



2024 SUSTAINABILITY SUMMIT



Embracing Nature: Strategies for Outdoor Learning

May 3, 2024

CEU SIGN IN



QR CODE INSTRUCTIONS:

1. Open the Camera app on your phone.
2. Hold your phone so that the QR code appears in view.
3. Tap the notification to open the link.
4. You **MUST** Sign in to receive CEU credits.

WIFI INFORMATION: 2 Open Networks

1. **sustainablenj**: Ballroom, GS3, Nonprofit Exhibit area
2. **Bell_Works_Conf_Center**: Bell Theatre & Conference

Presenters

Roberta Hunter

Education Program Manager
New Jersey Audubon

Elizabeth Nunez

Supervisor of Science K-5
New Brunswick Public Schools

Michele Morey and Kelli Shaughnessy

Teachers
George L. Catrambone School, Long Branch Public Schools

Coleen Conroy

Administrative Assistant & Green Team Coordinator
High Bridge Middle School

THE BENEFITS OF TIME IN NATURE

ROBERTA HUNTER
EDUCATION PROGRAM MANAGER

NJ AUDUBON



OVERVIEW

- Benefits for social, emotional, and physical well-being
- Benefits for learning
- Extinction of experience
- How do we do better





WHAT IS NATURE?
LIMITATIONS OF TODAY

SOCIAL-EMOTIONAL BENEFITS

- Time in green spaces reduces stress and anxiety
- Time in parks reduces ADHD symptoms
- More cooperative and creative social play
- Childhood play in nature forms a foundation for lifelong care for nature and adult recreation in green spaces
- Develop a sense of place
- Directed attention fatigue





PHYSICAL BENEFITS

- Vitamin D production from sunlight
- Better motor coordination and balance
- More moderate to vigorous physical activity
- More walking and cycling on green streets or near parks
- Free exploration and manipulation of the environment



LEARNING BENEFITS

- Loose parts theory (Sir Ken Robinson)
- Rich and interesting phenomena
- Supports interdisciplinary learning

EXTINCTION OF EXPERIENCE

- Kahn (2002) and Louv (2006) called it “generational amnesia”
- Robert Michael Pyle called it “extinction of experience”
- The phenomenon of parents, caregivers, educators who never experienced time in nature themselves so don’t see value in it



HOW DO WE DO BETTER?

- Inclusion in participatory planning & design
- Have more nature close by
- Have nature be accessible – transportation, mobility, cost
- Mandatory recess
- Support for learning outdoors
 - near the school (integrated into the curriculum)
 - at other facilities (\$\$ for busing)



There was a child went forth every day (Walt Whitman 1819 –1892)

There was a child went forth every day,

And the first object he looked upon and received with wonder or pity or love or dread, that object he became,

And that object became part of him for the day or a certain part of the day or for many years or stretching cycles of years.

The early lilacs became part of this child,

And grass, and white and red morning glories, and white and red clover, and the song of the phoebe-bird,

And the March-born lambs, and the sow's pink-faint litter, and the mare's foal, and the cow's calf, and the noisy brood of the barn-yard or by the mire of the pond-side . . and the fish suspending themselves so curiously below there . . . and the beautiful curious liquid . . and the water-plants with their graceful flat heads . . all became part of him.

Roberta Hunter
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References

- Chawla, L. (2015). Benefits of nature contact for children. *Journal of Planning Literature*, 30(4), 433-452.
- Faber Taylor, A., & Kuo, F. E. (2009). Children with attention deficits concentrate better after walk in the park. *Journal of Attention Disorders*, 12(5), 402-409.
- Pyle, Robert Michael. (2011). *Thunder Tree: Lessons from an Urban Wildland*.
- Louv, Richard (2006). *Last Child in the Woods*.



Elizabeth Nunez

Supervisor of Science

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[X: @ENunez](#)



Prepare • Empower • Inspire



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DISTRICT VISION



Vision

.....

To Prepare,
Empower, and Inspire
Lifelong Learners and
Leaders



District Vision & Mission

Vision

To Prepare, Empower, and Inspire lifelong learners and leaders

Mission

New Brunswick Public Schools will **prepare, empower & inspire** students to become engaged in their own learning, their environment, and the world. Students will develop their **creative problem-solving and critical thinking skills to innovate solutions to complex challenges**. The entire community will collaborate to create a nurturing environment that allows students to reach these goals.



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PROFESSIONAL DEVELOPMENT GOALS

Goal 1: To engage in **reflective practice** about our own identities and lens through which we view the world, to better honor the identities of the students/community we serve and **reduce the predictability** of who succeeds and who fails.

Job Embedded PD: Reflection will be grounded on the assets that multilingual and ability diverse learners bring to the classroom and how to leverage those assets to ensure that instruction allows students to learn something about themselves and or others and use that to build students' knowledge and critical thinking skills.

Muhammad, Gholdy. Cultivating Genius, An Equity Framework for Culturally and Historically Responsive Literacy. New York: Scholastic Inc. 2022.



New Brunswick NJ



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Green Infrastructure in New Brunswick NJ

Green infrastructure are designs that act like natural processes and help our cities and towns by filtering rainwater, preventing flooding, making sure there are a lot of animals and plants, ensuring clean air, and keeping our communities cooler when it's hot outside. These help to promote a healthy planet!

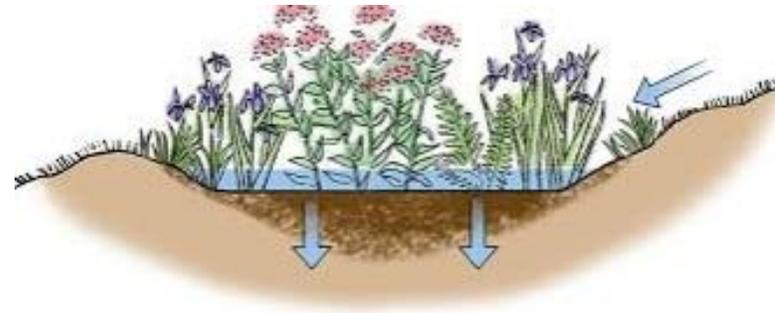
Bioswales



Tree Filter Boxes



Rain Gardens



Curb Extensions



Green Roofs



Rain Barrel



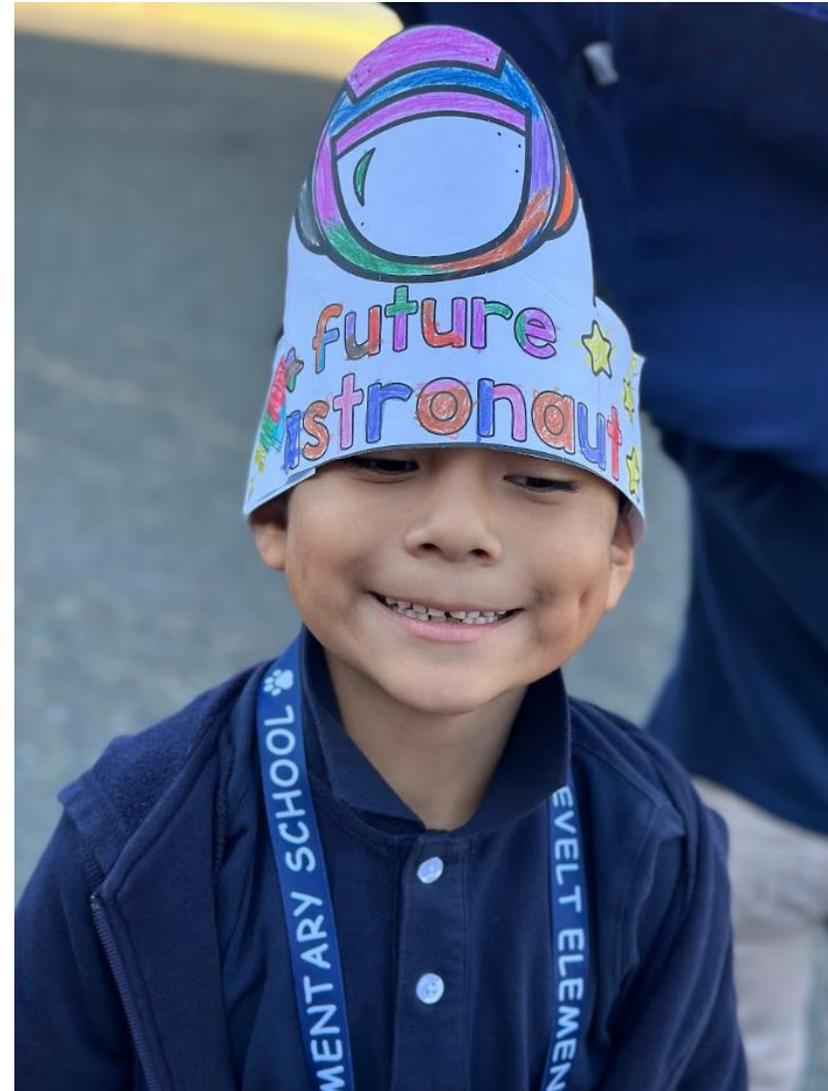
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Our Students

- **Grade Levels: PK- 12**
- **Total Student Enrollment: 9,500**
- **Free/Reduced Lunch: 8,033**
- **Services for Ability Diverse Learners in district: 1,617**
- **Multilingual Learners (MLs): 2,961**
 - Port of entry community
 - Different languages
- **Curious!**
- **Inspired and Inspiring!**
- **Ready for the world!**



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OUTCOMES

- Discuss a **Place-Based** approach to **Outdoor Learning** and reflect on how the community has become our curriculum through an exploration of a local/global challenges.
- ***We will explore:***
 - **The Power of Place: Community Connections**
 - **Building Teacher Capacity and Leadership through Collaborative Spaces**



The Power of *Place*



The Power of Place: Connecting with Place and each other

- Describe a time when nature or the environment taught you something valuable.
- What's one word you would use to describe a place that you represent, and why does this word resonate with you?

“Extended **community-connected challenges** are the best way to build what become the most important skills and dispositions for learners now and in the future—namely, agency, collaboration...”

“Connecting projects to community, delving into **authentic problems**, and encouraging public products develop an ethic of **contribution**” (Lichtag et al., 2020)

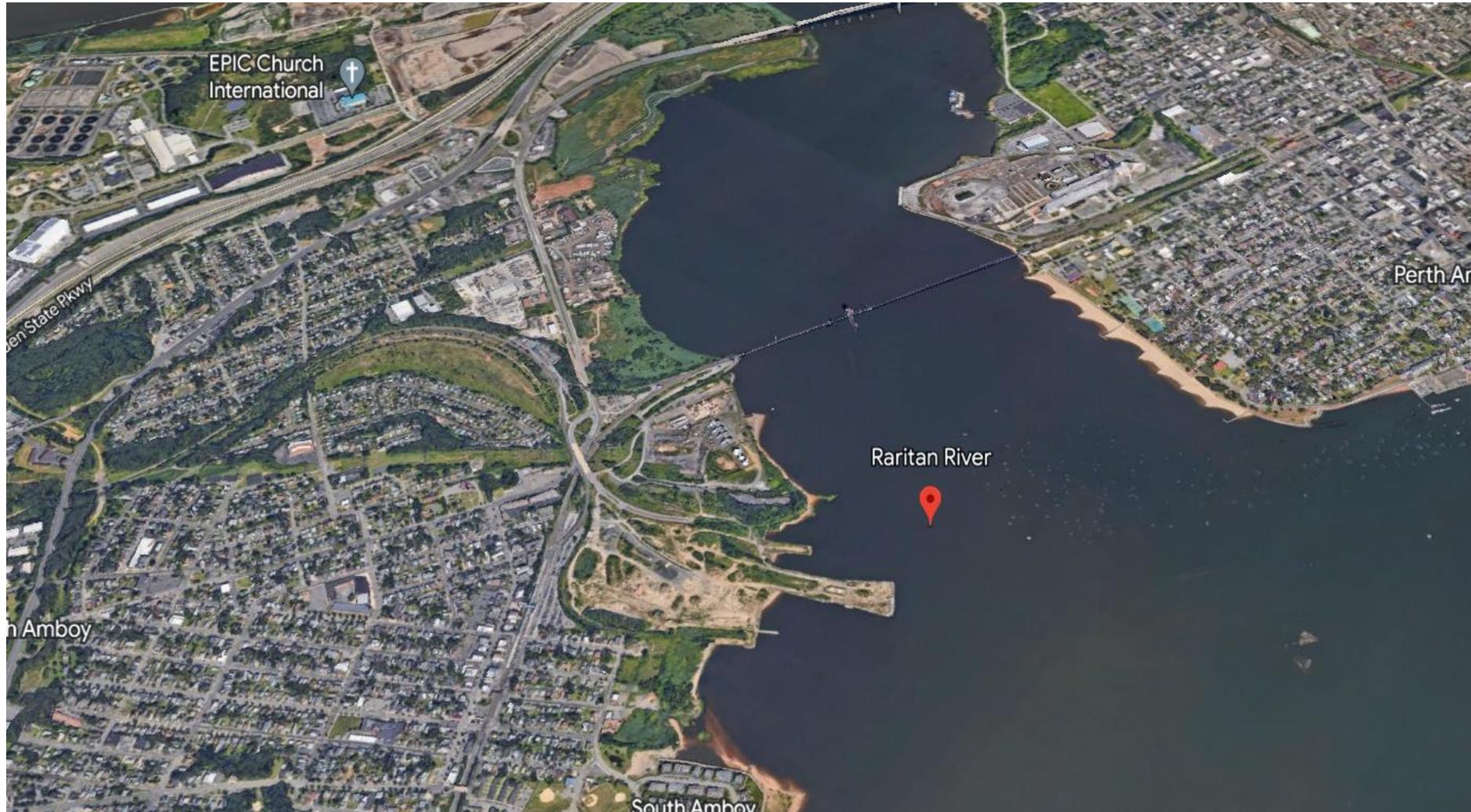
Place-Based Education

Place-based education (PBE) “immerses students in local heritage, cultures, landscapes, opportunities, and experiences, using these as a foundation for the study of language arts, mathematics, social studies, science, and other subjects across the curriculum,” according to the Center for Place-Based Education at Antioch University (Boggs School, n.d. b). We define it simply as anytime, anywhere learning that leverages the power of place to personalize learning—complementing the definition used by Teton Science Schools in Jackson, Wyoming: “[integrating] learning with place to increase engagement, learning outcomes, and community involvement” (Teton Science Schools, n.d.). Place-based education as explained by author Laurie Lane-Zucker (2016) is “the pedagogy of community, the reintegration of the individual into her home ground, and the restoration of the essential links between a person and her place” (para. 8).



Nature as our Curriculum

“Connecting projects to community, delving into **authentic problems**, and encouraging public products develop an ethic of **contribution**”
(Liebttag et al., 2020)



Exploring the Raritan River- Grade 2

There is WHAT in our water?! Grades 1-2 students explored contaminants in the **Raritan River** through **Water Quality Testing**. They analyzed data gathered from two samples of water, to construct an explanation on the safety of the water, and reflected on: how safe is our water? how can we use the data from the water quality testing to better understand the problem? The Engineering & Design Process was used to **(1)** Design a device to remove trash out of the water or **(2)** Design a device to prevent the garbage from entering the river. These approaches were intended to remediate/solve the issue of Clean Water and Sanitation in our local/global community.



We couldn't go to the river...so, we brought the river to the classroom!



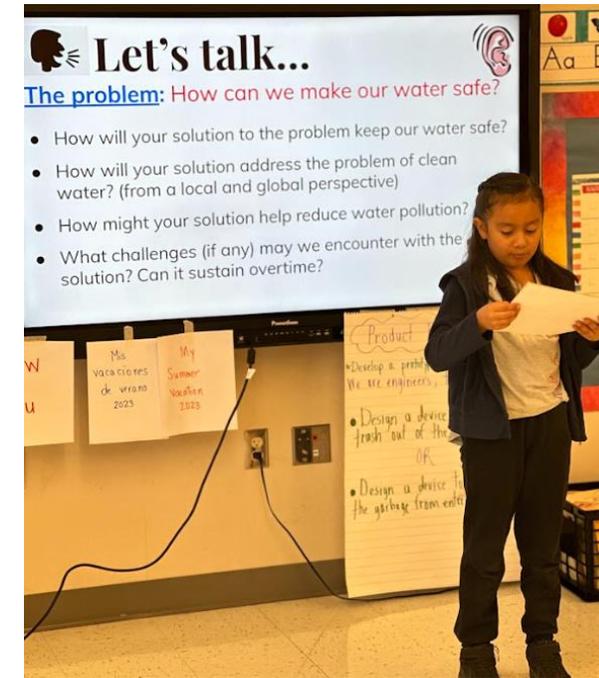
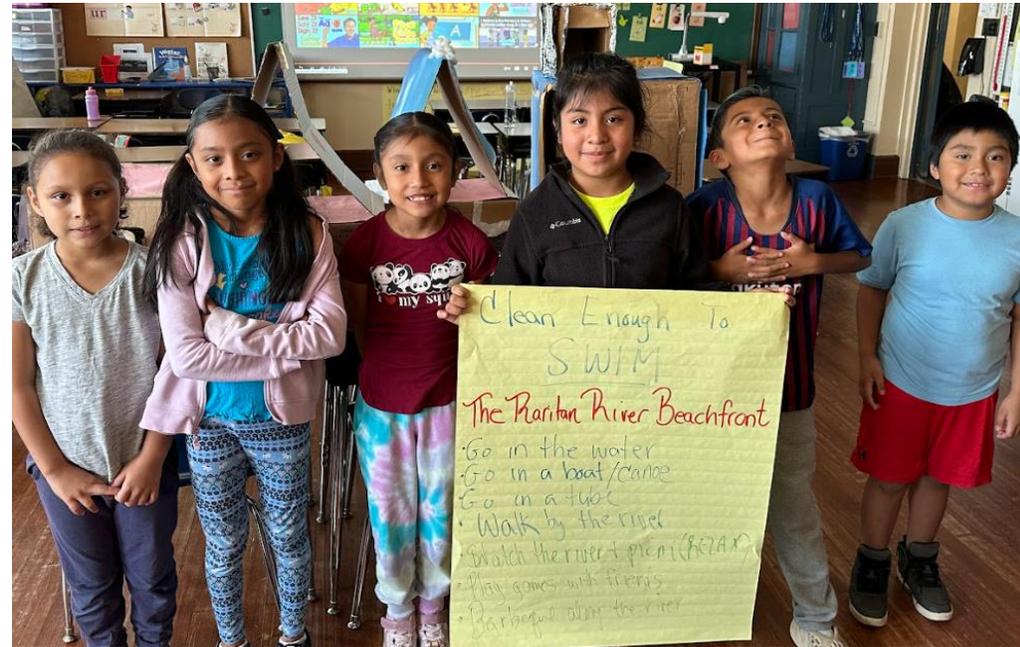
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Place-Based Sustainable Solutions

There is **WHAT** in our water?! Our Grades 1-2 *Environmental Engineers* explored this question and designed solutions to remediate/solve the issue of Clean Water and Sanitation in our local/global community.



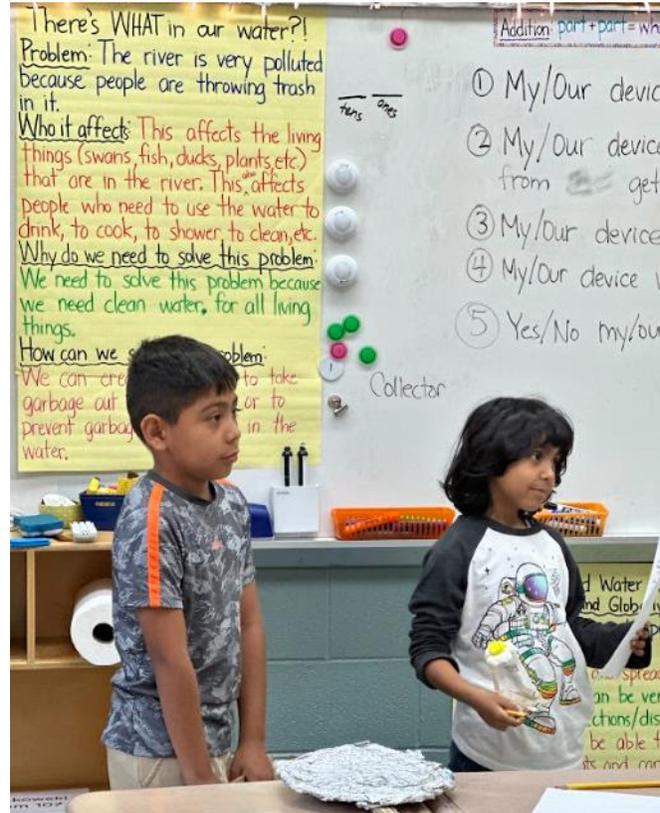
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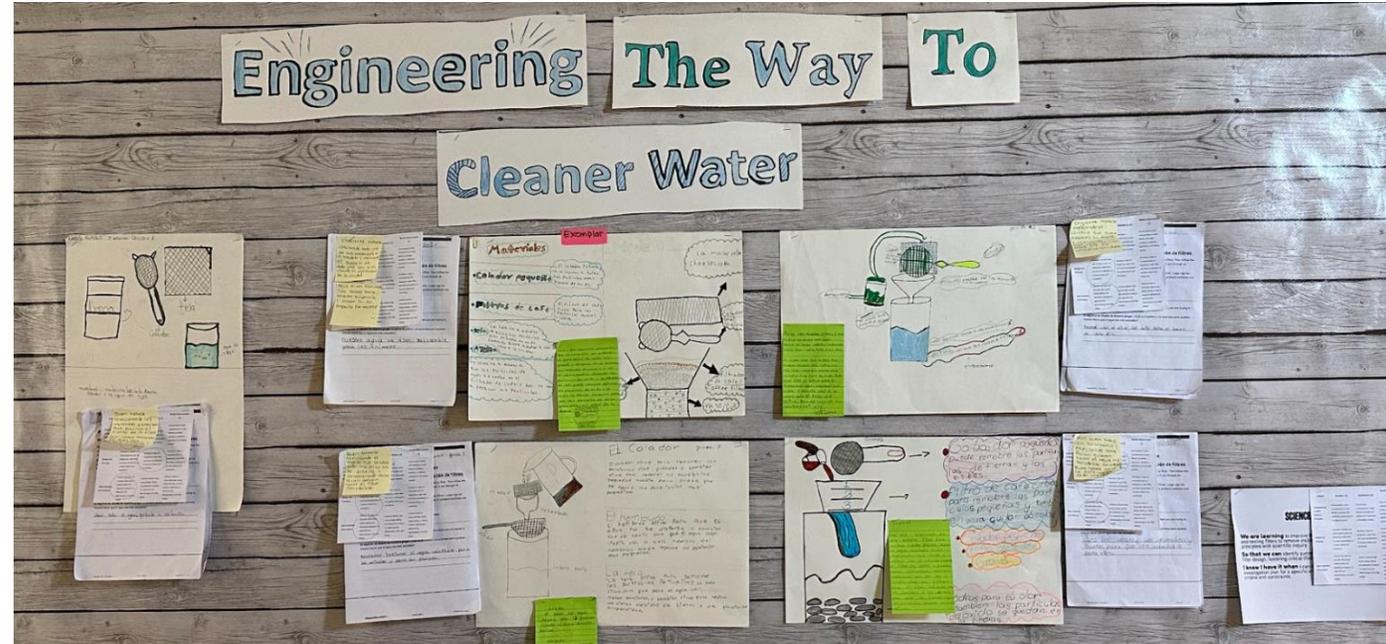
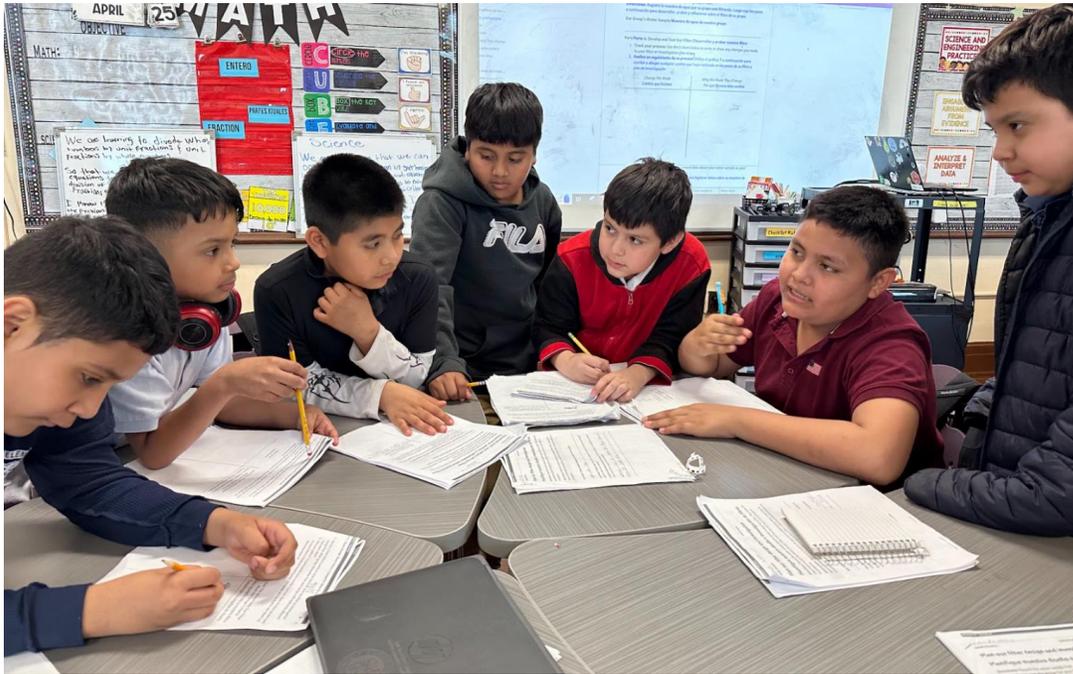
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Place-Based Sustainable Solutions

There is **WHAT** in our water?! Our Grades 1-2 *Environmental Engineers* explored this question and designed solutions to remediate/solve the issue of Clean Water and Sanitation in our local/global community.



Engineering our way to Clean Water- Grade 5



Designing and implementing **project-based learning** experiences where students can **creatively devise solutions** for climate-related challenges within our **local community**.



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Update My growing ideas chart



Our lesson question:

How can we develop and optimize our filters to separate unhealthy materials out of the water?

What did we figure out about:

- The engineering design process?
- Our water samples?

What questions do we now have?

My Growing Ideas Chart		
Lesson Question	What I figured out in words and pictures	What new questions do I have?

Building Teacher Capacity and Leadership Using Collaborative Spaces



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Building Capacity by engaging with Nature

- Reflect on the unique challenges and opportunities of implementing place-based education in our local context. How can teacher capacity-building efforts address these factors?
- What strategies can be used to overcome resistance or barriers to implementing place-based education in schools, and how can teacher capacity-building efforts address these challenges?



“There is WHAT in our water?!” Let’s find out!



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Building Capacity through Community Outreach

“Capacity building equips teachers with the **knowledge and skills** to **effectively leverage community resources** in their teaching...”



Place-Based Outdoor Learning

As a district it is our goal to continue to.....

- Design and implement **project-based** learning experiences where students can creatively devise solutions for climate-related challenges within our local community
- Provide **experiential learning** opportunities that complement classroom instruction
- Cultivate a **sense of connection to place** by engaging staff and students in place-based learning (*Nature as our Curriculum, Nature being wherever WE are....*)
- Recognize the importance of taking students AND staff **outdoors** and create opportunities to do



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What is next for NBPS?

- **Place-Based Thematic Approach to the Climate Change Standards- Summer 2024**
 - *UNSDG #2: Zero Hunger/Food Equity: Kindergarten*
 - *UNSDG #11: Sustainable Cities & Communities: Grades 1-2*
 - *UNSDG #6: Clean Water & Sanitation: Grades 3-5*
 - *UNSDG #3: Healthy Lives and Well-Being: Grades 6-8*
- **Project-Based Learning Curriculum feedback sessions with teachers**
- **Creating sustainable resilience through “green teams”**
- **Community Engagement with Sustainable Practices- *Summer Program Showcase Event***
- **Partnership with Local Agencies in addressing local/global climate-related challenges**



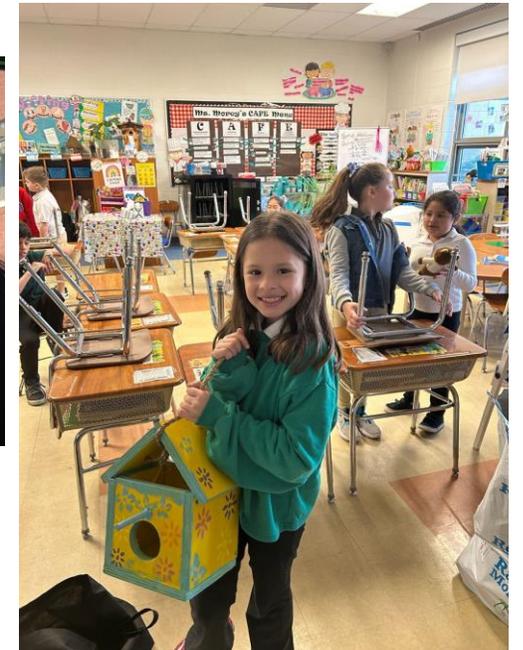
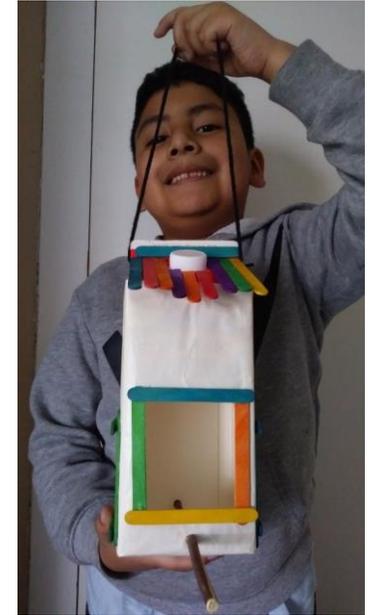
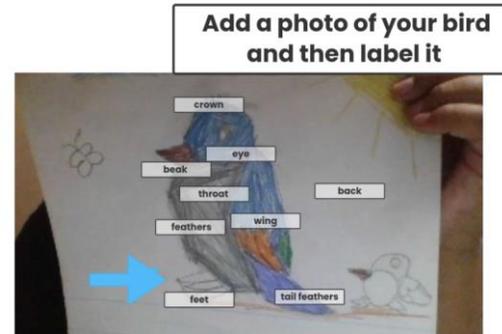
Outdoor Learning at GLC

- As leaders of our student Green Team, we strive to not only teach environmental education to our students in our club, but also to our school community as well. Our mission is to provide our students with the knowledge to enrich the lives of our entire school community.
 - Students can facilitate classroom discussions with other students.
 - Students can use technology integration to share the projects they have been working on with the whole school. (For example, our endangered species coloring book was shared with everyone)
- Outdoor classroom
 - We use our garden/courtyard for educational and sustainable lessons.
- Field/Playground
 - We are able to use these spaces for science and environmental lessons.
- We use this spaces during school hours and in our after school program, Green Team. Many of the lessons we teach we develop and submit for projects and awards.
 - Sustainable Jersey, Eco Schools, Project Green School, President's Environmental Youth Award



Outdoor Classroom Lessons

- Seek by iNaturalist app
 - Students used this app to identify birds and plants. In addition, to expand the lesson, students had to study the birds they found by creating a KWL chart and labeling bird pictures.
 - Students are able to use the school grounds to identify wildlife.
- Using the outside to create meaningful science lessons
 - Chalking our shadows throughout the day to understand the sun and our place in the universe.
 - Using an outdoor thermometer to understand weather patterns and temperatures throughout the day.
- Binoculars as a tool to teach students about the world around them.
- Students build birdhouses out of recycled materials to place around our school.
- Students observed and studied birds, learning about what dangers they face. They created window clings to prevent bird strikes.



Off-Site Trips and Educational Programs

- Field trips need to be scheduled and approved well in advance, which means we often need trip ideas before the school year starts or well into the beginning of the year.
- Not as many walking trips approved. Due to our schools location, walking trips are more difficult to plan and implement than other school locations.
- Virtual field trips - although not the same can help with the disconnect. Virtual Farm field trips are an amazing way to connect outdoor learning with students.
- Educational Programs
 - Seek - Great tool for students to use to help assist them in identifying wildlife.
 - SeeSaw - Students can use this at home and in school. They are able to take observations they made outside of the classroom and document it here.
 - Attended a workshop at Jackson Woods in LB to create a rain barrel for our students. Brought this project into school and our students decorated the rain barrel.
 - Beach Sweeps - Students, families, and teachers participate in beach cleanup efforts



Working



Together

High Bridge Borough and School District

High Bridge School District – Environmental Clubs

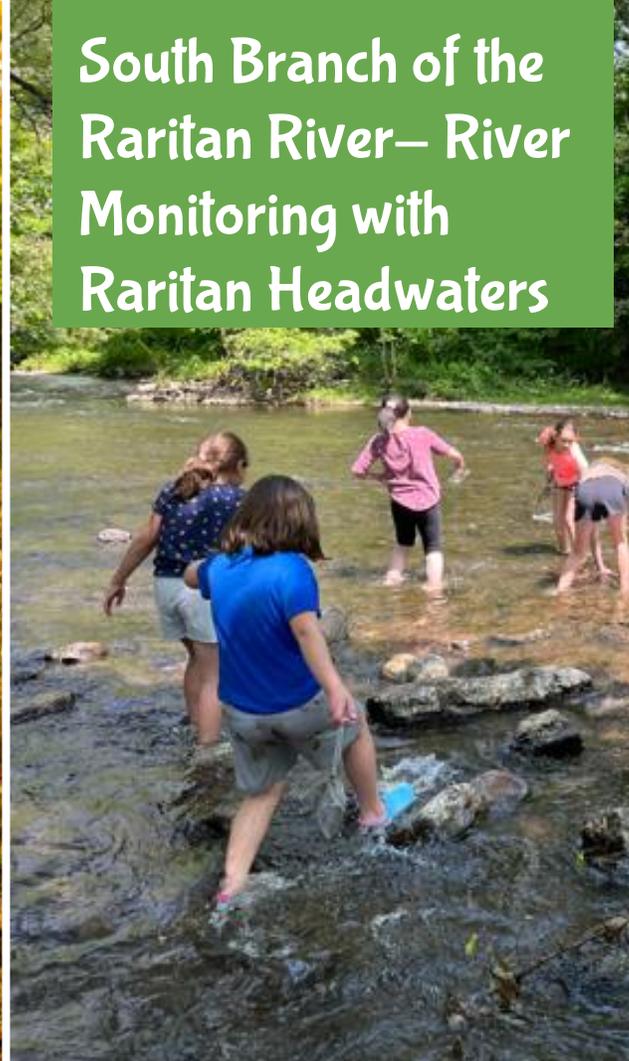


High Bridge Open Spaces

Columbia Trail—
Leaf Identification
Walk



South Branch of the
Raritan River— River
Monitoring with
Raritan Headwaters



Columbia Trail— Walk to School Days with
GoHunterdon



Borough and School District Green Teams

High Bridge Borough Environmental Commission & Green Team



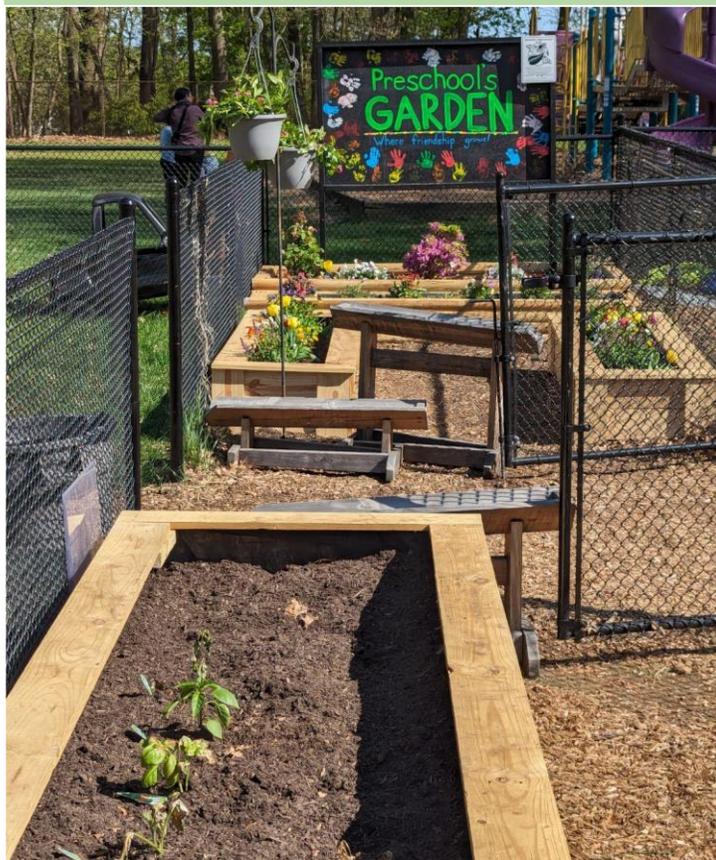
Lynn Hughes
4th Grade Teacher
Environmental Club
Advisor
HB Environmental
Commission
HB & School District
Green Team Member
Former Council Women

School Green Team



How to make an impact with not much time or land

Preschool Garden— Part of the Playground



Elementary School Garden Funded by Sustainable Jersey and donations



Middle School Garden



Organizations We Work With

High Bridge Police, Fire,
Rescue and Department
of Public Works

Sustainable Jersey

Grow a Row

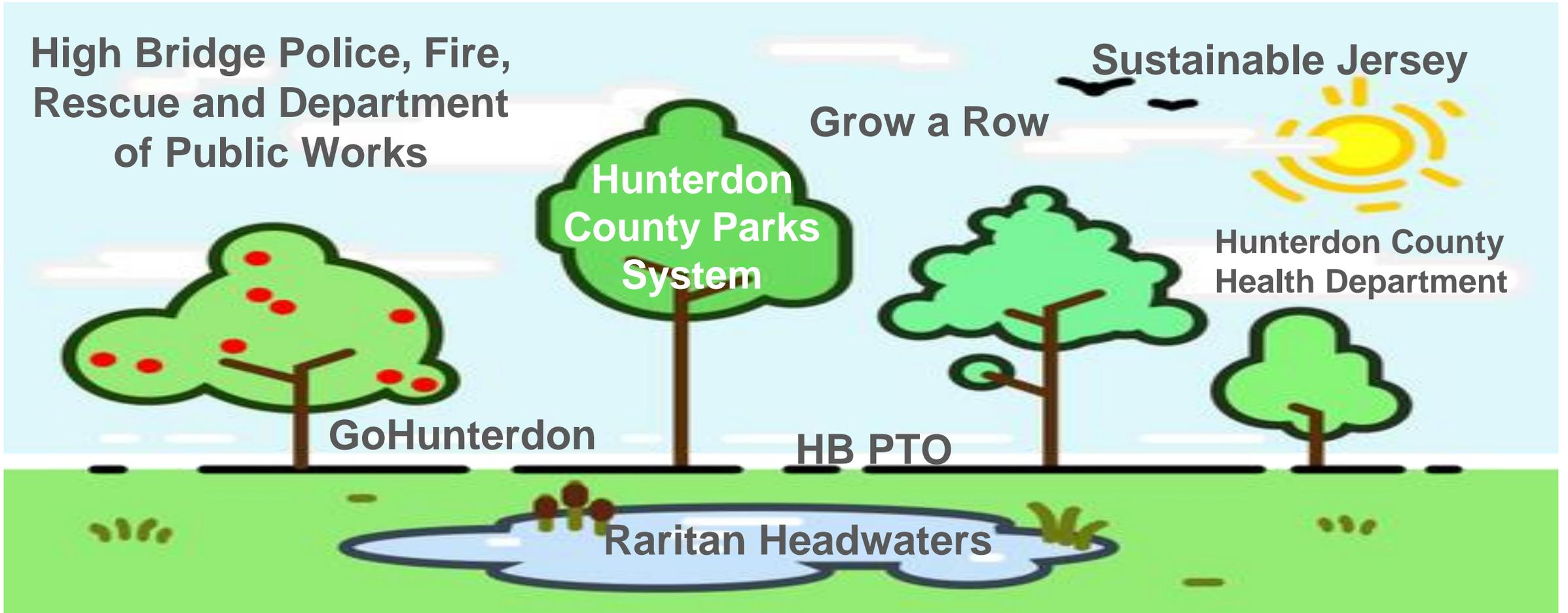
Hunterdon
County Parks
System

Hunterdon County
Health Department

GoHunterdon

HB PTO

Raritan Headwaters



Borough Projects

High Bridge Arbor Day Ceremony



Join the High Bridge Environmental Commission
on Saturday, April 27th
Commons Park
10:00 am

A First Energy representative will speak about the right tree for the right place, demonstrate proper mulching and the dangers of volcano mulching.

Members of the High Bridge School District's Environmental Clubs will be presenting information about trees

Come Plant With Us!

We're planting a Native Garden along the new stairway at Commons Park. We'll have the plants, come on out, get a little dirty, meet some neighbors.

May 6th, 9am-12pm

Bring Gloves
and a Shovel



Borough of High Bridge
Annual

Tree Lighting

Join us on Saturday, December 9th,
High Bridge Commons Park

Music, Hot Cocoa, & Cookies

Santa and so much more!

WOMEN FOR HIGH BRIDGE PRESENTS

COOKIES WITH SANTA

SAT., DECEMBER 2, 2023
11AM-2PM
HIGH BRIDGE FIREHOUSE
7 MARYLAND AVENUE

SENSORY SANTA TIME:
11-12:30
(A QUIET ATMOSPHERE FOR CHILDREN)

PICTURE WITH SANTA - COOKIES - MAKE-N-TAKE CRAFT

A variety of pre-packaged cookies

HIGH BRIDGE ELEMENTARY & MIDDLE SCHOOL'S ENVIRONMENTAL CLUB PENNIES FOR PLANTING DRIVE

ARBOR DAY
APRIL 28TH

WE WILL BE COLLECTING PENNIES FOR THE MONTHS OF MARCH AND APRIL

THE PENNIES WILL BE USED TO HELP PURCHASE A LARGE PINE TREE FOR THE BOROUGH COMMONS FOR ARBOR DAY



Raritan Headwaters

32nd Annual
STREAM CLEANUP

APRIL 23rd
9 am - 12 pm

Student Leadership's Train Station Fundraiser

Student Leaders will be collecting monetary donations from 9/26-10/6 during homeroom to purchase planters and mums to spruce up the station.

Cash or checks made out to High Bridge Middle School

OPEN CUPBOARD FOOD PANTRY GIFT CARD DRIVE

Sponsored by the High Bridge PTO & The Women for High Bridge

As many of you know, this past weekend a devastating fire destroyed the Open Cupboard Food Pantry in Clinton. This food pantry serves over 400 families in our community and they need our help to continue providing critical services to their clients.

At this time, the Open Cupboard Food Pantry is unable to accept donations of food items due to lack of storage. They are asking for donations of ShopRite gift cards and/or monetary donations via their website:

www.opencupboardfoodpantry.org/how-to-donate

ShopRite Gift Cards will be collected at both the Elementary & Middle Schools and delivered to the Open Cupboard Food Pantry. If you are able to contribute, please send a ShopRite gift card in a SEALED envelope to school with your child. DO NOT SEND CASH.

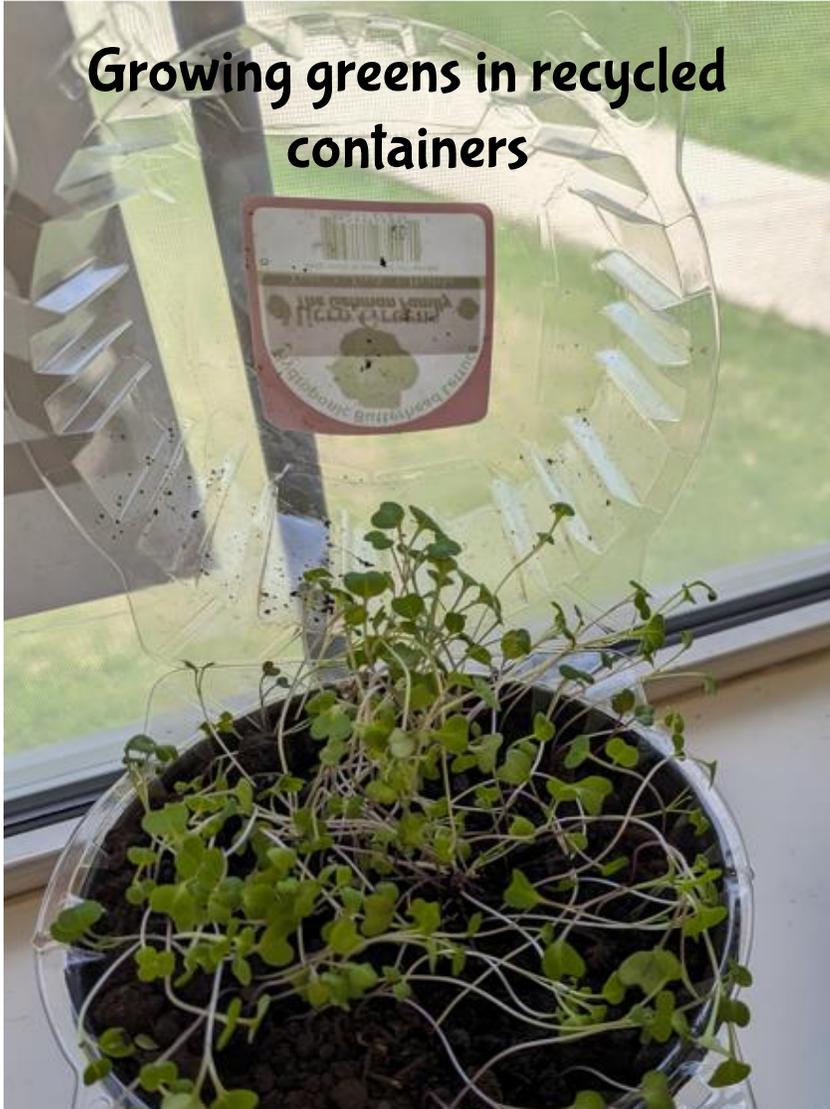
Questions? Contact the High Bridge PTO at HighBridgeSchoolsPTO@gmail.com

In celebration of Earth Day, join the event to protect rivers and streams that run through your community.

It only takes 3 hours to make a BIG impact!

Small Projects Can Make a Big Impression

Growing greens in recycled containers



Seining at Sandy Hook



Hatching Chickens



More Fun!



Beautifying the MS



Recycled Boat Launch



Ecosystem Discovery



Habitat Investigations

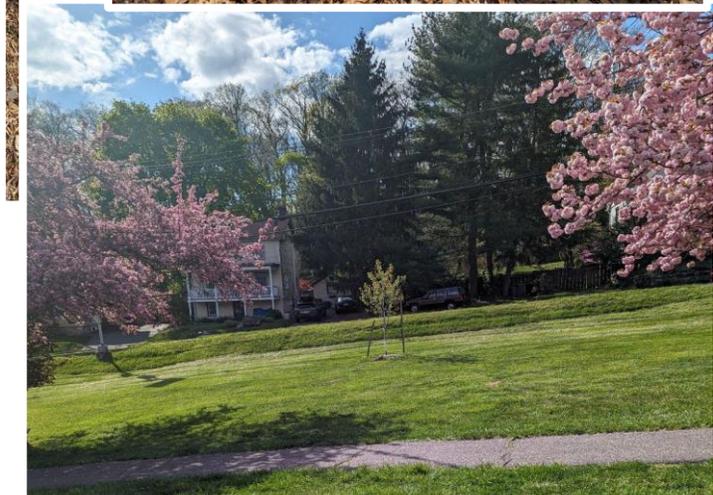
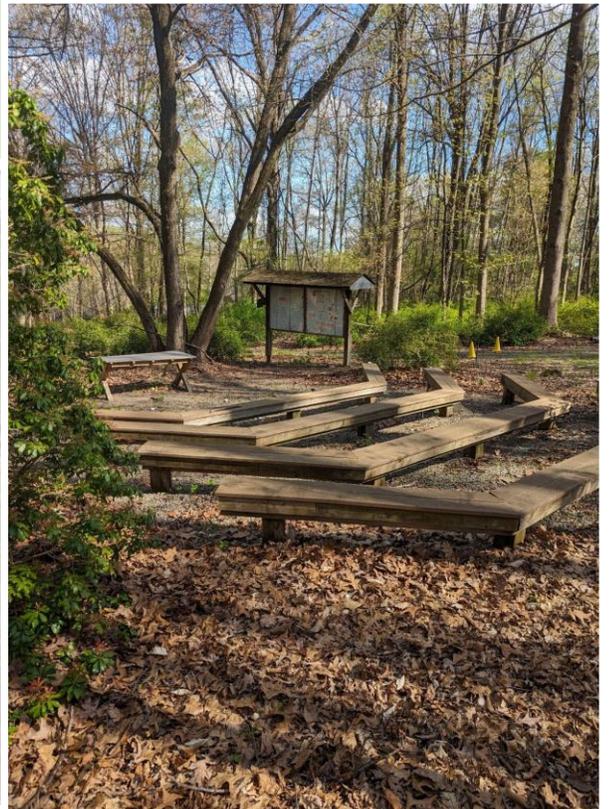


Electric Cars - Funded by a SJ Grant



Students cleaning up leaves

Our Beautiful Spaces



How do we do it

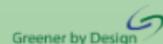
- **Two of our members sit on both the Borough's Green Team and the District's Green Team so we have shared goals and vision.**
- **We work closely with the Mayor & Council, Borough Administrator and the Superintendent.**
- **We work together on keeping all of open spaces clean, tree and native species plantings, native/invasive species education, food drives, plastic collections, and so much more!**
- **Our students have adopted the train station through NJ Transits Adopt a Station Program**
- **We work with the Women for High Bridge Committee at Special Events to get our Environmental message out.**
- **Our Students raised money for a native pine tree last year that was planted in the Commons park on Arbor Day which is now going to be used every year for the annual tree lighting ceremony.**
- **After the Business Association decided not to host this year's tree lighting, our Student Leadership group stepped up and hosted it and it is now a family tradition.**

Q & A

PROGRAM UNDERWRITERS



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UPCOMING EVENTS AND OPPORTUNITIES

❑ EARNING YOUR DIGITAL SCHOOLS STAR: TIPS FOR SUCCESS WEBINAR

This webinar offers an overview of the Digital Schools program, insights and examples of ways to improve digital school action submissions and earn points to attain Digital Schools Star recognition. The informational webinar will be held on **Wednesday, May 8, 2024, 3:30pm-4:30pm.**

Register: bit.ly/4dhdj91

❑ 2024 MUNICIPAL CERTIFICATION CYCLE

The next deadline to apply for certification is **Friday, May 10, 2024.** The final application deadline is **Wednesday, July 31, 2024.** View the full cycle timeline on the 2024 Certification Cycle page.

Learn More: bit.ly/SJ2024CertCycle

❑ NJBPU'S COMMUNITY ENERGY PLANNING GRANTS

The New Jersey Board of Public Utilities is offering a new round of Community Energy Plan Grants for all New Jersey municipalities.

Application Deadline: **Friday, May 24, 2024**

Learn More: bit.ly/3WcmAt7

❑ TRI-COUNTY SUSTAINABILITY GENERAL MEETINGS

This Sustainable Jersey Regional Hub will host virtual meetings on a variety of sustainability topics throughout the year. The next meeting is **Tuesday, May 28, 2024, 7:00pm-8:00pm.**

Learn More: bit.ly/Tri-CountySustainability

❑ 2024 SUSTAINABLE COMMUNITIES GRANT PROGRAM

Atlantic City Electric is contributing \$35,000 to support municipal environmental stewardship and resiliency projects within its service territory. Join us for an informational webinar on **Monday, May 13 from 1:00pm-2:00pm** to learn more about the program and how to use the online application portal.

Application Deadline: **Thursday, June 27, 2024**

Learn More: bit.ly/SustainableCommunitiesGrantProgram

❑ 2024 SCHOOL CERTIFICATION CYCLE

The final deadline to apply for certification and Digital Schools Star Recognition is **Thursday, June 13, 2024.** View the full cycle timeline on the 2024 Certification Cycle page.

Learn More: bit.ly/SJS2024CertCycle

❑ HOW TO ADOPT OR UPDATE A COMPLETE AND GREEN STREETS POLICY WEBINAR

Save the date! Join a one-hour walkthrough on how to create your own model municipal Complete and Green Streets Policy, brought to you by the Voorhees Transportation Center at Rutgers University, Sustainable Jersey, the New Jersey Department of Transportation, and the North Jersey Transportation Planning Authority, on **Tuesday, September 17, 2024, 12:00pm-1:00pm.** Registration information coming soon. Follow-up Open House Q&A for attendees to be held virtually on **Wednesday, October 30, 2024 from 3:00pm-5:00pm.**



2024 SUSTAINABILITY SUMMIT



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