



Science and Math Investigative
Learning Experiences

Newsletter
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*29 Years of Service **



**SMILE Elementary
Students gathered
at URI for Ecology
Field Day, a fun
filled science field
sites exploration.**

**On March 31, 2023,
SMILE hosted 7 Middle
Schools for the Wind
Turbine Engineering
Challenge Day. The
students were presented
with the task of
designing and building
a model wind turbine
that could generate the
highest voltage using
the engineering design
process.**



MIDDLE SCHOOL ENGINEERING CHALLENGE

In the morning of the event, the 95 students were separated into 16 teams, with each team representing different clubs from all over Rhode Island. The students, after a quick ice breaker, were given the first job of building the nacelle of their wind turbine. The nacelle was central to the wind turbine turning mechanical energy into electrical energy. The students broke for lunch, eating at Hope for an “all you can eat” college experience. After lunch, the students resumed their building by focusing on the blade design. The students tested 6 different blade design variables to determine which combination produced the greatest output of electrical voltage. A productive afternoon of testing and redesigning was followed by dinner again at Hope. Following dinner, the students shared their results with students, teachers and mentors. What was clear from their presentations was how much the students had learned about Wind Energy, Teamwork and the Engineering Design Process. The main takeaway from the presentations was that the students believed that Wind Energy was the future of Renewable Energy.



MIDDLE SCHOOL ENGINEERING CHALLENGE



CLUB UPDATES

Coleman Elementary School Woonsocket

Scarlette Schultz
By Coleman SMILE Club

The Coleman SMILE Club has been working on an ecology unit for the last couple of weeks. We have been learning about how plants and animals interact in their ecosystems. Students have been completing many experiments that have helped teach them about ecosystem.



One of their favorite activities was learning about hydroponics and growing their own vegetables using this method. Students completed labs that taught them about the science behind hydroponics and how plants grow. Then they worked to begin their own plants, by propagating and planting black lettuce seeds. Check out their plants!!! We took the seedlings outside to enjoy the beautiful weather and plant them in their new homes. Students took their plants home and have been showing me their progress each week. I am happy to report that all plants are alive and thriving!

CLUB UPDATES

Globe Elementary School Woonsocket

Brittney Pyszczynski
By Globe SMILE Club

This year is Globe Park Elementary Schools' first year with the SMILE program. While we have been a smaller group, we have been working hard. Students have been working as engineers to build racers, boats, satellites, and bridges. We have been working on our problem solving skills when we come across an issue in our experiments.



We are currently working on our Stewardship Project to help birds in our community. We are making bird houses and some feeders. One of the students in the group said, "My favorite part of SMILE is when we get to do fun things that help our environment". Our group is looking forward to Ecology Day!



ECOLOGY FIELD DAY

SMILE hosted seven elementary SMILE Clubs from all over Rhode Island on Friday April 28th for its annual Ecology Day. Students visited four different habitats on the URI campus to learn more about the environment. We were fortunate to have the USGS of Connecticut teach the students about the stream habitat. With their guidance, students measured and collected data related to stream health such as temperature, pH and oxygen levels. In addition, students were able to hear about real life STEM careers. URI students taught lessons at the other three habitats. With booklets in hand, the elementary students made observations on lichen, nurse log ecosystem, macroinvertebrates, soil and pond plant life. Like real scientists in the field they also collected quantitative data related to these habitats. By day's end, the students reported that not only did they love the day, but that they were more knowledgeable about the natural world.



ECOLOGY FIELD DAY



CLUB UPDATES

Horgan Elementary School West Warwick

Maria DePalma, Amy Horne
By Horgan SMILE Club

It doesn't seem possible, it's already spring! Where has the year gone? We have done lots of fun activities in SMILE this year. From engineering, building with dowels and launching satellites, to learning about the water cycle and biotic and abiotic factors in nature, we have covered a broad spectrum of scientific topics. Some of these were on display at our terrific Family Science Night. Most recently we have been learning all about birds, and more specifically, their beaks and eating habits. We have created our own new bird species based on the foods they eat and the habitat in which their food is found. We have dissected owl pellets to determine their most recent meals. We also have mixed up a tasty blend of seeds and other ingredients, formed into cookie-cutter shapes, to hang in trees as feeders. Coming up soon is our annual trip to URI for Ecology Day! We can't wait to go be biologists and college students for the day!



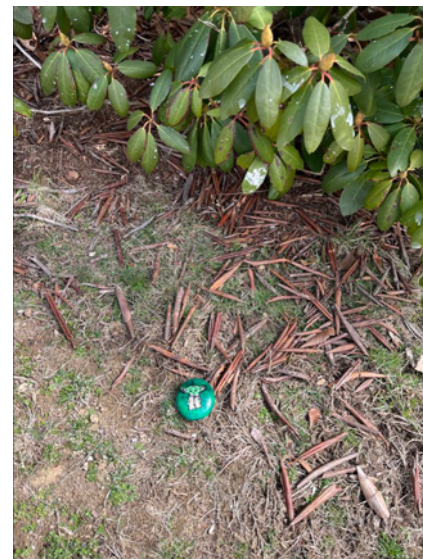
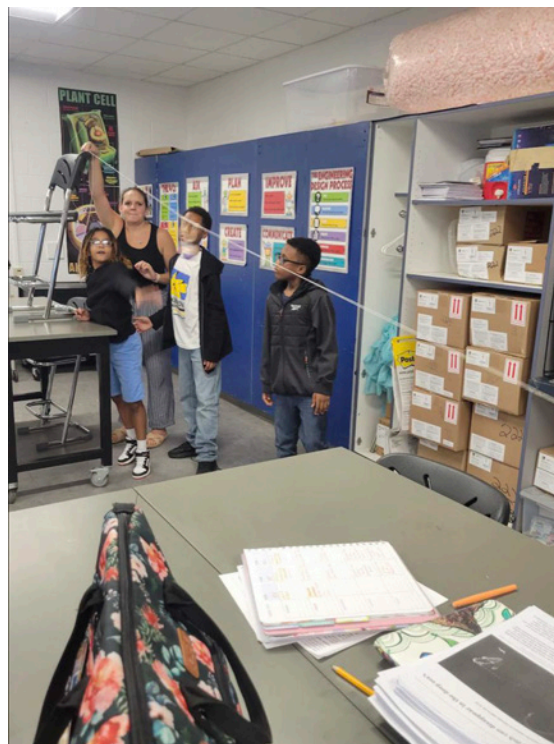
CLUB UPDATES

Calcutt Middle School Central Falls

Molly Forte, Kelly Sierra
By Calcutt Middle SMILE Clubs

What a year it has been at Calcutt Middle School for SMILE! We kicked off the year with a field trip to the URI school of Oceanography. During this trip, we learned about the various types of engineering programs that are available for students who are studying the ocean. The highlights of the trip were exploring the “Control Room” for ROVs that are exploring the ocean floor and looking at samples of rocks from ocean ridge. This fall, we did a variety of engineering activities. A favorite activity was the DNA activity, where we were able to determine “who did it?” based on DNA sequences.

This winter/spring we have been busy continuing with the engineering activities and getting ready for our big events. We hosted our first post-COVID family science night! Our families were able to attend and participate in a variety of SMILE activities. It was a great night! We also began to study wind-turbines in preparation for the SMILE Challenge Day. During the challenge day, students from all over the state worked together to create a wind turbine. We will be ending our year with our stewardship project. We will be making kindness rocks with another after school program and hiding them on our trips. We will also be going on one more field trip to the Norman Bird Sanctuary in Middletown. It was a great year in SMILE!



FAMILY SCIENCE NIGHT

In December and March – May, SMILE clubs from across the state participated in district wide Family Science Nights. SMILE students look forward to this community event that brings together students and their families, friends, teachers, school administrators, and community leaders for an evening of interactive science, technology, engineering and math (STEM) activities. Family Science Night promotes community and education during this special evening including a potluck dinner and participation in science and math activities taught by SMILE students designed for the whole family to participate in, learn from, and enjoy. Participants in Family Science Night are always impressed and proud of the accomplishment of their SMILE students. Many parents have expressed to SMILE staff their delight and surprise at seeing their child as a competent teacher as parents and siblings rotate through a series of stations. It is an evening where families are learners and begin to bond into a SMILE community and students present activities five or more times to their family and community members, impressing everyone with their enthusiasm for science and math and teaching, and building authentic confidence and self-esteem



CLUB UPDATES

Woonsocket Middle School at Hamlet & Villa Nova Woonsocket

Jenn Hardy, Michaela Gormley, Ian Chernasky, Sean McBride
By Woonsocket Middle SMILE Clubs



With the worst of the Covid 19 pandemic now over, the Woonsocket Middle School SMILE clubs have had a field trip & activity packed year! The WMS students have learned about the natural environment, built model wind turbines, created electric motors and much more. Some standout field trips included visiting the Roger Williams Park Botanical Center as well as the University of Rhode Island Bay Campus, where students were able to experience exotic plants and marine animals. All of these activities and trips led up to the annual SMILE Challenge Day, where WMS students competed with (and against) SMILE students from other schools at the main University of Rhode Island campus. At the challenge day, WMS students were able to test their skills, make new friends, and get a small slice of what college life is like.

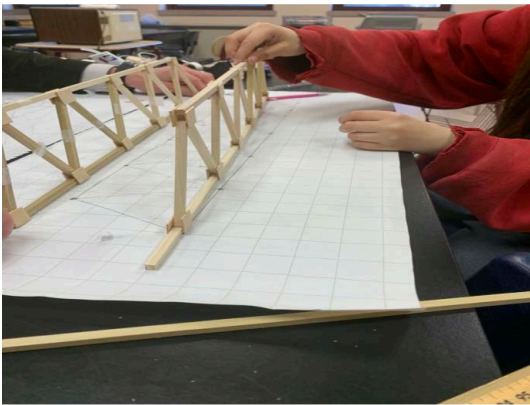


CLUB UPDATES

South Kingstown High School South Kingstown

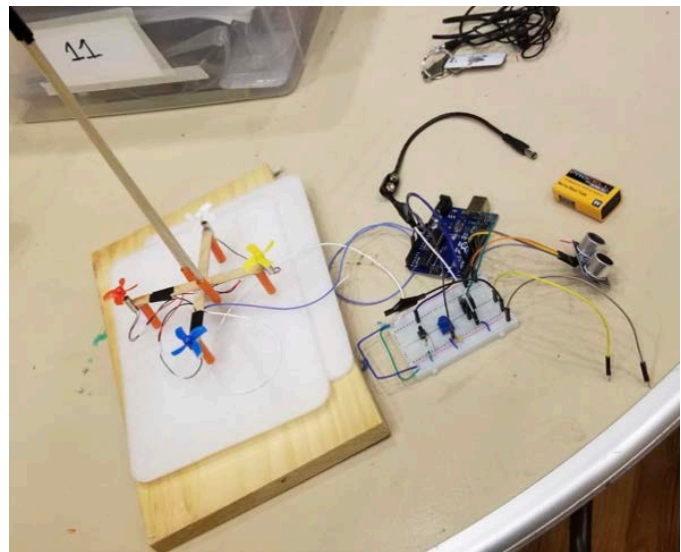
Reed Fraser, Michael Lobdell
By South Kingstown HS SMILE Clubs

This year's SMILE club has enjoyed the activities so far this year. One of the highlights has been the activity about the Lotus Effect. Students explored more about what it means for something to be hydrophobic using the hydrophobic sand provided.



Bridge building is another highlight from design to creating the structure. The SMILE Engineering Challenge day was a great experience for everyone. The students did an excellent job presenting what they have worked on and learned throughout the day.

At the annual SMILE URI Engineering Challenge, our students focused on fun and function by engaging in the design process. They designed and built a self-regulating drone. Under time and materials constraints, our students built a wind turbine tower able to withstand a simulated earthquake. Students reflected and shared the challenges they faced and overcame at the end of the conference.



South Kingstown SMILE schools held its annual Family Science Night on Thursday, May 4th, 2023, at Curtis Corner Middle School. Students from all schools had their achievements on display.

CLUB UPDATES

Woonsocket High School Woonsocket

Bridgette Hernandez, Ethel Locke
By Woonsocket HS SMILE Clubs

Another great year for the S.M.I.L.E. Club at Woonsocket High School! With increasing club membership being a priority this year, we are pleased with the engagement in the group. We have a good mix of students from all grade levels, and we look forward to meeting new incoming 9th graders next year! The curriculum this year, with the primary focus on bridges and circuit boards, was incredibly engaging to us. Through lots of learning curves, it is safe to say that we are now well-rounded on the importance of triangles in bridges and towers, along with the importance of reading the directions for setting up a breadboard! We all had a very enjoyable time applying this knowledge at the 2023 URI S.M.I.L.E. challenge day! Not only did we apply our existing knowledge there, but we also learned the correlation between drones and ocean windmills; something that we pondered on until then! Needless to say, this year of S.M.I.L.E. was filled with lots of new knowledge and fond memories, especially with our field trip to the URI Apple Orchard, where we even got to eat some of the things we learned about! We were excited to be holding our first family science night with the Woonsocket middle schools for the first time in over two years!



PARTNERSHIPS

We would like to thank the following list of funders that have allowed SMILE to grow and continue to provide high quality after-school STEM programming to Rhode Island students:

CENTRAL FALLS

Ella Risk Elementary School

Shena Tremblay
Laticia Biggerstaff

Calcutt Middle School

Molly Forte
Kelly Sierra

Central Falls High School

Charles Fisher

NEWPORT

Claiborne Pell Elementary School

Kevin Bolano
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Thompson Middle School

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Rogers High School

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SOUTH KINGSTOWN

Peacedale Elementary

Christine Pierce
Martha Badigain

Curtis Corner Middle School

Valerie Light
Anna Stuart-Vieira

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WESTERLY

Westerly Middle School

Carolyn Michaud
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Westerly High School

Lesley Fastovsky

WEST WARWICK

Horgan Elementary School

Maria DePalma
Amy Horne

Deering Middle School

Eugene Gallo
Christopher Baccei

West Warwick High School

James Owen
Christopher Baccei

WOONSOCKET

Globe Elementary

Brittney Pysczynski

Coleman Elementary

Scarlette Schultz

Citizens Elementary

Kirby Green

Woonsocket Middle School (2 clubs)

Jenn Hardy
Michaela Gormley
Ian Chernasky
Sean McBride

Woonsocket High School

Brigette Hernandez
Ethel Locke

AAUW

Anonymous

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

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The SMILE Program

The Science and Math Investigative Learning Experiences (SMILE) Program is an enrichment program for educationally disadvantaged students in grades 4-12 in seven districts in Rhode Island. SMILE's goal is to provide group activities for these students in science, technology, engineering and math. 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.