Elementary Outdoor Science Adventure

Trailblazers

We were really impressed by how well the Elementary Outdoor Science Adventure (EOSA) event went this year! Students had an experience that they will always remember -- they got to be outdoors all weekend at Alton Jones, connect with the environment, handle science equipment, interact with URI college students, and build their own confidence as learners and people. Hopefully they will carry all of the environmental and character lessons that they learned with them.

This year’s URI student team consisted of an incredible group of motivated leaders, all of whom are science majors. Their team mentality was a wonderful model to the SMILE students of the importance of community. The URI students worked really hard teaching hands-on environmental science and instilling the importance of lifelong learning and environmental stewardship to the young scientists. All five field studies were based on the theme of habitats and took place in different locations around the Alton Jones campus, which consists of 2,300 acres of conserved land. Students experienced the magical pine forest, lush meadow, interactive bubbling brook, pristine stream in the forest, and the unique vernal pool. They became biologists for the weekend, working together and solving problems.

One thing is for certain, everyone left the weekend feeling changed for the better. Students went back to school feeling more confident and with a better understanding of the environment and college. They also made lots of new friends with students throughout the state. They may have had a campfire song stuck in their head, but that's a good reminder of the wonderful experience that they had! We look forward to these students continuing their SMILE journey next year (whether in 5th or 6th grade).

continued page 2
Elementary Outdoor Science Adventure

Frogs, Toads, and Salamanders Oh My!
Students learned the differences and similarities between frogs, toads and salamanders, and the healthy habitat conditions to support their lives and reproduction. Students discovered the different locations preferred by frogs, toads, and salamanders to lay its eggs.

Operation Vernal Pools
Students learned how different abiotic factors affect biotic factors in a vernal pool. A vernal pool is a habitat that dries up annually and is home to many different species. Students tested the water pH; temperature, dissolved oxygen, nitrogen and turbidity.

The Ultimate Quest
To Be The Fittest Bunny
Students were introduced to the basics of evolution, genetics, and survival of the fittest. In the meadow, students conducted a wild life survey observing animals or a sign of them and insects in a designated area. Then they analyzed how the animal adapted to its environment and what characteristics help them to survive.
Habitats

How Do You Age a Lorax?
In the forest the activities provided students with an understanding on why trees and other plants are an important habitat. First, using a Dichotomous Key students identified plants, they also learned about the different layers of a tree. By looking at a tree cookie and a core sample students calculated the age of the tree and the differences in ring sizes and made a relation with the possible environmental factors that causes the different ring sizes.

Student Quotes

The best part of the EOSA was…
Testing the water habitats because it was fun to learn how to use each tool…Ronit, SK
When I got into the water and look at egg masses and other things.  Jocelyn, WW
When I touched a frog for the first time ever. That was my favorite part. Diego, WW

I learned the most when I…
Did the field studies because I learned a lot more about nature. Kathleen, SK
Learned how to identify trees and how old a tree is… Asia, SK
Learned about the different kinds of trees and how to identify them. Emilia, SK
Learned that even dead leaves have a part in the ecosystem. Amira, WW

Ecosystem and Habitats: Trees, Soil, and Water
Students investigated a forest with a stream running through it. They learned about the importance of shade, soil pH, water temperature; water dissolved oxygen, macroinvertebrates, and the many species of plant and animals living in the water, above the water, and in the surrounding areas.

Final Project
Sunday morning the teams of students were asked to act as biologists to build an ideal home for the fictitious 2 foot long and ½ foot wide named Salamanderus tintoverderi. Students needed to apply all the skills and knowledge acquire during the Friday's and Saturdays’ activities. First they surveyed the site, studied the canopy density, air, temperature, water quality, soil mix, pH, and moisture. They also had to determine the presence of salamander's prey/food animals. After the field studies, students gathered to analyze the data and make a presentation.

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Family Science Night

This year at Family Science Night, these are some of the activities we showcased as a club.

“Watershed Model showing the Blackstone River
“Animal Tracks” matching game
Posters displaying our work on Green line and Ground Cover Vegetation
“What am I?” animal matching game

Watershed Monitoring

This year, we observed and gathered data at our watershed site, the Blackstone River at Costa Park. We learned that our river is not very healthy, but many animals and insects have adapted to be able to survive in this environment.

Why we love SMILE...

“Investigating our watershed.”- Alexis
“Going to our site.”- Chris
“Everything. It is really fun!”- Jasonte
“I can’t wait to do SMILE at the middle school next year!”- Nayelis
“Oh Deer!”- Joshua
“Everything. I love science!”- Johandalys
“The sleepover weekend! I can’t wait!!!!”- Austin

Congratulations

2013 Amgen Award for Science Teacher Excellence (AASTE) in Rhode Island.

We would like to congratulate David Upegui, Central Falls High School SMILE teacher, winner of the 2013 Amgen Award for Science Teacher Excellence (AASTE) in Rhode Island.

The AASTE is awarded each year to just nine teachers across the United States who have demonstrated excellence in science teaching and the ability to deepen scientific understanding in their classrooms.
The West Warwick SMILE club began their year with several long walks to the Pawtuxet Valley River. As autumn progressed we witnessed the changes in the foliage along the river bank and recorded those changes in our journals. We found that as the temperature of the water decreased, the clarity of the water increased. The oxygen levels increased also with the cooler temperatures. We enjoyed having Lacey Feeley, SMILE assistant Director, accompany us on one of these excursions. She offered her expertise to us and enhanced our learning.

With the coming of winter we began to focus on lessons leading up to our Challenge Weekend project. Most of our lessons during this period were focused on making wind turbine models. We conducted a variety of experiments to determine the best angle of the blades, the length of the blades, shape of the blade, and materials chosen in the construction model. We had several mishaps when we used the fan to test the wind speed capability of our turbines, but this added to the fun and learning. Students enjoyed the competitive nature of these activities. As the Challenge Weekend drew closer we needed to begin our research on the Quonset Point delivery system of turbine parts for local construction. This proved to be rather challenging as most of us had never researched such in depth information. Older students offered assistance to the younger ones and we managed to get the information needed for our posters with cooperation and partnership.

The Challenge Weekend surpassed our expectations and we were proud to have several members of our club on the winning team. We followed up Challenge Weekend with a visit to an actual wind turbine in North Kingstown. All were impressed with the enormous size of it and the implications of such a clean source of energy for our state.

This year's theme had a great impact on student awareness of the need to find alternative energy sources. We look forward to a cleaner, healthier environment!
High School Graduates 2013

Edwin Africano
Central Falls High School
Massachusetts Institute of Technology
Electrical Engineering
_first Central Falls High School student to be accepted by MIT_

Lucivania Barbosa
Central Falls High School
University of Rhode Island
Nursing

Venetcia Ortiz
Central Falls High School
Rhode Island College
Undecided

Bryan DeLeon
Central Falls High School
New England Institute of Technology
Electrical Engineering Technology

Kevin Arguetta
Shea High School
Brown University
Engineering

Vivian Rodriguez
Shea High School
Johnson & Wales University
International Business

Michael Bonilla
Shea High School
University of Rhode Island
Biology

Bdiallo Sidibe
Shea High School
University of Rhode Island
Biology

Taylah Logan
Shea High School
Rhode Island College
Physical Therapy

Roniza Fortes, Central Falls High School
Christian Bonilla, Central Falls High School
Emille Fernando, Shea High School
High School Graduates 2013

Anh Nguyen
Tolman High School
University of Rhode Island
Electrical Engineering

Tayla White
South Kingstown High School
University of Rhode Island
Italian Education

Tim Lee
South Kingstown High School
University of Rhode Island
Pharmacy

Victoria Cooper
Woonsocket High School
Brigham and Young University
Biology

Bryan Oliviera
Woonsocket High School
Forensic Science, CCRI

Mustafa Shaker
Woonsocket High School
Rhode Island College
Undecided

Brandon Castaldi
West Warwick High School
Marine Corps
Computer Networks

Ryan Pailthorpe
West Warwick High School
Lincoln Technical Institute
Computer Networks

Luis Perez
West Warwick High School
University of Rhode Island
Pharmacy

Regina Hieap, West Warwick High School
University of Rhode Island

SMILE Newsletter and Report 7
The SMILE club at Tolman High School just completed its first year. We had a small group of dedicated students, but are looking to increase those numbers next year. Since two of our students are graduating, we want to focus on incoming freshmen and sophomores as a recruitment pool. Those dedicated students really enjoyed the year’s curriculum and the great trips and activities they took part in.

The first day of the watershed curriculum was one of the most exciting for students and teachers. While collecting data about health of the watershed students caught and released some aquatic life. We found that the best activities were the ones that allowed us to enjoy being outside together. We enjoyed each other and enjoyed the beauty and peace that comes from nature.

This inspired us to plant an ornamental garden around our school sign making it more attractive. In the planning phase, they measured the area around the school sign and developed a plan to scale. They researched plants that were both heat tolerant and low maintenance. We went and selected the plants from a local home improvement store and enjoyed preparing the ground and placing our plants.

The Amgen trip to West Greenwich was really inspirational to our students that are interested in studying biology and engineering. The High School Engineering Challenge at URI was an awesome opportunity for student from all clubs to enjoy each other. Our students loved working collaboratively on the solar vehicles. However, the best field trip by far was our kayaking trip with Shea High School. This was the first kayaking experience for most of our students and they gained confidence quickly in their ability to maneuver their way around each other and down the Wood River. We saw a mated pair of goldfinches, a family of Canada geese, orioles, red winged black birds, a great blue heron flying overhead, and numerous swallows sweeping after insects. We believe students gained an appreciation and more respect for the natural environment as well as a desire to seek out more opportunities to spend time enjoying nature.

So, we have two SMILE members graduating, but the remaining students are looking forward to the new learning experiences and activities that next year’s club will bring. We are hoping for an increase in club membership among incoming freshmen and current students.

South Kingstown Family Science Night
March 28, 2013

Students Shared Learning Experiences With The Community

There were a variety of stations highlighting different activities throughout the year including: 1. Which blades work best on a wind turbine. 2. Poster on wind energy with questions and candy. 3. How a generator works using a hand cranked flashlight. 4. Making a wind anemometer. 5. Watershed field studies. 6. How to test water quality.
May Teachers Workshop

The Science of Energy

The SMILE Spring 2013 Teachers Professional Development Workshop was held at URI. The first part involved recognition of the many accomplishments of SMILE clubs, teachers, and students. Teachers evaluated their club and made suggestions for next year.

The second part of the workshop was The Science of Energy. This was presented by Shannon Donovan, Scituate High School teacher, through the State of Rhode Island Office of Energy Resources and the NEED (National Energy Education Development) Project.

Using hands-on activities, teachers explored the sources of energy, what they are, where they come from, and how they use each of the 10 energy sources. At the conclusion of the workshop, teachers completed order forms for Kits to use in their club. It was a very enlightening workshop and even though the end of the school year approaches, teachers were excited about using new activities in their classes!

Presented by Shannon Donovan, Scituate High School teacher, through the State of Rhode Island Office of Energy Resources and the NEED (National Energy Education Development) Project.

Congratulations

The Ninth Annual Transportation Excellence Award for the Educator of the Year

On May 15, 2013 Carol Englander, SMILE Director, received this prestigious award from the Department of Transportation. The award is given to people that have made significant contributions and have impacted the lives of the citizens of Rhode Island.

The URI Transportation Center is one of the major sponsors of the SMILE Middle School Engineering Challenge Weekend.
We’ve having a very busy and fun time here at North Kingstown High School SMILE Club. To kick off the start of the new school year we hiked the woods near our school, taking pictures of the different types of trees, doing water tests from the nearby stream, and having lots of laughs. We’ve been working on a 3D topographic model of our watershed to see how the land around us affects the health of Narragansett Bay, a task that involves getting down and dirty with the clay. Here at NK we work mostly with the environment, but we mix in some engineering in there, too. We’ve gone on two field trips, one to a nature preserve and the other to Jamestown, to find out more about the native life in RI. We also went on a field trip to Amgen. We worked on our solar powered cars in preparation for the Challenge Weekend. That’s just some of the things we’ve been keeping busy with here at North Kingstown High School. You guys are AWESOME and I can’t wait to see you all soon!

Wind Turbine Field Trip

On April 24th, 2014 100 SMILE middle school students and teachers from 5 clubs converged on the Wind Turbine in North Kingstown, at the home of developer Mark DePasquale, CEO of Wind Energy Development, LLC. Standing up close to a 1.5 megawatt turbine was awesome. Mr. DePasquale helped students understand and appreciate how the turbine changed wind energy into electricity, the dimensions of the turbine and tower, the computer controls that regulate direction and angle of the rotors and safety precautions in high wind situations. It was a windy day, the revolutions per minute of the rotor were impressive, and through the discussion of wind turbines, students were made aware of the many careers associated with wind energy development. The field trip concluded with ice cream bars, and enthusiastic students and adults took home large pinwheels as a memento from Mr. DePasquale.
SMILE Staff

Carol Englander, Director

Augusto Gomez, Assistant Director

Geri Giroux, Program & Evaluations Coordinator

Carolyn Mason, Curriculum Specialist

SMILE Newsletter

Volume 19 No.3, May 2013

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Lacey Feeley, Editor

Maria-Gabriela Lizano, Publications Coordinator

Catherine Valentino, Coordinator

SMILE (Science and Math Investigative Learning Experiences) is an enrichment program for educationally disadvantaged students in grades 4-12 in four Rhode Island communities. SMILE's goal is to provide group activities for these students in math, science and computers. Generous gifts by participating donors make this program possible. The SMILE newsletter is published four times a year. We encourage your comments and ideas. Please share this newsletter with others who might be interested in SMILE.

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ONLINE

www.uri.edu/smile

Calendar

Weekly SMILE Clubs Meetings
Scientific and Career Exploration Field trips

Family Science Nights
November-December 2012

Special Annual Events

High School
Challenge Weekend
March 22-23, 2013
URI Kingston Campus

Middle School
Engineering Challenge Weekend
March 1-2, 2013
URI Kingston Campus

Elementary School
Outdoor Science Adventure
April 26-28, 2013
URI Alton Jones Campus

University of Rhode Island
Math and science Curriculum Planning for the year

University of Rhode Island
Math and science Curriculum Special Events Planning

University of Rhode Island
Math and science Curriculum End of the Year Evaluation

19th Year of service

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