buildings and business. The Union Pacific runs directly through the town, and was once responsible for transporting the cattle from the Walking Box Ranch. The teachers enjoyed lunch under an old mesquite tree at the Nipton Café, and learned a little of the history from the town's current owner. The group departed Nipton for the drive back to Victorville, with the MEEC Program Specialist pointing out points of interest along the way home.

NEED \$\$ FOR AN EE PROJECT? 2011 MINI GRANT APPLICATION PERIOD REOPENS

Have a great idea for an environmental school project? Need supplies for an EE lesson you're planning for your class? MEEC's Mini Grant Program may be able to help!

For a limited time, MEEC is accepting proposals for environmental education school project and material mini-grants. Interested teachers should submit a letter describing the proposed project and/or desired materials, the project/materials' environmental component and how the project will address educational standards in one to two pages maximum. Letter must also contain a timeline for project implementation and a budget or cost breakout based on the applicant's research of actual material costs, including shipping and handling, if

applicable. Labor costs are not eligible for funding. Projects must be implemented/materials must be used in classrooms located in the High Desert portion of San Bernardino County, the Antelope Valley or the Palo Verde Valley of Riverside County. Applicants must also teach within these same jurisdictions.

Funded projects must be completed/purchased by June 14, 2011. Average grant amount will vary from \$100 to \$500, but may be higher. Individual award amounts to be determined by MEEC Board. Only one grant will be awarded per teacher per school year. Application deadline is March 14, 2011. Proposals may be mailed to MEEC/EE School Mini-Grants, 14306 Park Ave, Victorville, CA 92392, or faxed to (760) 241-6271. For questions, contact MEEC Executive Board Chair Violette Roberts at (760) 245-1661 ext. 6104.

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