

Newsletter

volume 21 No.1, January 2015

SMILE Communities Participate in Family Science Night Watershed and Estuary Theme

SMILE members from across the state look forward to Family Science Night, a community event that brings together students and their families, friends, teachers, school administrators, and community leaders for an evening of interactive science and math activities and friendship that the whole family can participate in, learn from, and enjoy. Each evening promotes community building as families get to greet old friends and make new ones while enjoying a wonderful ethnic potluck dinner and participating in different learning activities taught by SMILE students.

The SMILE students engage their parents and family members as learners. Groups of parents and siblings rotate through the stations as the SMILE students present and teach hands-on activities. Because parents are rotating, by the end of the activity, students often have presented five or more times. For many students, this is their first experience at teaching, and by the end of the evening after many presentations to strangers they are definitely enjoying their “Explainer” role, and have built up lots of confidence and self-esteem.

Parents are very proud of their child’s accomplishments. Many parents have expressed to SMILE staff their delight and surprise at seeing their child as a competent teacher. It is an evening where families begin to bond into a SMILE community and students impress everyone with their enthusiasm for science and math and teaching.



Students engage their parents and family members as learners



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FAMILY SCIENCE NIGHTS

Family Science Night in each school district is characterized by warm hospitality, a renewed sense of community, and a common purpose: to encourage these children to continue to do well in school, stay in SMILE, graduate from high school well prepared to enter college and pursue the career of their choice. Having the support of families friends and teachers helps this happen!

Activities presented at this year's Family Science Night were intended to:

Educate the community on why estuaries and wetlands are important habitats for multiple species of fish, plants and wildlife. And emphasise the important role they play in protecting the coast from powerful storms.

Increase the understanding of estuaries and to improve our ability to protect them.

Demonstrate how human activities can impact estuaries by degrading water quality or altering habitats.

Raise awareness that we are responsible for protecting and maintaining Narragansett Bay and that any pollution we allow to enter our waterways potentially could end up in the Bay!

Educating the community that watersheds, estuaries and oceans are all interconnected, and what happens in one DOES impact the others.



Several SMILE clubs participated in The International Coastal Clean-Up day on September 20th 2014. The litter they collected was weighed and later categorized by type and entered into an international database to aid in future research and evaluation.



These models illustrate point and non-point source pollution. Run-off from buildings, parking lots etc. is non-point source as there are multiple 'points' of pollution entering the system. Students demonstrated where the water goes and how wetlands filter out pollution.



Hands-on activity to demonstrate how human actions can pollute local streams and rivers and ultimately Narragansett Bay.



Using physical objects as metaphors for wetland functions, students demonstrated why coastal wetlands are an important part of the ecosystem. They explain what wetlands do and why destroying them has many negative impacts on the environment.

This year the focus was on educating the community on the importance of Estuaries and Wetlands.



Water Filtration Challenge

In their clubs, students designed, evaluated, built and refined water filtration systems that were able to filter at least 150ml of dirty water within 15 minutes. Parents tried the challenge and were awarded points based on the quantity and quality of the water filtered!

Students studied estuaries as a dynamic ecosystem, observing the variability within and between different systems and their physical, chemical, and biological components.



Students demonstrated how to make facial scrubs using natural products like sugar, honey, and olive oil, as an alternative to commercial facial cleansers that often contain microscopic beads of plastic as an abrasive. Parents and students took home eco-friendly samples to test!



Students From Horgan Elementary in West Warwick demonstrated how the plants and soils in an estuary act as a giant filter to remove pollutants from the water.



Fall Teacher Workshop December 2014

Annual Events Preparation

SMILE leaders from across Rhode Island came to the University of Rhode Island to attend the annual Winter Teachers' Workshop on December 5th. It was packed with learning and planning as teachers prepared for the Elementary Outdoor Science Adventure, the Middle School Engineering Challenge, and the High School Engineering Challenge.

The elementary session theme was presented by SMILE EOSA coordinator and Assistant Director, Gus Gomes and focused on the theme of Habitats. The elementary teachers investigated chemical and physical features of habitats for plants and animals. The teachers became involved in their own explorations, learning by doing. They returned to their clubs with a wealth of curriculum materials and activities to share with their students.

Middle School teachers learned about Cranes and MagLev trains while engaging in hands-on activities led by SMILE Director, Carol Englander. These activities focused on making teachers and students aware of the leverage and balancing forces that are a part of all cranes. Hands-on activities included making boom and tower cranes, balancing levers, making magnetic forces visible, and investigating the strength of attracting and repelling magnets. Teachers used computers at the Memorial Union where they learned how to use the U.K. Cambridge University Amusement Park "Parkworld Plot" Program to learn about the action of different forces. In their clubs, students will also be making a poster describing Mag-Lev trains, their locations around the world, speed and magnetic levitation characteristics and displaying it at the SMILE URI Engineering Challenge.



High School teachers participated in a series of hands-on activities led by Curriculum Specialists Carolyn Mason and Heather Hamilton.

This year, students will focus on concepts related to constructing and operating Remotely Operated Underwater Vehicles. While participating in the pre-challenge activities, students will investigate the concepts of buoyancy, the movement of robots, the types of

ROVs that support scientific research, and how submersibles dive and surface. In their clubs, before attending the challenge weekend, students will build a robotic arm, which can pick up objects. When students come to the Challenge in March, they will combine these concepts to construct and manipulate their own ROV (the SeaPerch)!

The collaborative efforts of the hardworking and dedicated SMILE teachers are a source of strength to The SMILE Program.



Shea High School

Ann Marie LaRoche

Jennifer Blanchard



During the past three months in the SMILE program, we have concentrated on wetlands as well as their environmental effects. In addition, there was a minor focus on pollution and sustainable living. Through a model we constructed representing a wetland, consisting of shallow pans filled with clay, sand, dirt and sponges, we learned that the more absorbent the material, the less flooding will occur. These filters allow rain water to reach beneath the layers of material since it soaks it up and retains it. Next, we also discussed the animals and plants that thrive in the wetlands. We discovered that plants that rely on an abundant supply of water are usually located in wetlands as well as water animals such as ducks, frogs, fish, beavers, alligators, etc. Overtime, these plants and animals adapt to the environment through natural selection.

In order to gain a visual understanding of how barriers work, we took a field trip to the Providence Hurricane Barrier. We were able to see that this barrier prevents the city from flooding in the case of a natural disaster. In addition, India Point Park was conveniently situated close to the Providence Hurricane Barrier so we saw a water front and learned about the Point Street Bridge and the new and old George Washington Bridge on the same field trip.

At our second field trip we were able to go to a house that used the concept of sustainable living, which is called the Apeiron. Here, we learned about the timeline of human advances throughout history ranging from the first weapon to the first cell phone. Additionally, we analyzed the structure of the house and came to the conclusion that many aspects were different from usual houses we see around here. These include solar panels used to attract the energy from the sun which is then converted to energy throughout the house. Also, one side of the house was made from hay blocks dipped in clay and later covered in a layer of clay to make it sturdy. This helps to retain heat in the house. The bathroom was very unique because the waste was used as compost for the plants outside. Lastly, the roof had a metal bumpy material so rain and snow will easily slide off to prevent the roof from collapsing from excess weight.

All of the content we learned was showcased at Family Science Night hosted at Shea on November 16, 2014. Tolman, Goff and Shea students displayed experiments and presented their knowledge to parents to show what we have learned through the program. Overall, it was a fun night.

Currently, we are learning about the micro beads found in some lotions and soaps and the effects it could have on our skin and marine animals.

Calcutt Middle School 5th grade

Karen Cardoza

Peggy Boyer

SMILE is amazing! We have learned about wetlands, estuaries, and how pollution affects them. We have done many great activities to help us understand our environment. We learned how littering can kill animals and how global warming is melting glaciers and raising the sea levels. In the wetlands metaphors activity we learned that wetlands have many functions that help clean the water. We also learned that wetlands are homes to many plants and animals. We got to play card games that gave us clues about plants and animals and how and where they live. We also had so much fun when we built a living food web where we became the plants and animals. In this activity we became organisms and connected each other with string by whom we ate or who ate us. We learned what are producers and primary and secondary consumers in the food web. We even created a homemade water filter. We used sand and gravel and carbon to filter out the dirty water. Nobody was brave enough to drink it though!

In SMILE we learn to collaborate and how to use effective team work. When we built towers we worked in groups of 2 to 3 students and created tall imaginative towers. We are looking forward to our Family Science Night nexweek and our upcoming field trip to the Boston Science Museum in January. We are so thankful and we appreciate the URI SMILE program because we know we wouldn't be able to do all this fun and educational stuff without it. What a great way to learn while having so much fun. THANK YOU!



Woonsocket Middle School

Paulette Metivier

Denise Fountain

My favorite part about SMILE is the parties and field trips –Lena.
My favorite thing about SMILE is learning things that I never knew before –Arame
My favorite thing about SMILE is the URI college field trip- Susie
My favorite thing about SMILE is the projects are always hands on and fun –Madison
My favorite thing about SMILE is how every project we do we make new friends and make different friendships - Anna
My favorite thing about SMILE is the hands-on experiments we do –Madeline
My favorite thing about SMILE is having a good attitude and being able to enjoy myself-James
My favorite thing about SMILE is being able to work with friends and meet new people-Nomar
My favorite part of SMILE is going to URI and staying for the night at a hotel- Taitum
My favorite part of SMILE is the FUN field trips that we go on like, the one to URI. – Eric
My favorite part of SMILE is that it's something to do after school.- Cody
My favorite part of SMILE is that there is fun projects that we do-Victorio
My favorite part of SMILE is the field trip to URI, I like the food and swimming. –Paige

My favorite part of SMILE is the field trips especially the one to URI, I like the projects we make there ~ Ciara
My favorite part of SMILE is when everyone from different cities meet up at the U.R.I and cooperate with one another, making new friends and having food! – Aleya
My favorite part of SMILE club is the experiments because I get to have fun and learn at the same time! –Amaya
My favorite part of SMILE is getting to learn new things with my friends, and getting the experience of something new-Elijah
My favorite thing about SMILE is that I can see my friends and learn new things-Dylan
These are a few of our favorite things!



Coleman Elementary School School

Jennifer Paolozzi

Anissa Hoard

“

What I like about SMILE is...

Learning about nature because it is fun. *Ryan*
Kayaking! *Carlos*

Learning new stuff about science. *Kevin*

Learning new stuff and fieldtrips! *Giovanny*

Going on field trips learning about nature. Always smiling! *Jason*

I get to learn and have fun. *Isabella*

I'm learning a lot about animals. *Javier*

”

SMILE by lsysys

SMILE is a loved program that helps us get into college. It helps all the kids get more and more strong knowledge. In the SMILE program, science is our key, and the teachers talk about saving the great blue sea. What we like about SMILE is that at the beginning we get to take a break and get to know each other, for goodness sake! We all work together, and you shall see, SMILE is the perfect place where we need to be.



This year at Coleman, we have been learning about estuaries and how important it is to conserve them. Without estuaries, we would lose masses of important wildlife.

Our fieldtrip to the Wood-Pawcatuck Watershed Association.
We had an incredible time kayaking on the Wood River.

Harris Elementary School

Heather Neil

Mark Leburn

Written by SMILE students

We think this because we get to hang out after school and do really cool stuff. For example, right now we are learning about circuits by building battery-powered cars. We have also learned a lot about Wetlands this year. We learned how wetlands help with pollution by doing a pollution catcher experiment with celery and colored water. We then explored pollution in our school by creating pollution catchers out of paper plates and Vaseline. We shared these experiments at Family Science Night. Family Science night was an opportunity for us to be the teachers. We also enjoyed learning from the other SMILE students and checking out the cool things they've been learning about, while eating delicious food. We especially like that we get to go on amazing field trips in SMILE where we learn lots of new stuff. SMILE is a place to make new friends, work as a team and have tons of fun with SCIENCE!



**SMILE is awesome,
SMILE is extraordinary,
SMILE makes us SMILE**

Central Falls High School

David Upegui
Laura Stanish

'Time Flies!

Sharil De Leon and David Upegui

Groucho Marx is given credit for saying: **“Time flies like an arrow; fruit flies like a banana”**. This funny quote brings to mind the idea that for us time travels quickly and in one direction. For us in the SMILE club at Central Falls High School, time has truly flown by these last four years. I can't believe that we are seniors in high school, getting ready to graduate and move forward with our post-graduation lives. So many days have gone by, so many lessons, so many laughs: so much learning! Most of this year's SMILE club is comprised of twelfth graders that have participated for several years. Therefore, we have been together for a long time growing up and learning with each other. These last few months we have been busy getting our college applications completed and letters of recommendations lined-up. Mr. Upegui and Ms. Stanish have written letters for most of us and we in turn, have also revised our college essays. Moreover, one of the most exciting celebrations this year has been the news that as a school, Central Falls High School, has achieved the highest proficiency level ever in the science NECAP exam - in fact, most of the SMILE club participants were proficient. We were able to accomplish this because as a group we spent all these years learning and practicing scientific skills (not to mention the SMILE meetings last year when we played “science trivia” games in preparation for the exam).

This year we have been busy expanding our knowledge of estuaries and we visited the “Galilee Bird Sanctuary” in Narragansett with Mr. Upegui's AP biology class (which is made up by many of the SMILE club members) to conduct a “bio-blitz”. Later in the year, we also prepared for our Family Science Night, which included the elementary and middle-school clubs from the city. This is a great opportunity for us to share with the younger students and their families. We decided to demonstrate the skills and processes of the scientific method/procedures by focusing on several main ideas: observations, experimentations, communication, data analyses, and new problems/ideas (innovation). With all these groups, we focused on the current knowledge about estuaries and showed the younger students how to apply these steps to our focused content. Also, make sure to ask



Students at Galilee Bird Sanctuary looked for different species of aquatic organisms (such as crabs, fish, crustaceans) as well as plant life and birds

Ronald about his amazing magic tricks - which afforded us an opportunity to explain the importance of good observation skills and hypothesis development.

We are very excited about once again participating in the Engineering Weekend Challenge - especially given the fact that most of us have had some experience with the ROV's and therefore we hope to apply our knowledge to improve the standard model.

Time truly does truly fly - but not without leaving behind many gifts and learning! Like fruit flies congregate around bananas -we have come together these last four years and now we prepare to fly on our own.



Sebastian Zuleta lost his shoe to the estuary!

Summer Teacher Workshop

August 2014

The SMILE Program's Professional Development Summer Workshop for teachers took place at the University of Rhode Island. The August workshop involved new curriculum training and streamlining the "Nuts and Bolts" of SMILE clubs. The workshop theme was Watershed and Estuaries curriculum training. Lacey Feeley and Carolyn Mason gave teachers an overview of "What is an Estuary and how does it relate to the Watershed". Teachers gained tremendous knowledge about all aspects of estuaries and watersheds. Teachers received The Watershed Estuary Project Curriculum and participated in hands-on activities. The final highlight of the day was a Science as Enquiry session presented by Cathy Valentino, SMILE Curriculum Advisor, internationally renowned science lecturer and Houghton Mifflin science author. Teachers worked with and were given materials to bring back to their clubs that were challenging, thought provoking, and fun.



SMILE teachers were recognized and thanked for building cohesive club peer groups that promote continued student participation and development of a "science identity."

SMILE Success Story

By Carol Englander

Amanda Lewis was in West Warwick SMILE Program for three years. Two years in the elementary club, and one year in the middle school club. Through SMILE she had found her "science identity" and followed her passion through middle and high school. After graduation she attended CCRI and studied Histotechnology. Amanda took histology classes at night while working at a nursing home to supplement her income. There is a huge need for histologists. Amanda was hired by the Histology Lab Manager at Rhode Island Hospital, who was also her teacher at CCRI. She got her degree May 2011.

"I thoroughly enjoyed SMILE, made a lot of friends from West Warwick, and still keep in touch."

"In SMILE it was nice to see something not offered in regular science class."

"In regular classes you don't want to be the only kid who knows the answers, in SMILE you are with kids who do, and actually enjoy learning!"



Amanda Lewis with Carol Englander, SMILE Director, during the interview.

SMILE High School Seniors

Keep your grades up
Take SAT Exam
Apply to colleges.

Remember it is always good to consider two “safety schools”, two “good matches”, and at least one “reach” college.

As soon as possible start working on your college applications, check the deadlines.

As you work on your application essays, have your parents, teachers, or counselors review them.

Teachers’ recommendation letters must be requested at least one month before the dead line.

During Challenge Weekend you will have the opportunity to talk to SMILE graduates about their college experience.

Look for Scholarships

Check your guidance school’s counselor office for local and national scholarships..

Check out the following web sites www.RIScholarships.com; www.collegeboard.com

Financial Aid

Students and families should apply for financial aid. Contact the financial aid office at the colleges you are interested to find out about forms and deadlines.

Fill out the FAFSA (Free Application for Federal Student Aid) to apply for financial aid soon after January 1, 2015 and Feb 15, 2015 to ensure it is received before the college deadlines. Now you can apply online fafsa.ed.gov.

Learn about college loan options. Borrowing money for college can be a smart choice, especially if you get a low-interest federal loan.

Need help with your college application?

1. www.ed.gov/prog_info/SFA/FAFSA
2. Call the SMILE office 874-2036 or send us an e-mail smile@etal.uri.edu

Visit **College Planning Center of Rhode Island**. Located in the Warwick Mall. Monday to Saturdays Noon to 7:00 PM and Sundays Noon to 3:00 PM Phone (401) 736-1182/ 736-118e-mail: ddeblois@collegeplanningcenter.org Web: www.collegeplanningcenter.org

They offer help on college admission process, how to apply for financial aid, free scholarship search, assistance in completing the admissions and financial aid applications, and more.

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Science and Math Investigative Learning Experiences (SMILE) Program is an enrichment program for educationally disadvantaged students in grades 4-12 in four Rhode Island's five school districts. 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 three times a year. We encourage your comments and ideas. Please share this newsletter with others who might be interested in SMILE.

CENTRAL FALLS
Ella Risk Elementary School
Sheryl Wilson
Peggy Boyer

Calcutt 5th grade
Karen Cardoza
Peggy Boyer

Calcutt Middle School
Karen Cardoza

Central Falls High School
David Upegui
Laura Stanish

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Woonsocket Middle School (2 clubs)
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We would like to acknowledge and thank our funders for their generous support.

The following list of funders have allowed SMILE to grow and continue to provide high quality after school STEM programming to Rhode Island students:

Amgen Foundation	Pawtucket COZ-21 st Century
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NOAA B-Wet Program	Woonsocket School Department

We would also like to thank our Individual Supporters, who are vital in allowing The SMILE Program to continue its mission

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Send your check or money order to: The SMILE Program
50 Lower College Road Suite 3015
Kingston RI 02881

The SMILE Program is a 501(c) (3) non profit organization

Welcome

The SMILE family now includes

Lyman B Goff Jr. High School
in
Pawtucket

ONLINE



www.uri.edu/smile



Join us on Facebook

21st Year of service

Calendar

Weekly SMILE Club Meetings
Scientific and Career Exploration Field Trips

Family Science Nights
November-December 2014

Special Annual Events

High School
Challenge Weekend
March 27-28, 2015
URI Kingston Campus

Middle School
Engineering Challenge Weekend
March 6-7, 2015
URI Kingston Campus

Elementary School
Outdoor Science Adventure
April 10-12, 2015
URI Alton Jones Campus
Teachers' Professional Development Workshops

August 11-13, 2014	Dec 5, 2014	May 27, 2015
University of Rhode Island	University of Rhode Island	University of Rhode Island
Math and Science Curriculum Planning for the year	Math and Science Curriculum Special Events Planning	Program Evaluations

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