

A STEM PROGRAM

# SMILE

Science and Math Investigative  
Learning Experiences

**Newsletter**

**Volume 32, No. 2 March 2026**

**32 Years of Service!**

This march, our SMILE students across our middle and high school programs are revving up for their Engineering Challenges happening early April. Throughout the month, students have been designing, testing, and refining their ideas, applying problem-solving skills and creativity to tackle real-world scenarios. We are excited to see their hard work come to life as they showcase their designs and compete alongside their peers.



## CLUB UPDATES

# BROAD ROCK MIDDLE SCHOOL South Kingstown

Anna Stuart

By: Broad Rock Middle School SMILE Club



The SMILE Engineering Club has been busy designing, building, testing, and serving our school community as we **prepare for this year's Engineering Challenge!**

Over the past several months, our members have explored multiple areas of engineering through hands-on, real-world experiences. To prepare for our Engineering Challenge at URI, students dove into mechanical engineering by **designing and building gear systems**. Members experimented with gear ratios to understand how force and speed change depending on gear size and arrangement.

SMILE members also worked with **anemometers**, tools used to measure wind speed. Students analyzed how wind energy can be captured and measured, making connections to **renewable energy and environmental engineering**. By collecting and interpreting data, students practiced real-world scientific measurement techniques while discussing how wind power contributes to sustainable energy solutions.

One of the highlights of our season was hosting **Family Science Night**, where we welcomed both the high school and the elementary school communities. During the event, SMILE members proudly showcased:

- Homemade roller coasters
- Engineering challenge demonstrations
- Hands-on activities for visiting families

SMILE members also took a field trip to the local landfill, where we learned firsthand about **waste management, recycling systems, and composting processes**. After touring the facility, we enjoyed lunch together at a nearby playground — building both knowledge and community.



Inspired by what we learned, **SMILE is now partnering with our school's Green Team** to support the cafeteria's composting and recycling initiative. Students are applying engineering thinking to help improve sorting systems and reduce waste within our school.

We are proud to share that **our superintendent was presented with an award** recognizing his continued support of the SMILE Engineering Club. His encouragement has helped expand opportunities for hands-on STEM learning in our school community.

## CLUB UPDATES

### CALCUTT MIDDLE SCHOOL Central Falls

Lindsey Kopech Da Vega, Kate Tolman

By: Calcutt Middle School SMILE Club

The SMILE students at Calcutt Middle School have had an exciting year so far! We have welcomed more members than the last 3 years and are looking forward to expanding our club membership moving forward. The SMILE members at Calcutt began the year off completing many hands-on activities. Some of the members' favorites were the Alka-seltzer Rockets, the Paper Ball Run and the Taking Flight activities.

Many 8th grade members were excited that these activities mirrored the physical science they were learning in their science classes. This gave the 8th grade students the opportunity to be the "experts" and share their knowledge with the 6th and 7th grade SMILE members. Specifically, 8th grade members helped lead the Paper Ball Run activity and the Taking Flight activities.



Calcutt Middle School also hosted a very successful Family Science Night for the Central Falls District. We welcomed many family and friends to the school to hear from SMILE clubs at all different grade levels. The night was filled with student leadership, fun, science...and food! SMILE members were so excited to share the science behind their projects and loved showing others how to do the projects. Overall, it was such an amazing night for the community and one that students, teachers and families alike will remember for years to come!

During the spring semester students have been working hard during club meetings to prepare for our upcoming Engineering Challenge day, on April 7th. Students have been learning about and creating different models that will help them be prepared for this exciting competition day. Many club members have even created a study group to learn the parts of a nacelle; a major component of a wind turbine. Good luck to all of the SMILE members at the URI Engineering Day!

As the end of the year approaches, students have begun to discuss their plan for a stewardship project. Many of the students are passionate about going into the Central Falls community to help pick up trash, including at the local park! We look forward to completing this project as a club and even encouraging the members' families and friends to join us.

**It has been a great year in SMILE at Calcutt!**



## CLUB UPDATES

# CLAIBORNE PELL ELEMENTARY SCHOOL Newport

Abigail Frazier, Morgan McBrier

By: Claiborne Elementary School SMILE Club



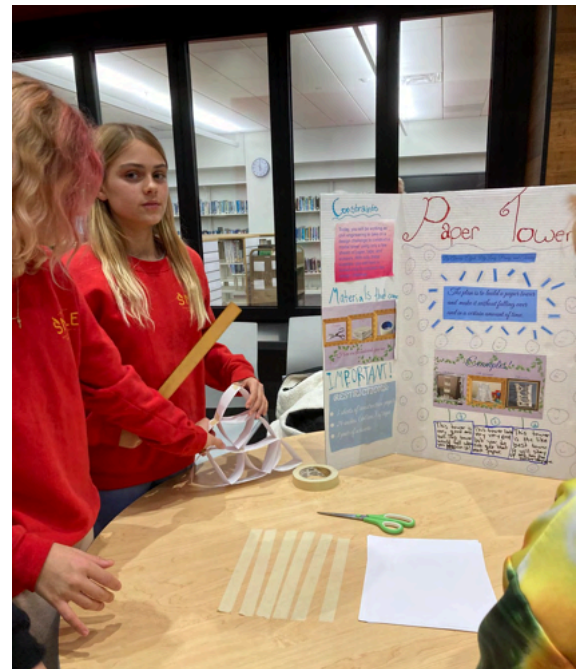
Hello from Pell Elementary STEM SMILES club. We meet on Mondays with Miss Frazier and Mrs Earle. The 15 of us have had 18 meetings, so far! We have fun doing experiments and sharing our discoveries. Every meeting we share how we have demonstrated the SMILE pledge.

During STEM SMILES we have done 6 projects. The spaghetti tower, water drop, temperature, mystery bags and the human diaphragm. The class favorite was water drops and the second favorite was learning about the human diaphragm. We enjoyed measuring the water drops and testing it out from various heights. It was also fun to make a balloon replica of the human diaphragm.

The Family Science night was an event to show the projects we had done. People that attended were the Newport Public Schools STEM clubs and teachers, our superintendent, Dr. Colleen Jermain, and our family members.

It was nice to meet the URI STEM directors and mentors. Family STEM night was on November 12th from 5:30-7pm at Rogers High School. It was created so we could share our projects. We shared our water drop project and the Spaghetti tower. Visitors got to try out the projects. At the end of the night, we shared a meal together – this was our favorite part.

Our STEM club is looking forward to going to URI for a field trip on April 16th. We are excited to use our teamwork skills and show what we have learned. Also we are looking forward to yummy foods and meeting other STEM clubs and students. STEM makes us feel happy because we get to do fun projects with our teachers. It feels really good to be a part of a club where our third grade teachers recommended us.



## CLUB UPDATES

# COLEMAN ELEMENTARY SCHOOL Woonsocket

Hannah Kennedy, Danielle Robert  
By: Coleman Elementary School SMILE Club



This year, students in the Coleman SMILE club have participated in a variety of activities and learning opportunities through SMILE. Here were some of our favorite activities:

Students have been learning about a variety of engineering activities involving energy. Students loved working with magnets and learning about how they work. Our students really enjoyed making potato batteries and learning about how energy flows through the wires, and how the potato acted as a battery. Almost all of the student groups were able to create enough electricity to light up the bulb!

At Family Science Night, we presented three of our favorite activities, including Exploring Magnets, Falling Waters, and Potato Battery. Students worked so hard to create posters and presentations to share with our Woonsocket community!



Students in the Coleman SMILE club are excited to learn more about important factors that affect natural habitats as the year continues. We are hoping we can explore a habitat near our school to identify key contributors and ways we can help the natural environment around our school.

## CLUB UPDATES

### ELLA RISK ELEMENTARY SCHOOL Central Falls

Shena Tremblay, Laticia Biggerstaff  
By: Ella Risk Elementary School SMILE Club



At Ella Risk School, fourth and fifth-grade students participate in our SMILE Club each week. We typically have about 15 students attend, and they have had a fun and engaging year exploring science together through the SMILE program and weekly hands-on activities.

During the first session of SMILE our students were excited to participate in magnetism activities. They experimented with magnets, made observations, and shared their discoveries with one another. We were also able to share these activities with families from Central Falls by presenting them at Family Science Night.

As a SMILE Club, we have also begun our Stewardship Project. Students are working in groups to create fleece blankets by cutting and tying the edges together. So far, we have made four blankets and plan to complete a total of seven. The blankets are bright, fun, and colorful. Once they are finished, we plan to donate them to families in our community who are in need of warm blankets.



## CLUB UPDATES

### ROGERS HIGH SCHOOL Newport

Bethany Borgueta, Beth Letourneau  
By: Rogers High School SMILE Club



Rogers High School SMILE Club in Newport began the year with a series of challenges that involved mechanical, electrical, environmental, and civil engineering concepts. We constructed recycling sorting machines and then redesigned them to increase volume and efficiency and designed windmills with aerodynamics in mind to improve speed.

We built mechanical hands with various modifications to assist with fine and gross motor tasks. These challenges were highlighted at Family Science Night, which was hosted for the first time at the new Rogers High School in our Student Commons. This brought our elementary, middle, and high school clubs together in one space filled with energy and excitement.

Following the winter break, we began a series of investigations around sound to understand the relationship between amplitude, frequency, and wavelength. Our soundproofing challenge involved testing a number of different materials to determine the most effective combination for absorbing and decoupling sound waves. We used a specialized app called Phyphox to visualize and quantify amplitude in decibels. When we calibrated the sound sensor, we found that even a “quiet” room produces sound at approximately 40 decibels.

In our following challenges, we will apply what we have learned to the science of music, passive sonar, and cymatics (visualizing the geometric patterns created by sound and vibrations). This spring, we look forward to visiting the Boston Museum of Science and applying our knowledge of STEM to hands-on and interactive exhibits as well as innovative and immersive experiences that integrate technology with the natural sciences.



## CLUB UPDATES

# WEST WARWICK HIGH SCHOOL West Warwick

James Owen, Christopher Baccei

By: West Warwick High School SMILE Club

This year our club has worked hard on the activities provided through URI. An activity that stuck out to us that we thoroughly enjoyed was the soundproofing activity where we used different materials to see which ones best suppressed the sound waves. Activities like these excite us for what is to come next. We enjoyed an awesome Family Science Night in the fall, where we were able to share our beginning of the year knowledge with family, friends, and the rest of the SMILE community. The groups at the Family Science Night were very knowledgeable of their topics being able to provide an impressive presentation for everybody. This is always a wonderful celebration with all of our West Warwick SMILE clubs!

Recently we have worked on developing our skills and knowledge in the areas of soundwaves and soundproofing. The activities that we worked on are preparing us for our big challenge day at URI. We cannot wait to be able to collaborate with other schools and give this challenge all we got. It is always a pleasure to go to URI and compete. We are anticipating an upcoming field trip in the spring, where we may be able to enjoy the nicer weather outside and the local environment that our area has to offer. The stewardship that will be planned will connect to the importance of taking care of our environment.



## CLUB UPDATES

# WOONSOCKET MIDDLE SCHOOLS

## Woonsocket

Katie McQuade, Sean McBride, Ian Chernasky, Hayley Julio

By: Hamlet and Villa Nova Middle School SMILE Clubs

This spring, the Woonsocket Middle School's SMILE clubs have been very busy with wind-powered experiments. These projects are designed to prepare students to have the experience, vocabulary, and scientific understanding to succeed in our upcoming Engineering Challenge day at URI.

Students are excited for this next adventure, after our engaging and enlightening field trip in January to the RI Central Landfill. While we were there, we toured the grounds by bus. Students had tons of questions for our tour guide, Jean, who was happy to answer. We learned all about the ways that RI Resource Recovery separates materials so that they can be recycled or reused.

We drove to the top of the trash mountain, where we could see all the way from Narragansett Bay to Fall River. Coming back down into the Learning Center, we watched the sorting process and learned more about contaminants in the recycling bins. It was an awesome trip!

In our club meetings, we've continued the theme of learning while having fun! Making noisy paper poppers was a perfect way to learn about controlling for variables. We focused on energy transfers of potential and kinetic energy while building paper roller coasters. Each of our experiments encourages brainstorming, collaboration, and adapting when the first idea doesn't work as planned- all skills the students will use throughout their education and their lives!



## PARTNERSHIPS

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

### CENTRAL FALLS

**Ella Risk Elementary School**  
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Haley Julio

**Villa Nova Middle School**  
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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.