



School Buildings and Grounds as Sustainability Learning Labs

October 25, 2022, NJSBA Workshop

Presenters

Véronique Lambert, Schools Program Manager, Sustainable Jersey, lambertv@tcnj.edu

Francesca Arato, Associate, Local Education Project Leader, Alliance to Save Energy, farato@ase.org

Kelly Stone, Teacher, Long Branch Public Schools, kstone@longbranch.k12.nj.us

Elysia Ochs-Caraballo, Director of Community Schools, Newton Public Schools, eochs@newtonnj.org

Presentation Outline

- Sustainable Jersey for Schools' model of promoting student and community learning from district's sustainability actions
- Examples in practice
 - EmPowered Schools program – learning about energy efficiency
 - George L. Catrambone Elementary School – hands-on learning from gardens, living wall
 - Newton Schools – engaged learning from food waste reduction initiatives
- Q&A – We will hold questions at the end for all presenters

Sustainable Jersey for Schools

A free, voluntary program that provides tools, training, and grants to New Jersey public schools to help them implement sustainability initiatives and achieve certification.




- Identifies **actions** to become more sustainable
- Provides **tools, resources, and guidance** to make progress
- Provides access to **grants** for schools and school districts
- Recognizes **accomplishments**
- Awards certification to individual schools but requires School Board and district level support


Statistics

2014
Program
Started

64%
Districts
Participating

1,058
Schools
Registered


150
BRONZE
306
Certified


350
SILVER
48
Certified


43 Digital
Schools
Stars

7,861
Actions
Implemented



Statistics current as of 10/5/22

Sustainability Framework: 100+ Actions for Sustainability



<https://www.sustainablejerseyschools.com/actions/>

Learning from Buildings & Grounds

- Behavior-Based Energy Conservation
- School Gardens
- Biodiversity Projects – native plants, butterfly habitat
- Green Infrastructure – rain gardens, bio-swales
- Waste Audit
- Food Waste Management
- Recycling Non-Mandated Materials

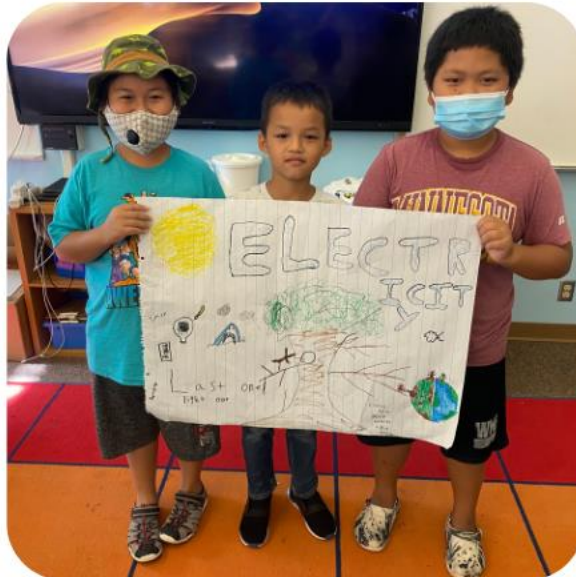


students generating change

AN ALLIANCE TO SAVE ENERGY PROGRAM 

OUR MISSION:

empowering students,
generating change



Funded by



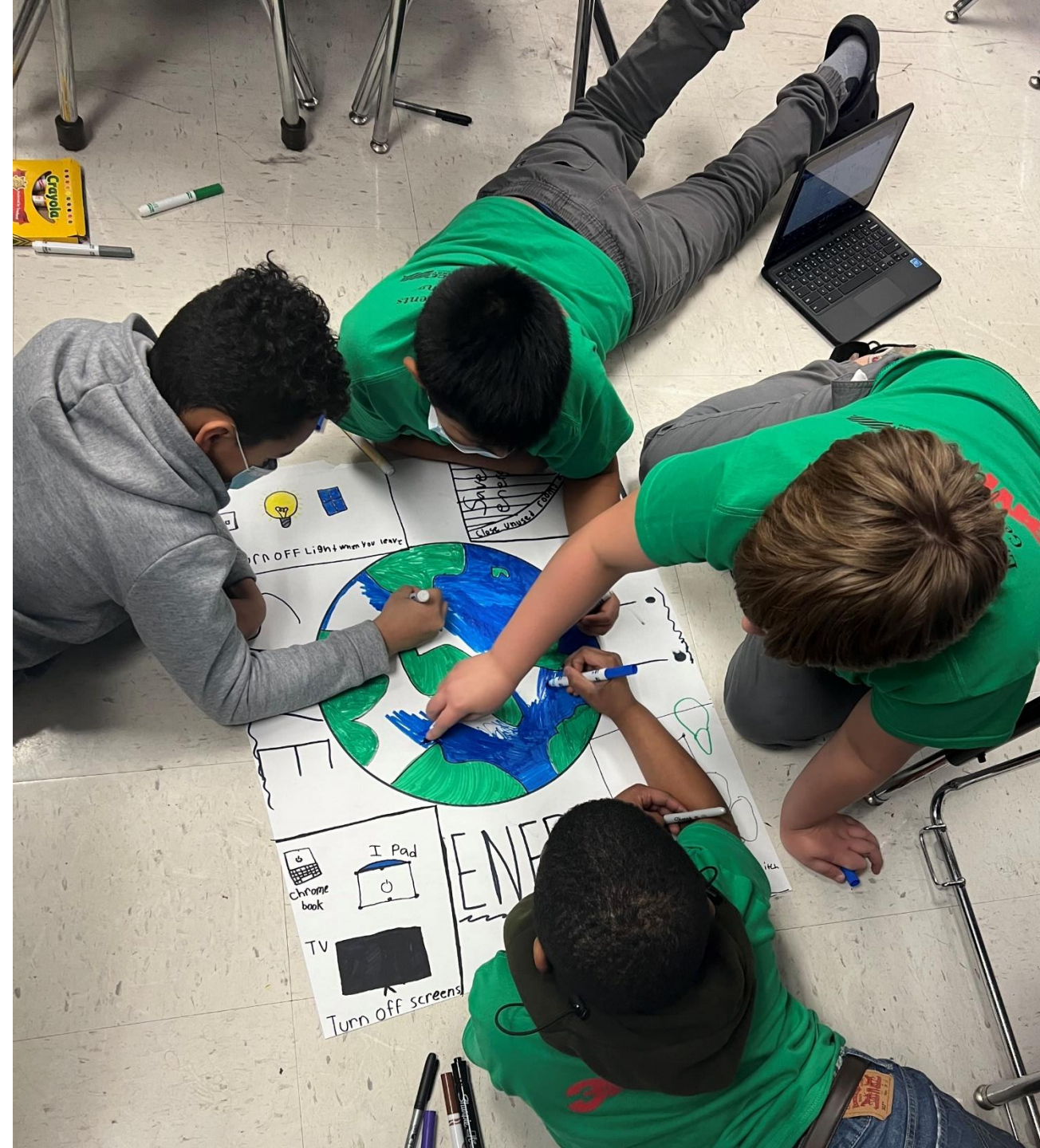
PROGRAM GOALS

STEM Engagement

- Grade-banded curriculum
 - Pre-K to 12th grade
 - Hands-on and project-based learning

Student Leadership

- Student-led campaigns
- Pathways to Green Careers



HOW IT WORKS

- ❑ Three trainings per year will guide teachers through all elements of the program
 - ❑ Team Leads receive a \$200 stipend for leading a team successfully through the program
-
- ❑ EmPowered Schools Teams have been formed in classrooms, clubs, or before/after school programs
 - ❑ EmPowered Apparel: students receive EmPowered t-shirts (grades 3-12) or superhero capes (PK-2)
 - ❑ Students learn to use water and energy auditing tools in the EmPowered Toolkit



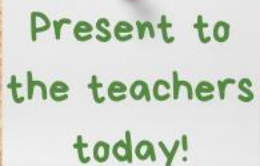
TEACHERS



EmPowered
Schools
Training



STUDENTS



Present to
the teachers
today!

PROGRAM LESSONS

Lessons for grades PK-2 New Jersey EmPowered Teams

Lessons

What is Sustainability?

What is Energy?

What Uses Energy?

How Do We Save Energy?

How is Energy Made?

Lessons for grades 3-12 New Jersey EmPowered Teams

Lessons

Energy Basics

Climate

Energy Audit

Environmental Justice

Green Your Career



EMPOWERED SCHOOLS TOOLKIT

Light
Meter



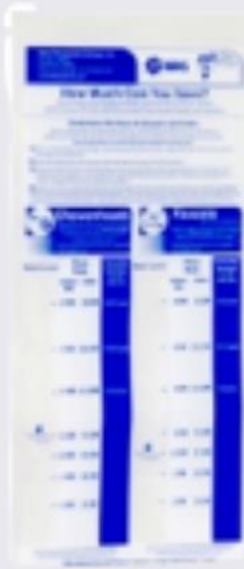
Infrared
Thermometer



Watt
Meters



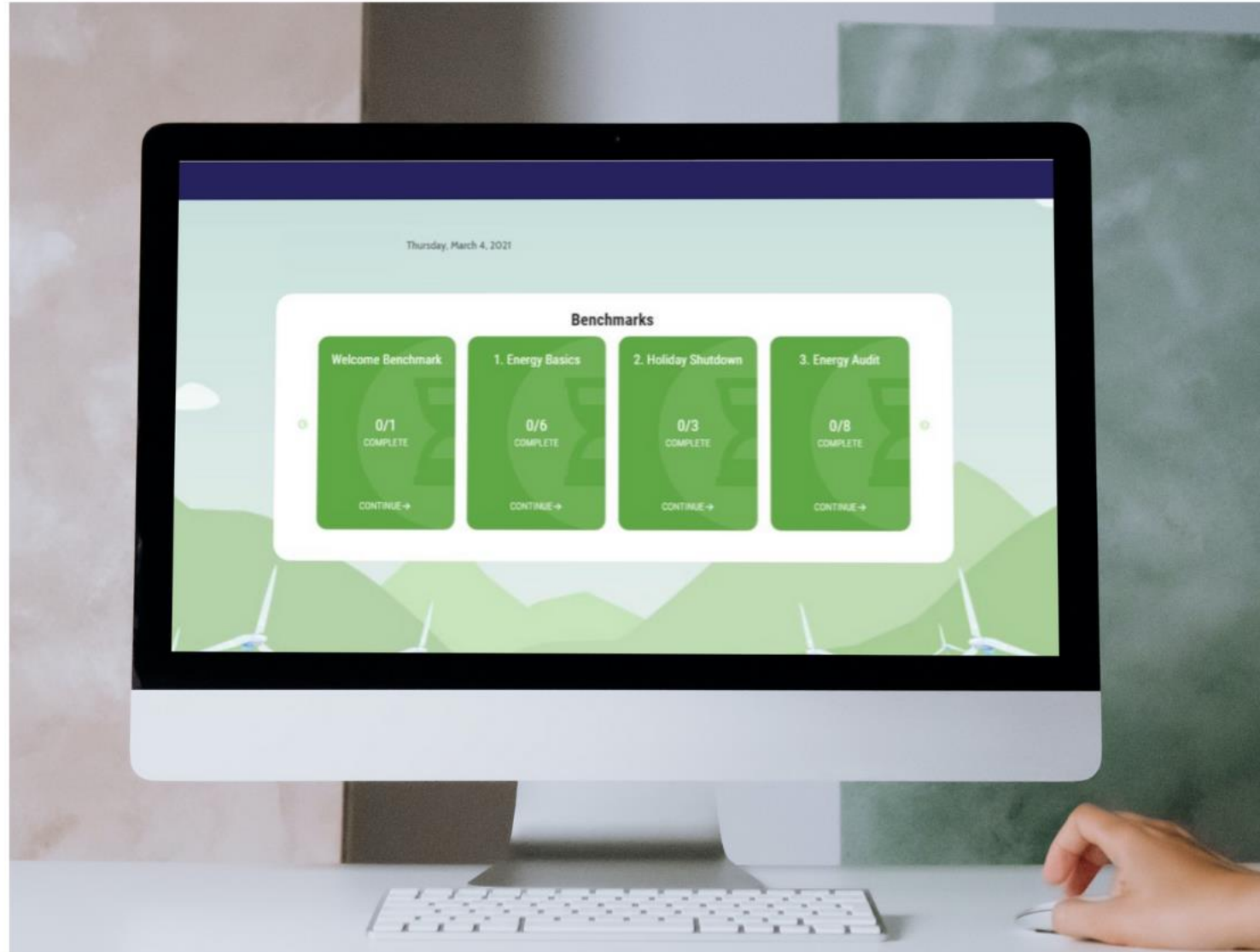
Water Flow
Rate Bag



Drip
Gauge



EMPOWERED WEB PLATFORM



Classes > PDW Demo

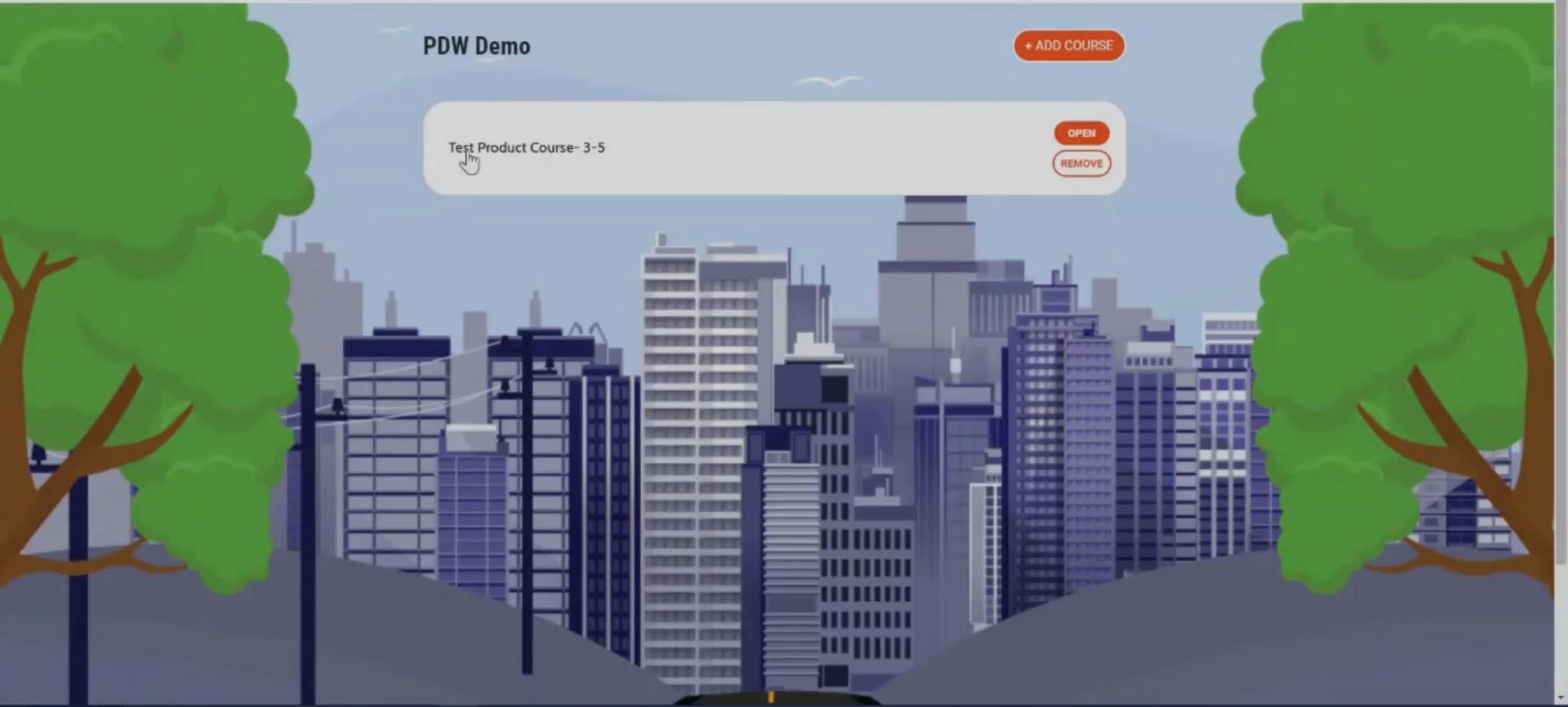
PDW Demo

+ ADD COURSE

Test Product Course- 3-5

OPEN

REMOVE



WHY IT WORKS



- ❑ Minimal prep time
 - ❑ Activities pre-designed with flexibility in mind
- ❑ Alignment to NJ academic standards
- ❑ EmPowered Web Platform is a one-stop-shop
 - ❑ Auto-scored quizzes to check learning
 - ❑ Engaging, high-interest videos
 - ❑ Hands-on activities



- ❑ Opportunities to Lead & Explore
- ❑ Feedback
 - ❑ Students receive immediate and specific feedback automatically on the EmPowered Web Platform
- ❑ Competitions, Rewards, Recognition
 - ❑ Leaderboard and School Contest
 - ❑ Prizes provided by EmPowered Schools

Support from EmPowered Schools Local Project Leader



Virtual teacher trainings with tips and resources



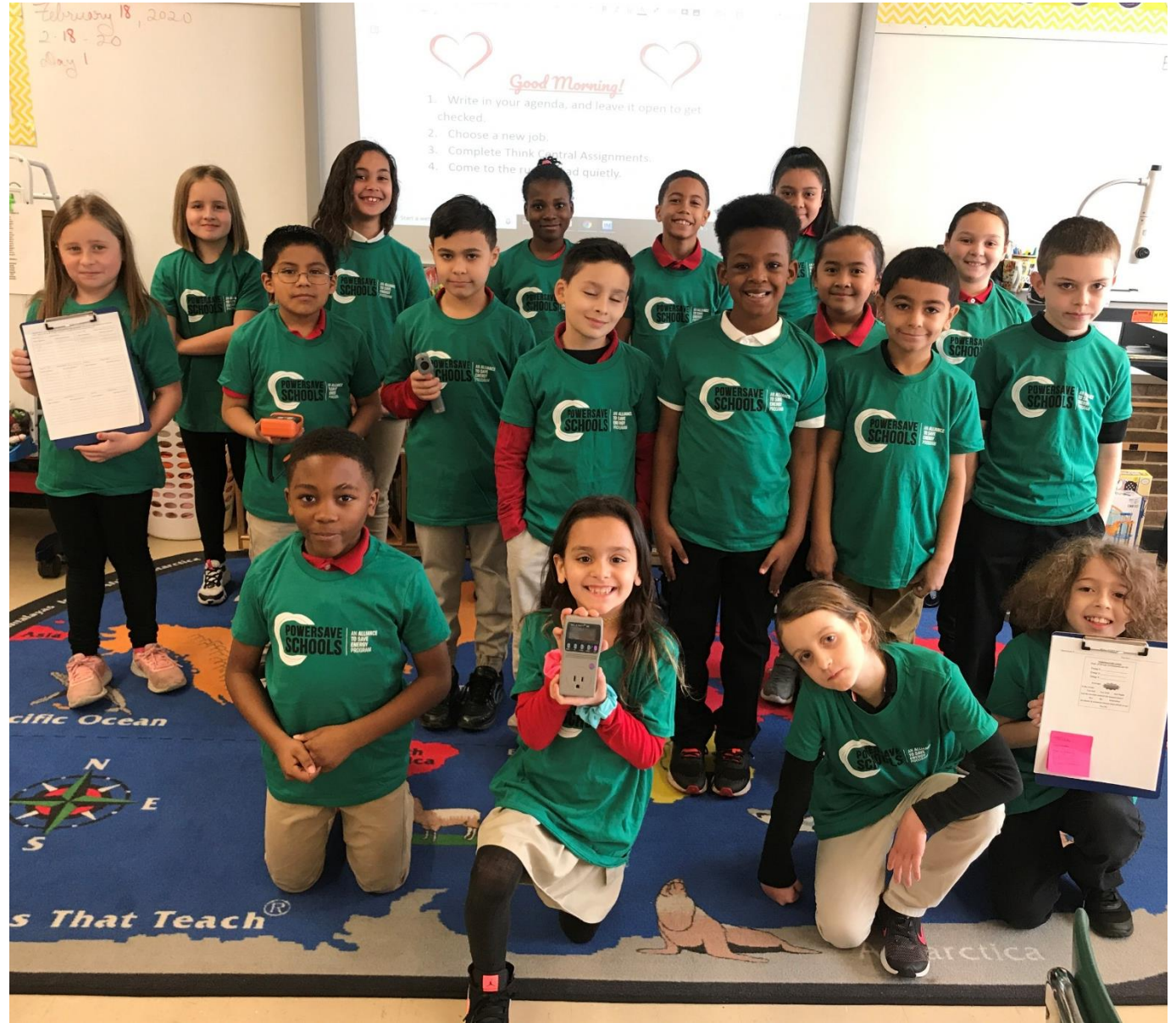
Regular progress support check-ins



Individual assistance & coaching available







George L Catrambone School



- Long Branch, New Jersey
- Elementary School built in 2014
- House Kindergarten - 5th Grade
- 716 Students currently
- District 5,568 Students
- Over 75% of students on free and reduced lunch

School Buildings and Grounds as Sustainability Learning Labs

EmPowered Schools Team



The EmPowered Schools Program engages learners far beyond the 4 walls of their classrooms.

- To the school
- To students homes
- To the community

EmPowered Schools Team



Just the Beginning



Courtyard Gardens



Courtyard Gardens



Our Community



Connections



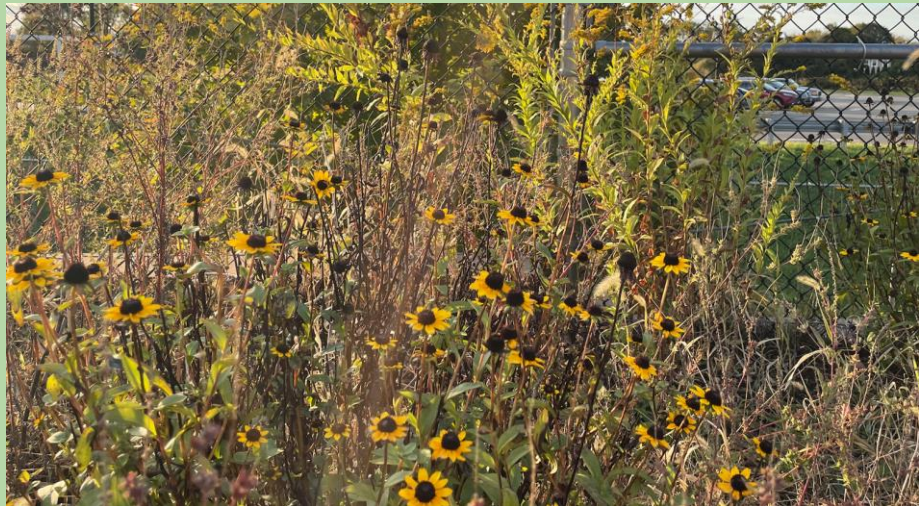
The Greenhouse



Outdoor Learning Spaces in the Outdoor Classroom



Wildflower and Native Plant Gardens



Bioswale



Hydroponics





Garden Math



The Living Wall



The Living Wall



Zoom Family Meals



Continuing the Sustainability





Elysia Ochs-Caraballo
Director of Community Schools

Food Waste Reduction



- **Why Schools?**

- K-12 schools are ideal for establishing best practices for reducing, recovering, and recycling food waste. [Read Halsted's initial food waste audit from Rutgers here.](#)
- We were on track last year to throw out just over **5 tons of food** based on our 3 day food audit.

- **Food Insecurity**

- A 2021 Case Study conducted by Montclair State University and NJ Snap Ed found that 8% of Newton residents are living in poverty and 37% of residents are classified as ALICE families.
- Halsted has seen an increase from families asking to participate in the weekend bag program to 52 families.

- **Students Care**

- Our students continue to show us that feeding others and taking care of the environment are top priorities for them.
- We have established a Green Team that functions both as environmental group and wellness committee.



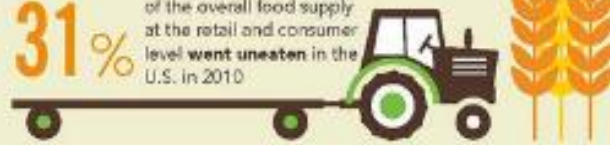
REDUCING FOOD WASTE

WHAT SCHOOLS CAN DO TODAY



USDA's Economic Research Service estimates

31% of the overall food supply at the retail and consumer level went uneaten in the U.S. in 2010



Scheduling recess before lunch can reduce plate waste by

AS MUCH AS 30%



Extending lunch periods from

20 TO 30 minutes reduced plate waste by nearly one-third



SMARTER LUNCHROOM STRATEGIES

such as how foods are named and where they are placed in the cafeteria, can facilitate healthy choices and increase fruit and vegetable consumption by

UP TO 70%



We started with Infographics.

SCHOOLS ACROSS THE COUNTRY ARE STEPPING UP TO THE CHALLENGE WITH INNOVATIVE NEW STRATEGIES, SUCH AS:

- Allowing students to keep a lunch or breakfast food item for consumption later in the school day
- Using techniques listed on the **Smarter Lunchrooms Self-Assessment Score Card** to help reduce food waste
- Setting up a table for kids to place items they are not going to consume (packaged or pre-portioned items)
- Letting kids self-serve
- Composting food waste for school gardens
- Collaborating with local farmers on composting or food-scrap projects
- Collecting excess wholesome food after mealtimes to donate to charitable organizations
- Sign up for the **U.S. Food Waste Challenge** to share your story on how you are reducing, recovering, or recycling food waste

We have created student choice, a share table, and installed a composter.

Share Tables



- **What:** Designated Area in the Cafeteria to collect uneaten food
 - Milk
 - Whole Fruit
 - Packaged Vegetables
- **How:** Student leaders make signs and teach classmates
 - Only uneaten or unopened food
 - Open for anyone to take extra during lunch periods
 - Take what you will eat
- **Who:** Lunch Duty Staff, Custodians, Afterschool staff
 - Lunch duty staff monitor table
 - Custodians place remaining food in refrigerator and communicate with afterschool staff





Our Share Table

When all else fails...

Compost



● Types of Composting

- Bin Composting
 - Set up outside, can be a small commercial tumbler unit, requires frequent turning and time
- Worm Composting
 - Set up outside, in a container, worms are added to the container with soil and food scraps
- Diversion Composting
 - Pick up by a farm or local company that will compost the food scraps on their site
- Machine Composting
 - Outdoor and Indoor Models Available

● Newton's Choice

- Through a Sustainable Jersey Food Waste Pilot Grant we were able to purchase a commercial indoor composter.



When all else fails...

Compost



- **Our Lunch Room Process**

- Students choose their lunch
- We have a food waste station at the back of the cafeteria
- One busing container for solid foods (meats, breads, fruits, vegetables, etc.)
- One 5 gallon bucket for liquids
- One trash can
- One recycling can
- Trays are cardboard, we have students stack them
- Food Waste Warriors transfer the solid food to the composter first, and then pour the liquid in.
 - The process is supervised by a staff member

- **Our Machine**

- Eco Vim 66
- 66 pound capacity
- 6 to 9 hour process

- **How we Started vs Where we are Now**

- Six 50 gallon garbage bins a day
- Reduced to an average of two a day
- We serve 360 students



Community Learning



- **Student Involvement**

- Community Vegetable Garden
- Food Waste Warriors
- Green Team
- Farm Visit

- **Farm Visit**

- Halsted Middle School students worked with Local Share and Circle Brook Farm to harvest over 280 pounds of eggplant
- Local Share delivered the fresh eggplant to the Sussex County Hunger Coalition's Free Pop Up Produce Market at Merriam Avenue School, open to all Sussex County residents.



Sustainable Jersey for Schools Underwriters and Sponsors

Program Underwriters



NEW JERSEY
EDUCATION
ASSOCIATION



Grant Program Underwriters



NEW JERSEY
EDUCATION
ASSOCIATION



Corporate Sponsors



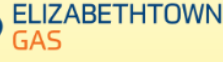
Founding Sponsor



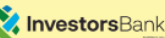
Founding Sponsor



Founding Sponsor



Founding Sponsor



* Digital Schools Underwriters and Sponsors



SUSTAINABLE JERSEY GRANTS PROGRAM



PSEG
Foundation

New Funding Cycle Announced!

- \$100,000 is available to New Jersey public schools participating in the Sustainable Jersey for Schools programs
 - \$2k and \$10k grants to fund sustainability projects and support your green team

Informational Webinar

3-4pm on
Thursday,
**December 15,
2022**

Application Deadline

By 11:59pm
on Friday,
**March 10,
2023**

Award Notifications

By **early May 2023** with an event in **early June 2023**

Performance Period

10k Grants:
18 months
2k Grants:
12 months

Learn More & Apply





Thank You!

Véronique Lambert, Schools Program Manager, Sustainable Jersey, lambertv@tcnj.edu

Francesca Arato, Associate, Local Education Project Leader, Alliance to Save Energy, farato@ase.org

Kelly Stone, Teacher, Long Branch Public Schools, kstone@longbranch.k12.nj.us

Elysia Ochs-Caraballo, Director of Community Schools, Newton Public Schools, eochs@newtonnj.org