

# 2023 Virtual Student Symposium

CELf Civic Science  
Recap and Impact Report



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## CELF Civic Science Recap and Impact Report

On **May 24, 2023**, CELF hosted its 6th Annual Student Symposium event as a fully virtual interactive experience.

This culminating event for the **CELF Civic Science: Inquiry-to-Action Program** brings young civic scientists together to share their research projects, data, and solutions for pollution remediation and environmental stewardship with community members, field experts, policy makers, and peers from schools across the country.

With guidance from their CELF-trained teachers, students from New York, Texas, and Ghana explored a range of environmental justice issues related to air quality, water quality, health effects of plastics, waste, food access, local endangered species, and more. Students worked collaboratively to formulate a hypothesis and collect data.

Whether separated by a few city blocks or hundreds of miles, the connections students felt to one another and the environmental challenges—and solutions—they each set out to discover were palpable.

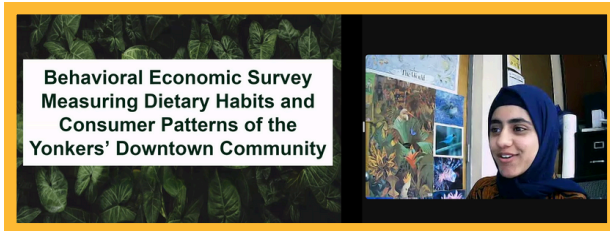
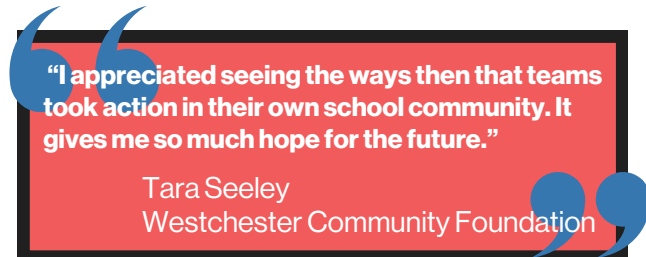
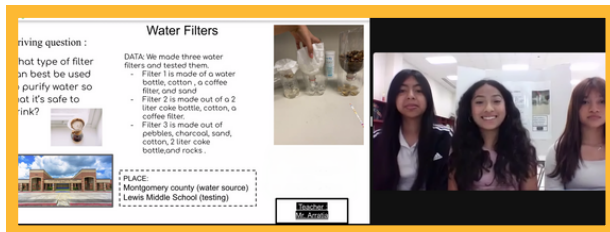


**“When you come to Africa, we work in challenges with so many problems—we close your eyes on it. But this project has opened the minds of the young ones coming to know that in fact we have to preserve and protect our environment.”**

Stephen Tetteh, Teacher  
Krobo Girls Senior High School, Ghana

# PROJECT HIGHLIGHTS

## STUDENT RESEARCH & TAKEAWAYS



With guidance from their CELF-trained teachers, students from New York, Texas, and Ghana explored a range of environmental justice issues related to air quality, water quality, health effects of plastics, waste, food access, local endangered species, and more. Students worked collaboratively to formulate a hypothesis and collect data in order to find an answer to their driving question modeling the **CELF Inquiry to Action Framework**.

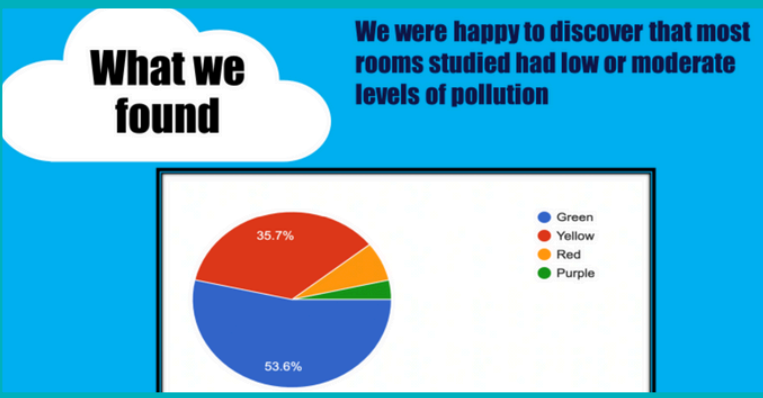
### Student-selected topics of inquiry included:

- Impact of air quality (AQ) on community health
- Water quality in different regions of the community
- Endangered species activism
- Water quality in common school drinks
- Waste and recycling

**The following pages feature 3 of the 19 projects presented at the 2023 Virtual Student Symposium**

# INVESTIGATING AIR QUALITY AT 811X

ACADEMY FOR CAREER & LIVING SKILLS  
THE BRONX, NY



## PROJECT OVERVIEW

Students investigated the air quality of various classrooms in their high school. They recorded the air quality in different locations on campus, recording variables in location, access to the environment, plants, and preexisting purification efforts.

Students were surprised by their results and hope to continue their investigation by researching how room orientation can affect air quality.

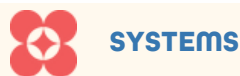
In addition to educating their community, students are excited to provide plants to rooms with higher levels of air pollution.

## STUDENT ACTIONS TAKEN

**Extended research into next year and expanding the number of testing sites**

**Provided classrooms** with plants and tangible steps to improve air quality

## KEY CONNECTIONS TO SUSTAINABILITY



# MANYA KROBO SENIOR HIGH SCHOOL SANITATION CLUB

MANYA KROBO SENIOR HIGH SCHOOL  
ACCRA, GHANA



## PROJECT OVERVIEW

The students at Manya Krobo Senior High School devised a solution to indiscriminate waste disposal and explored recycling methods.

By creating a Sanitation Club with the support of The University of Environment and Sustainable Development, the students were able to provide the school with recycling bins.

The students also took physical action to combat improper waste disposal by transferring rubber and plastic materials to the new recycling containers.

## STUDENT ACTIONS TAKEN

**Outreached** to a local environmental university to create a tangible solution to waste disposal

**Implemented new methods** of recycling and waste disposal in their school

## KEY CONNECTIONS TO SUSTAINABILITY



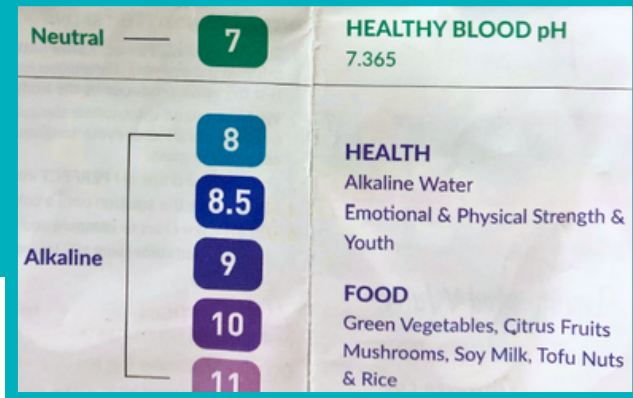
ACCESSIBILITY



PLACE

# Testing The pH of Water From Different MUD Districts

LEWIS MIDDLE SCHOOL, HOUSTON, TX



**Testing the pH of Waters From Houston MUD District**

**-Guiding Question-**  
Due to the boiling water notice in Houston we wanted to test out some of the waters in the MUD Districts of Houston to see if the waters are within healthy levels?

**-Collaboration-**  
The MUD Districts of Houston that we tested had different pH levels; therefore, that helped us come to our conclusion.

**-Data Collection-**  
North Green came out with a pH of 4 which is the most acidic water out of all the waters that we tested. The school water which came out with a pH of 8 is the most natural and the best water out all the waters we tested. Mud 69 came out with a pH of 5, which not that bad but is acidic. Private Managed water by Montgomery County came out distinct from the rest of the waters we tested because it came out clear.

**-Innovation-**  
After completing our project, we found out some of the waters tested were found to be acidic.

**-Analysis-**  
We thought that MUD District 69 was going to be the most healthiest water. We learned that the school water, which is from the City of Houston, turned out to be the healthiest water.

**-Action-**  
The next step in our project is to collaborate the MUD Districts and discuss the different pH levels that we obtained.

## PROJECT OVERVIEW

After receiving a boiling water notice in the city of Houston, students wanted to explore pH and water quality in different Houston municipal districts.

Students first gathered samples from various Municipal Utility Districts (MUD) and treated the samples with a pH indicator. Then, students compared the acidity and basicity of each sample to the desired neutral pH.

Next, the students plan to discuss their findings with city officials and administration in the more acidic municipal districts.

## STUDENT ACTIONS TAKEN

**Focused on local governments** to test differences in municipalities in a larger city

**Identifying community education goals**

## KEY CONNECTIONS TO SUSTAINABILITY



COMMUNITY



FAIRNESS/EQUITY