

Suitland Elementary

Suitland Elementary Energy Adventurers



Suitland Elementary students continue to learn about energy in various ways. Students from Pre Kindergarten to sixth grade are gaining new experiences through their energy adventures. The goal is to have every child engaging as a green team member. Students are learning how they can help save energy at school and at home. They are recycling items like boxes, milk cartons, water bottle and other containers. The energy audit for our school reveals that we are wasting light energy in the Media lab in particular. With the support of our custodian, students created signage for this location and for their classes, to conserve energy. Students are discovering solar beads which they now know is UV beads, will help them determine planting location at the school this spring.

Some of our 4th graders are recognizing how bulbs light up and they will present this at the upcoming energy fair. Third graders are reading the thermometer for indoor and outdoor temperature and understanding the effects of weather on the temperature. Our student Green team members are engaging in the wind energy concept. Fifth graders are identifying the water cycle and learning that water is always moving and it has energy. Finally, Suitland Panthers are excited about the upcoming energy events which are Energy Fair with our school community during the School's Virtual Stem Fair on May 25, 2022 and 2022 In-Person Energy Audit to assist students in determining if the school's energy waste is on the decline due to some energy conservation actions we are conducting. They are planning to share their new knowledge and its importance to their peers and families.

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Goal 1: To bring continued awareness and action to recycling everyday

Energy Content Activities:

- schoolwide recycling encouraged by every grade level teacher
- recyclable breakfast and lunch empty containers recycled by some students
- student green team meeting discussed and watched a video on recycling at school and home
- student green team members identified recyclables items that ends up in the trash can
- students learned about the importance of recycling after reading facts about recycling

Student Leadership:

- teachers assign a recycling job to a student weekly
- assigned students remind peers to recycle
- student green team members identified classroom that require data
- 30 students distributed 31 trash/recycling posters to classrooms and offices

Resources:

- Saving Energy-Elementary Energy Infobook(Need)
- Recycling | Why is Recycling Important? | Learn about Recycling | Recycle Process(video)
<https://youtu.be/71DmyhloazQ>
- Recycle and Trash Posters and Recycle bins from Prince George's County Public School Building Services

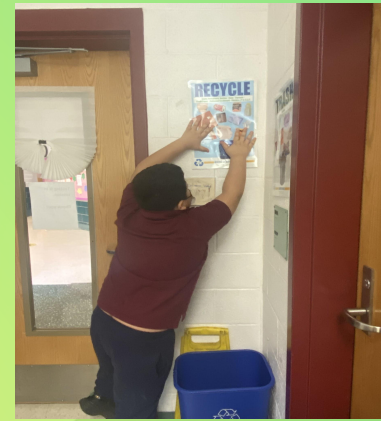
Evaluation:

- student green team members paired up and distributed a total of 62(Recycle/Trash)posters
- student shared their distribution data and returned to rooms missing posters with extra posters
- Students had conversations with the adults in the rooms to determine poster need and many adults confirmed



Student green team were given enough posters to distribute to every room occupied in the school building. The posters portrayed visuals of items that should be placed in each bin.

RECYCLING EVERYDAY



A 3rd Grade student is placing Trash and Recycling posters for student awareness and to assist them in identifying where food scraps, utensils, and containers need to be placed.

Classroom Nos	TR	RP
3 202	✓	✓
3 203	✓	✓
3 204	✓	✓
4 205	✓	✓
4 206	✓	✓
4 207	✓	✓
134	✓	✓
137	✓	✓
130	✓	✓
29	✓	✓

One of 4 pages of document
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rooms
provided
with
posters.



Assigned students in Prek and 3rd are recycling milk bottles and juice bottles.

Goal 2: To follow up on energy audit report and create ways to conserve energy at school

Energy Content Activities:

- Students designed signage in response to the energy audit conducted by students in March 2020. When our staff was informed about energy waste at our school, especially in the school's library, our custodian took action and reduced the number of light switches turned on in the media lab from six switches to three. As a result of turning off multiple light switches, multiple sets of lights which are not required, stayed off, therefore some energy is conserved in the library.

Student Leadership:

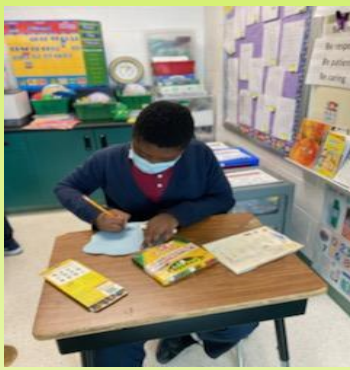
- 24 student green team members discussed and agreed that visual reminders are necessary for energy conservation in the classrooms and the media lab(library) which is vast.
- students composed individual signs.
- Students shared their visual signs with their classes for posting by the class light switch to remind others to save energy by turning off the light when it is not needed.

Resources:

- Light Meter-School Energy Inspector Guide(Need)
- How to Save Energy:Energy Star Education Program(video)
<https://youtu.be/dlEoNTB9OWw>
- Construction paper,markers,colored pencils,crayons

Evaluation:

- students are choosing to use natural light in the classes and open spaces on the school's top level
- students are posting light-off signage in their class and media lab, to remind peers and adults to conserve energy
- Student green team members share how they conserve energy at home and new knowledge they gained which they will share with their families and begin putting into action(e.g.do not keep phones or chromebooks charging once charged and unplug chargers when not in use)



A 6th grade green team member, designs a signage which is placed as a visual sign by the light switch in his class, as a light off reminder when not needed.



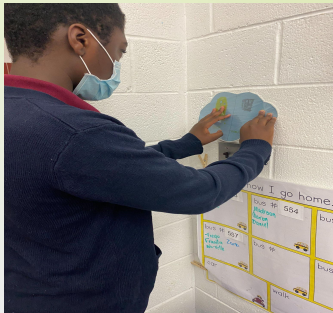
Student Green Team class representatives for PreK-6th grade are drawing to create a signage for their classroom, to decrease light energy wastage. These signs will be displayed by the light switch.



Students are eating lunch in their classroom with the presence of natural light only.



A 2nd grade student green team member posts a sign by the light switches in the media lab(library) to remind everyone to turn off the light when it is not in use.



Our custodian shows the switches that are turned on in the library. He demonstrated 3 switches on, 3 off.



Goal 3: To determine how solar beads can support plants placement in the courtyard this spring

Energy Content Activities:

- student green team members completed a UV Bead activity
- student green team members made solar bead bracelets

Student Leadership:

- Thirty six, 3rd-6th grade green team members, predicted and identified how UV beads can support plant growth in the school's courtyard this spring
- students shared their prediction before their outdoor visit to confirm their statements

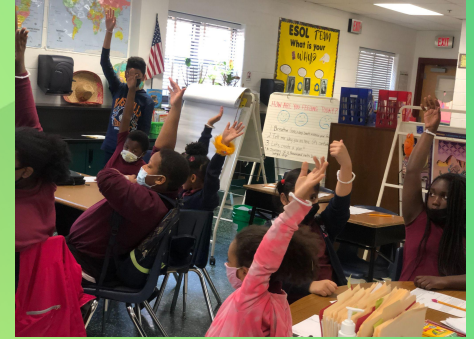
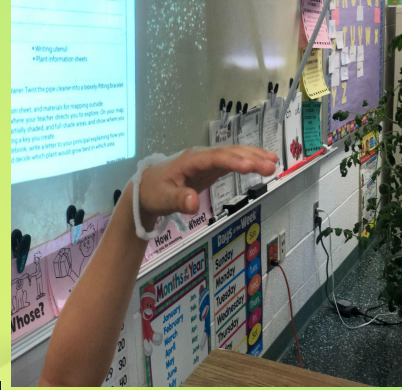
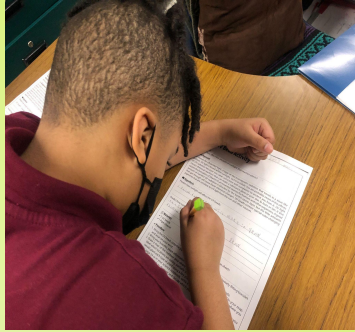
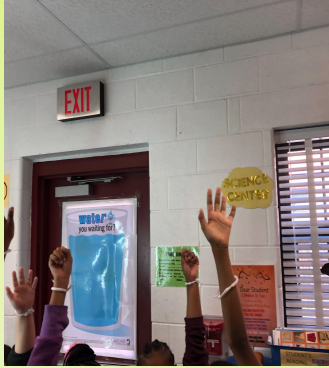
Resources:

- UV Bead Activity-Wonders of the Sun(Need)
- UV beads,Pipe cleaners,Plant information sheet(Need)

Evaluation:

- students experienced fully shaded area,partially shaded area,and sunny area in the school's garden/courtyard
- students utilized the solar beads to identify where Sunflower(full sun),Maidenhair fern(no direct sun) and Impatiens(partial shade) can be planted successfully in the school's garden
- Students were excited to take their bracelets home to test in their home environment and to share with their families

SOLAR BEADS ROCKING OUR GARDEN



Indoor, students are predicting how sunlight will affect UV beads. Outdoor, students are identifying how it will affect plant growth in the courtyard.

Goal 4: Students will build an electrical circuit given some basic materials in order to find out how a light bulb works.

Energy Content Activities: Light-A-Bulb Challenge

Student Leadership:

4th graders were assigned with a partner. They drew a plan/ design to light the bulb up. They also worked together to implement the plan to see if it works.

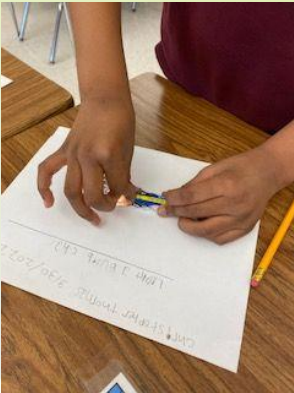
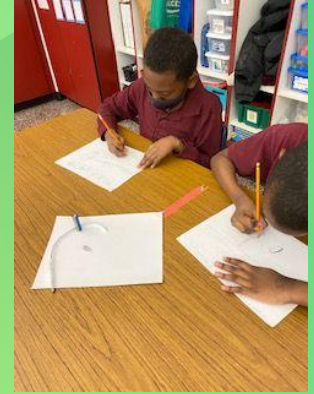
Resources:

- Sidekick Circuit "Light-A-Bulb-Challenge" p. 4(NEEDED)
- HMH Science Dimensions "Light A Bulb" Hands-on Activity, Energy Unit
- video: <https://www.youtube.com/watch?v=VnnpLaKsqGU>

Evaluation:

There is only one parameter for this challenge: If the light bulb lights, the design is successful.

Light-it Experience



Provided with a set of materials (battery, a small light bulb, and aluminum foil), the students worked with a partner to light the bulb up using only the materials given to them.



Goal 5: To learn how to read a thermometer and recognize celsius and fahrenheit

Energy Content Activities:

- 3rd graders discussed the weather
- students identified weather patterns
- students utilized thermometers to read indoor and outdoor temperature

Student Leadership:

- students read the temperature indoor and outdoor
- students recognized Celcius and Farenheit

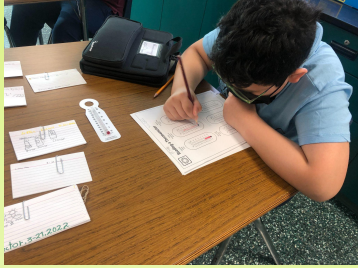
Resources:

- Reading Temperature-Wonders of the Sun)Elementary,(Student Guide)NEED
- Fahrenheit and Celsius Thermometer-Wonders of the Sun(Teacher's Guide)NEED
- Thermometers(NEED)
- Weather Writing Worksheet-English Language Learners Curriculum Support
- Be a Weather Watcher?Weather Science/SciShow Kids
<https://www.youtube.com/watch?v=Uo8lbeVVb4Mr>
- vocabulary cards(students)

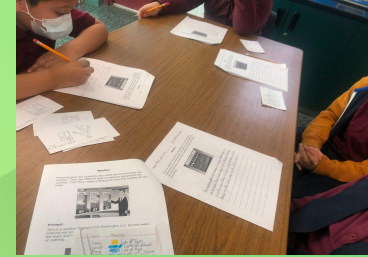
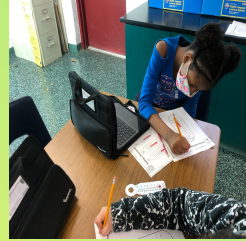
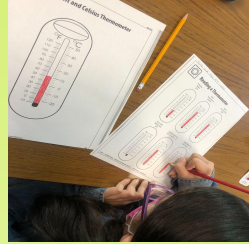
Evaluation:

- students read the temperatures successfully
- students identified weather patterns
- students experienced outdoor and indoor temperature and its corresponding reading on a thermometer

READING A TEMPERATURE



Students are identifying different temperatures and marking them on the thermometer..



Students are completing their writing about Weather.



Students are checking the weather and reading the thermometer.

Goal 6: To discover how wind energy works

Energy Content Activities:

- student green team members discussed different types of energy
- Students reflected on their energy use at school and at home
- Students reported how their use of energy at home and at school are the same or different, orally and in writing
- students watched a video on types of energy and on wind energy
- students completed the experiment, Wind Can Do Work

Student Leadership:

- 16 student green team members in 3rd-6th grade made windmill and tested them with a fan
- older students assisted the younger ones with following the directions accurately
- students were asked to share the experiment with their families
- one student returned from home with 100 paper clips attached and tested

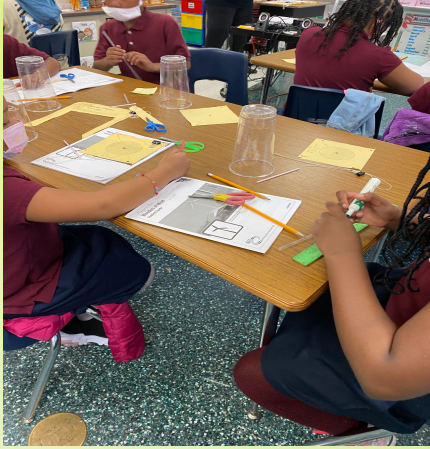
Resources:

- My Energy Use and Wind Can Do Work(Wonders of Wind)NEED
- How is Wind Energy Produced?Sustainability for Kids
<https://youtu.be/-8-9j3mXIYE>
- Types of Energy | Energy Forms | Energy Sources and Uses
<https://www.youtube.com/watch?v=63t0Y2ACoh4>

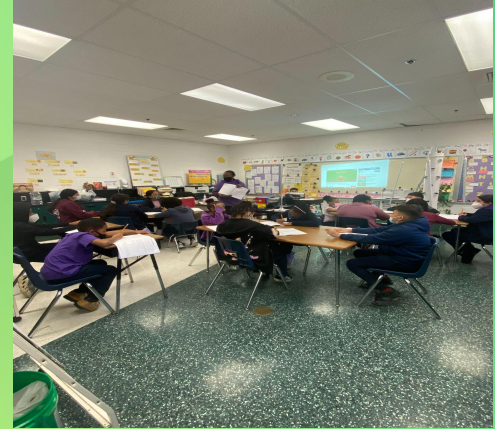
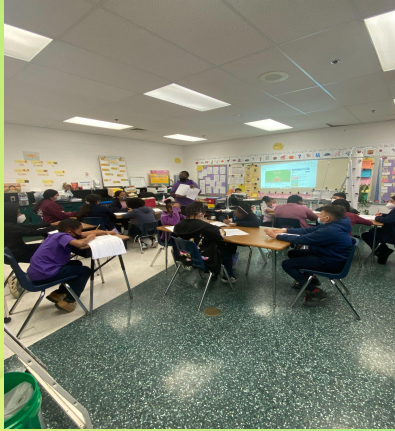
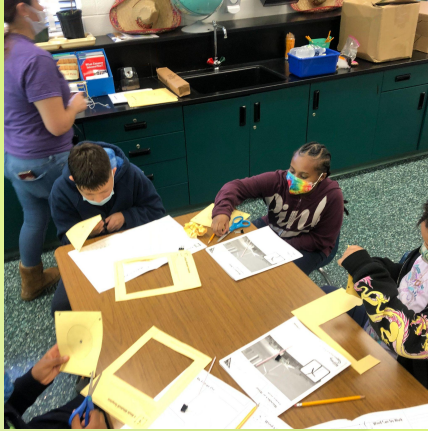
Evaluation:

- students tested their windmill and it worked.
- students used extra paperclips to determine what the extra load is that can be lifted all the way to the top of the windmill shaft
- students shared their observations and ways they imagine a windmill will work in real time

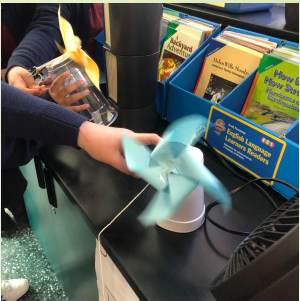
WIND ENERGY ALWAYS MOVING



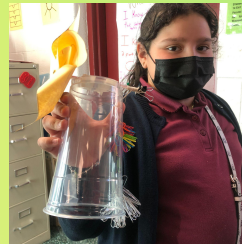
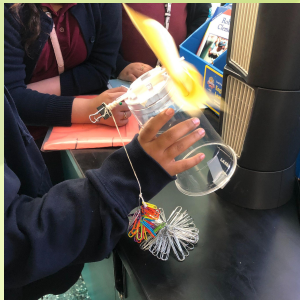
Students are learning about wind energy and creating a windmill.



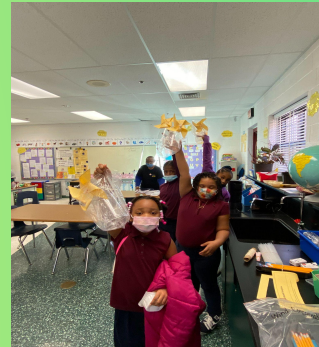
Students are learning about wind energy and they are creating a windmill.



Students are using fans to test their windmill so as to know if it works.



Windmill with 100 paper clips



Goal 7: To learn about the importance of the Water Cycle and Hydrosphere

Energy Content Activities:

- English Language Learners(ELL) in 5th grade read about the water cycle and hydrosphere
- students compiled vocabulary words to aid their understanding(evaporation,condensation,precipitation,hydrosphere)
- Students illustrated a diagram of the water cycle
- Students completed a water cycle experiment to observe the water cycle process
- Students completed a writing assignment and explained the water cycle stages

Student Leadership:

- Students worked independently on some of the tasks, and in small groups of 2 when sharing their understanding
- every student was engaged and each one completed every task

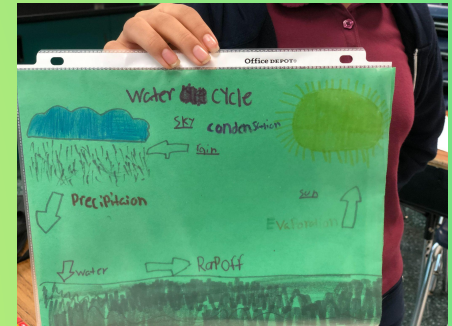
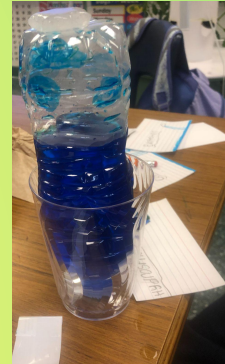
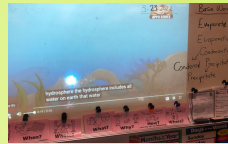
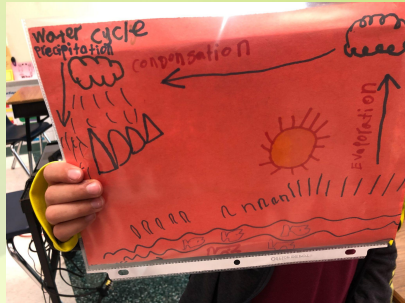
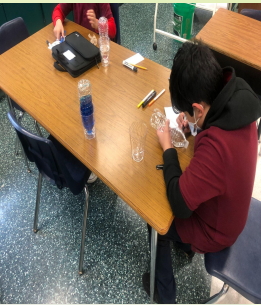
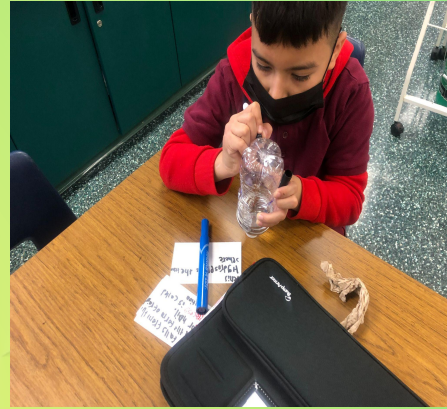
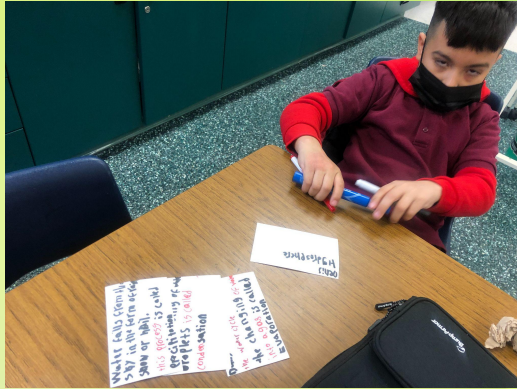
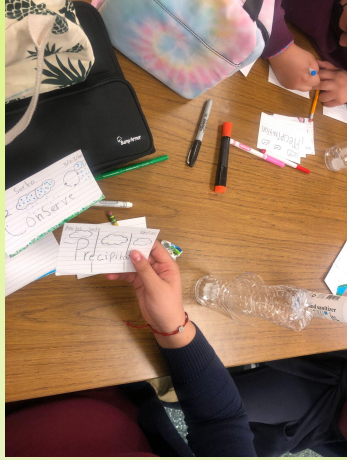
Resources:

- The Water Cycle-Wonders of the Sun(NEEDED)
- Water Cycle -ELL Curriculum Support
- Hydrosphere-video
<https://youtu.be/MhMWIpLuPDI>
[Water Cycle activity](#)
- construction paper,markers, colored pencils
- chart paper

Evaluation:

- students shared the new knowledge gained on chart paper as an exit ticket
- students responded to a writing assignment
- students shared the steps of the water cycle orally and informed that water is always moving
- Students understood that it is important to save water and they should prevent pollution

Hydrosphere and The Water Cycle



Students used their vocabulary cards, diagrams they drew, water cycle experiment they conducted, to understand the water cycle.