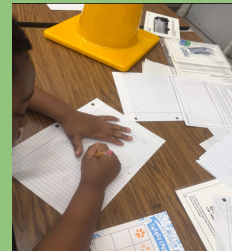
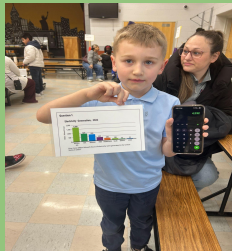


Northview Elementary School Energy Receivers and Advocates: We've Got This!

Northview Elementary School continues to expand student and community understanding of energy concepts through purposeful, hands-on learning experiences. Fifth-grade students strengthened their knowledge of Earth's spheres, while fourth- and fifth-grade students conducted an energy audit to analyze school energy use and promote conservation and efficiency. Students also explored renewable energy by studying windmills and wind as a sustainable resource.

Through the NEED Energy Innovation Challenge, Student Green Team members researched and proposed solutions to address playground flooding, demonstrating problem-solving and environmental awareness. These students also modeled leadership by promoting recycling and energy conservation across the school. In addition, students used ultraviolet-sensitive solar beads to identify optimal garden placement, leading to the cultivation of vegetables and peppers that were donated to the Bowie food pantry. These efforts reflect Northview Elementary school community's commitment to environmental literacy, student leadership, and the real-world application of learning.



Goal 1: To gain increased understanding of the earth's spheres- hydrosphere, atmosphere, biosphere, and lithosphere

Activities and Tasks

- Fifth graders engaged in enhancing their knowledge on the earth's spheres.
- Students received instruction provided by the National Energy Education Development (NEED) curriculum, about earth's four parts.
- The tasks completed were through a simulation game.

Energy Content and Resources

- NEED website: www.need.org
- Exploring Climate Change (NEED)
- Carbon Cycle Simulation (NEED)
- Discovery Education- Earth Systems

Student Leadership

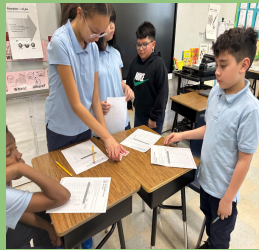
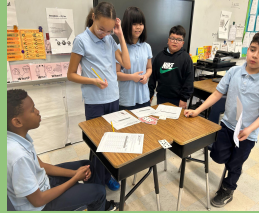
- 11 Student leaders enhanced their understanding.

Evaluation

- Students provided feedback to one another through collaboration and reflection, and identified the four earth spheres. One comment is a request to play the game again to increase the understanding of gaining a real world connection.

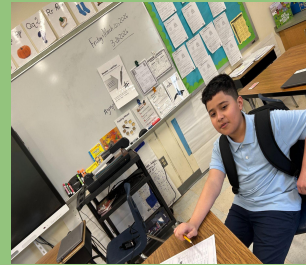


During class instruction, 5th grade students learn about the four main spheres of the Earth which are geosphere (land), hydrosphere (water), atmosphere (air), and biosphere (living things). They also addressed how spheres interact and shape the environment we live in. Furthermore, they discussed how human behavior affect the environment, and ways individuals can address climate change.



Several of the students remained in the atmosphere reservoir, and later discussed feeling trapped. Students related the experience to having too much carbon dioxide in one place, causing the earth to be warmer.

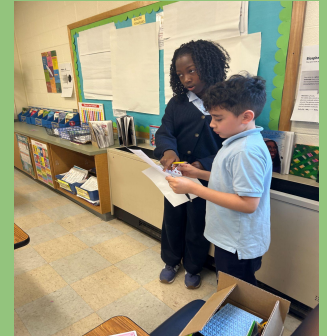
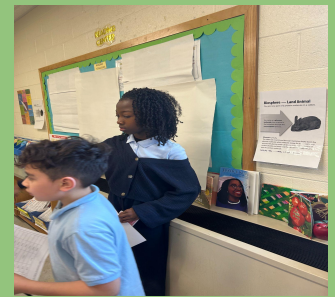
5th graders engaged in the carbon cycle simulation game, and supported one another while experiencing how each sphere work together and are connected. No one remained at the lithosphere reservoir and the conclusion is that the each sphere is important to the environment and needs care.



One observation is that remaining in the biosphere-plant reservoir stores carbon dioxide which helps the plants.



Another observation is that remaining in the hydrosphere-ocean, keeps the carbon there.



Biosphere-land animal reservoir had one person move, but another remaining. The understanding is that the carbon stays until it moves.

Goal 2: To engage in an energy audit to learn and share outcomes to promote change that improves energy conservation and energy efficiency at the school

Activities and Tasks

- 20 students were selected to represent 4th-5th grades.
- Students met in the library, boiler room, and a classroom, for instruction.
- A NEED personnel led the energy audit.
- Students measured electricity and water temperature.
- Students used measuring equipments and learned about energy monitoring tool.

Energy Content and Resources

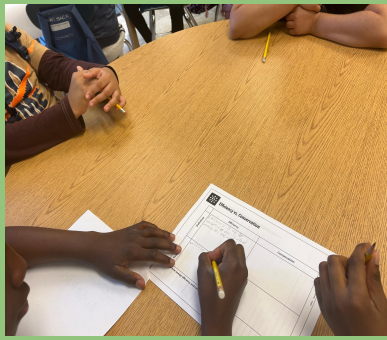
- NEED Monitoring and Mentoring Guide
- Thermometer, Light Meter, and Kill A Watt Meter-NEED Project
- Student Audit Recording Form from School Energy Experts-NEED Project

Student Leadership

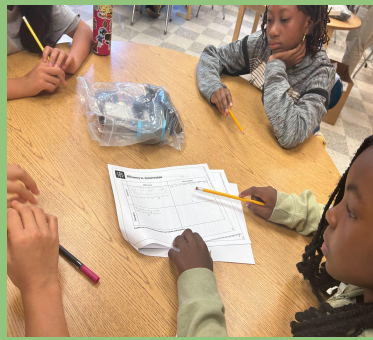
- 20 students represented 4th and 5th graders

Evaluation

- Students successfully completed an Energy Conservation vs. Efficiency Worksheet to identify the terms and provide examples.
- Students completed a Student Audit Recording Form which informed them on energy use and waste at school.
- Students determined if the school is conserving energy after applying the Kill A Watt Meter to monitor energy use, and observations were shared with the administrator.



4th and 5th graders work together to define energy efficiency and conservation and give examples.



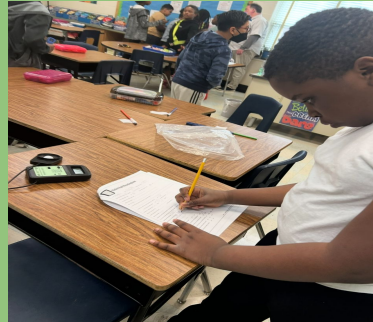
Kill-A-Watt meter, a unit of measurement for power, is used in classroom to tell how much energy a digital device like a laptop uses every second it is turned on.



Group of students record readings from a thermometer and a Kill-A-Watt on the students' audit recording form for room temperature, energy use, and other objects, and compared them to the recommended light levels



Part of the students' audit recording form is completed after measuring the room temperature with the infrared thermometer, and using the light meter to measure light.



A smartboard is measured to find how much energy is being used.

The school administrator was made aware of the electricity consumption rate at the school from the energy reading conducted by students. Early this year, a change was made by the school to reduce light consumption by replacing fluorescent bulbs with LED light bulbs, which is energy efficient.

Goal 3: To gain increased awareness of the functions of a windmill accessing wind, a renewable energy source

Energy Content Activities:

- **Students learn about wind energy and the functions of a windmill.**
- **Students then completed the experiment, Wind Can Do Work.**

Resources:

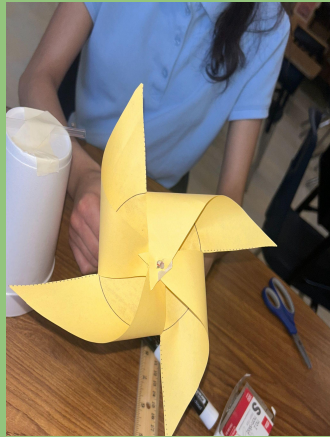
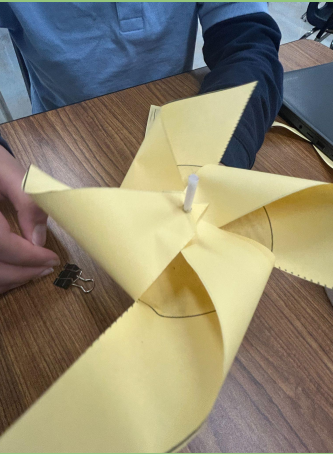
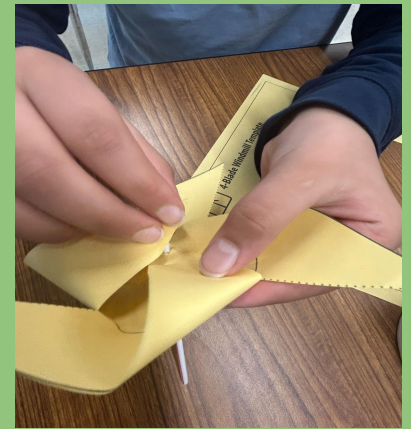
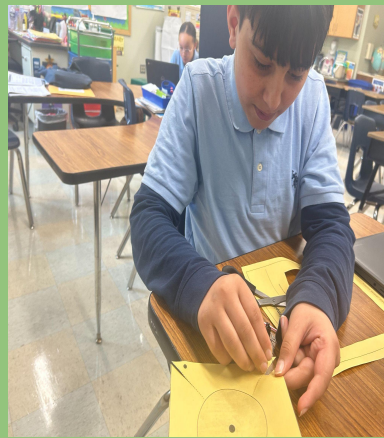
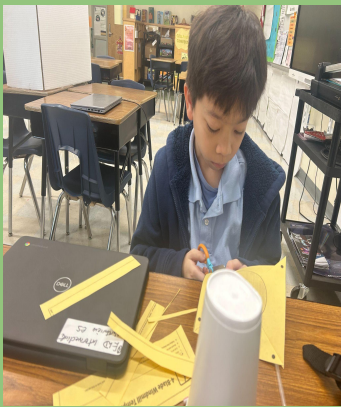
- **My Energy Use and Wind Can Do Work (Wonders of Wind) NEED**
- **The Power of Wind (Discovery Education)**
- **Windmill model (A student's sample)**

Student Leadership:

- **One student shared a completed model.**

Evaluation:

- **Students tested their windmill and it worked.**
- **Students shared their observations,one student shared they had seen wind turbines, and ways they imagine a windmill will work in real time.**



With a guide and a model, the steps to making a windmill, was followed, by three students. Then, the blades were blown to make them spin. The lesson presented an example of force and energy transfer and increased an understanding of real world wind turbine.

Goal 4: To provide fifth grade students the opportunity to engage in NEED's energy innovation challenge.

Activities and Tasks

- Groups of students were provided the directions to NEED's energy innovation challenge.
- Students researched energy and climate science ideas.
- Students then focused on current school outdoor's challenge.
- The groups examined and discussed flooding in the playground areas.

Energy Content and Resources

- Exploring Climate Change (NEED)
- Earth Systems-Hydrosphere (NEED)
- Images of the school grounds flooding

Student Leadership

- 18 Student leaders worked in five different groups.

Evaluation

- The groups discussed and proposed a short term solution using mulch and plants.
- The groups also engaged in mulching and planting, and did not witness any flooding following the actions.

Goal 5: To improve students' energy conservation through recycling by putting theory into practice, daily, with the student Green team (SGT) support.

Activities and Tasks

- SGT members reminded students in prekindergarten through fifth grade about engaging in schoolwide recycling, by providing recyclable items posters as a visual to every class.
- SGT members presented acceptable recyclable items to every grade level from prekindergarten through fifth grade during morning assembly.
- SGT members supported offices by emptying recycling bins.

Energy Content and Resources

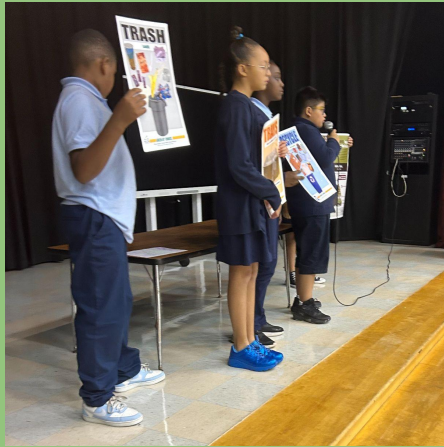
- Using and Saving Energy Guide Book from NEED Project
- NEED website : www.need.org
- Prince George's County Public Schools Recycling Department Support

Student Leadership

- 15 SGT members are supporting their peers by demonstrating recyclable items.

Evaluation

- SGT members applied questioning to ensure their peers understood items acceptable for recycling.



SGT members reminds peers in prekindergarten through fifth grade about recyclable items, during assembly.



Students in prekindergarten through fifth grade empty classroom recycle bins and SGT members support offices by dumping recyclables into the recycling bin depot.

SGT members are depositing recyclable materials into the main recycling station, outside.

Goal 6: To engage the community in energy-based events, which are facilitated by fifth-grade Green team members, through real world and hands-on practices

Activities and Tasks

- SGT members facilitated an energy fair for the community.
- The students led eight stations which were Energy Knockdown Game, Energy Source Matching Game, Energy Jumble, Top Three, Energy Pursuit, Candy Collector, Energy Bumper Stumpers, and Light a Bulb.
- SGTs received staff support with Energy Conservation Contract, Energy Equations, and Energy Safety.
- SGT members were trained and knowledgeable about each station and led energy-based tasks assigned.
- SGT members stamped the energy carnival reward cards for every individual that engaged at the station they were leading.
- SGT members reminded children and adults to visit Station 12 for resources and prizes after engaging with nine stations.

Energy Content and Resources


- Elementary Infobook from NEED Project
- The 10 Energy Sources from NEED Project
- Primary Energy Carnival Guide from NEED Project
- Energy Carnival from NEED Project
- NEED website: www.need.org
- Energy Games and Icebreakers from NEED Project
- Sidekick Circuits

Student Leadership

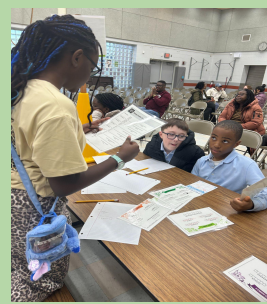
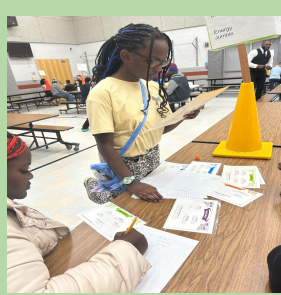
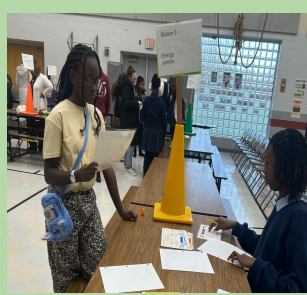
- 8 Student leaders facilitated eight stations and were supported by 6 staff which drew several individuals, including children to each location.

Evaluation

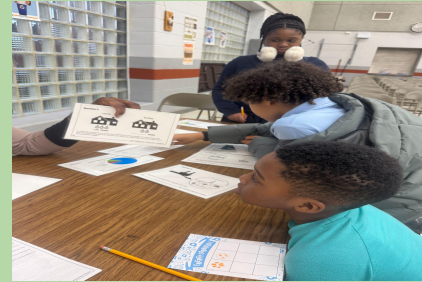
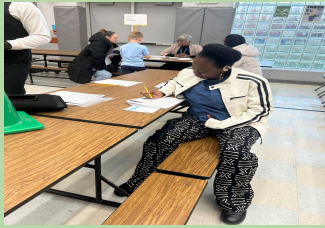
- SGT members were able to manage stations but appreciated staff check-ins.
- SGT members were pleased to serve.
- Response summary from attendees were positive. 

 Response Summary

- **Interactive Activities:** Favorite elements included the "Light a bulb" station and various games.
- **Enthusiastic Student Leaders:** The enjoyment of the event was significantly enhanced by the children leading each station and their enthusiasm.
- **Refreshments:** Snacks were also mentioned as a favorite part of the event.



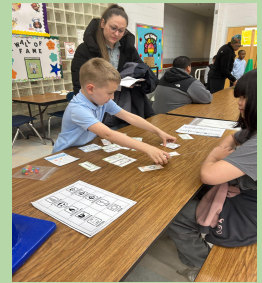
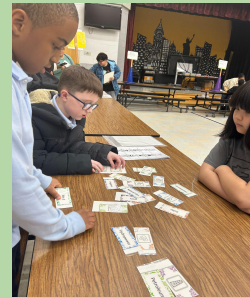
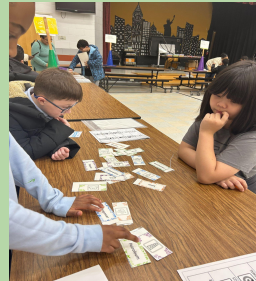
A SGT member is managing the Energy Jumble game where children and adults unscramble words to find clues.



A parent is completing an Energy Conservation Contract which is an energy saving reminder.

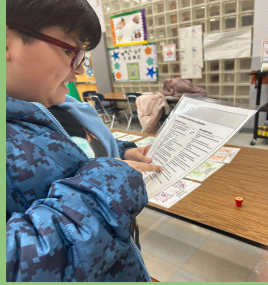
A SGT member is sharing the Energy Bumper Stumpers to children and adults for energy terms identification.

Students and adults are solving energy math problems by completing Energy Equations. A staff member supports those requiring assistance.



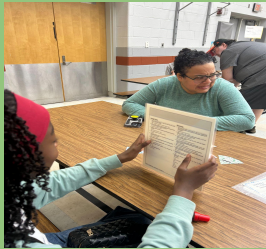
SGT member is providing and guiding a Light-A-Bulb experience which shows how a light bulb works.

SGT member supports the Energy Source Matching game as students match illustrations with definitions.



SGT member presents Energy Knockdown and students identify correct answers by responding to renewable (R) and non-renewable (N) questions after throwing an object into a R or N cup.

At the Energy Safety station, student learn about the dangers, prevention methods, and gears that protects individuals working.



SGT member presents Energy Pursuit questions to children and adults in five energy categories.

SGT member provides Top Three questions to children and adults for top three answers to the energy questions.



SGT member presents Candy Collector and students and adults learn how long non-renewable sources may last compared to renewable sources.



Goal 7: To continue responding to the solar beads experiment outcome confirming vegetables gardening best location to aid the growing of tomatoes and peppers for local food pantry donation



Activities and Tasks: SGT members worked in the garden from April through October to maintain, prepare, plant, and later harvest vegetables.

Energy Content and Resources: Wonders of the Sun, and the 10 Energy Sources -NEED Project

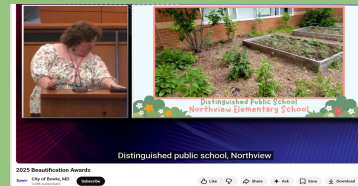
Student Leadership: 20 SGT members engaged in caring for the school garden.

Evaluation:

SGT members report enjoying watching the garden blossom.

SGT members watch vegetables grow, then harvested, donated, and shared some with their families.

SGT members identified partially shaded areas for vegetables gardening using solar beads.



An award was issued to the school on October 29, 2025.



DONATION ACKNOWLEDGEMENT
 Bowie Interfaith Pantry and Emergency Aid Fund
 2614 Kenilworth Drive, Suite 114
 301-262-4765
 bowiefoodpantry@gmail.com

Date of Donation: 8/25

Name of Donor: Northview Elementary School
3700 Northview Drive
Beni, Maryland 20716
30 Red Tomatoes from
the School garden

(Donor determines value of items donated)

Your support is greatly appreciated. Thank you for helping us provide assistance to those in need.

Signature of Pantry Representative: M. Casady

The Bowie Interfaith Pantry and Emergency Aid Fund is a 501(c)(3) nonprofit organization. No goods or services were provided in exchange for this donation.

The school donated to Bowie food pantry regularly from August to October 2025.