

Winfield Central School

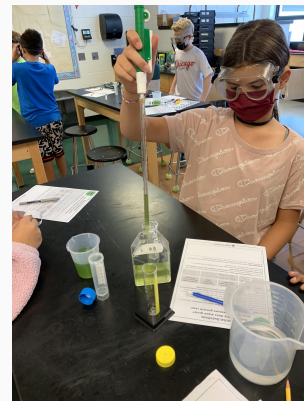
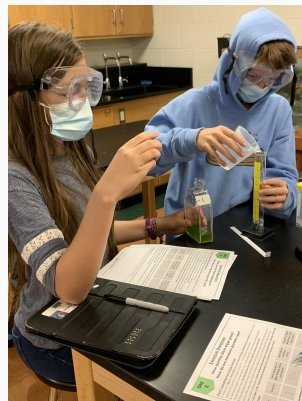
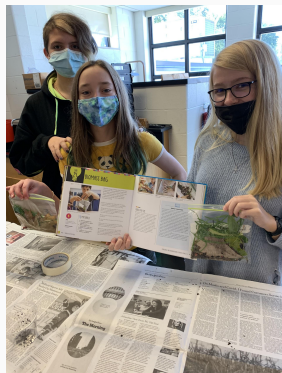
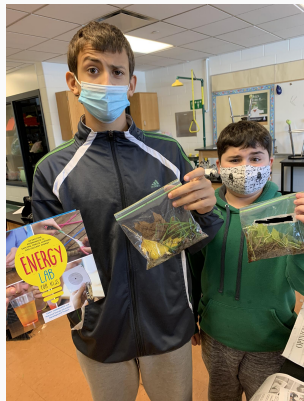
Project Title: Winfield Energy Club

Teacher Advisors: Cori Nelson and Matt Wdowiarz

Summary: We had a fun and busy year learning about energy! We completed energy STEM challenges, conducted a building energy audit, and hosted a Family Fun Energy Night for K-5 students. We also hosted a used marker bin decorating contest for each classroom to increase awareness of our marker recycling program.

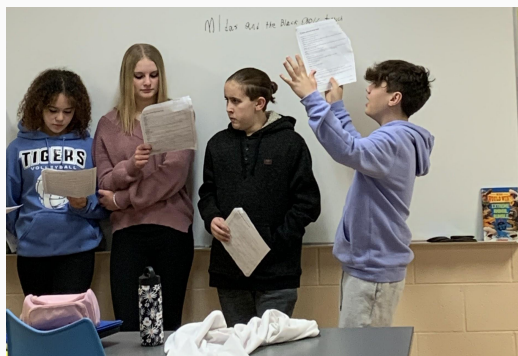
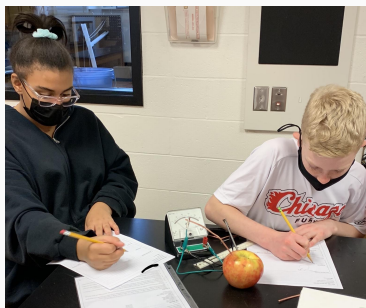
Our big project was a year long in the making. We identified a problem with flooding behind our school building, and worked really hard to come up with a solution. After months of research, planning, and communicating with the school board, our idea to plant native trees and plants is going to be realized in the fall of 2022.

Goal 1: Learn about energy!



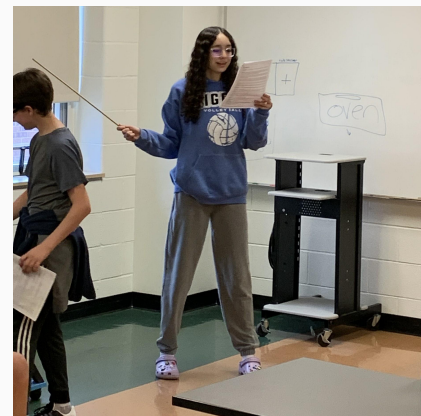
Algae Academy (algae is a renewable energy source!)

Biomass in a Bag

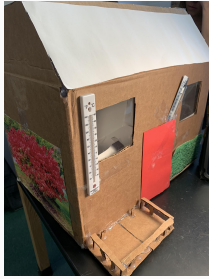


Science of Energy

NEED Energy Plays - "Midas and the Black Gold Touch" and "Conservella"

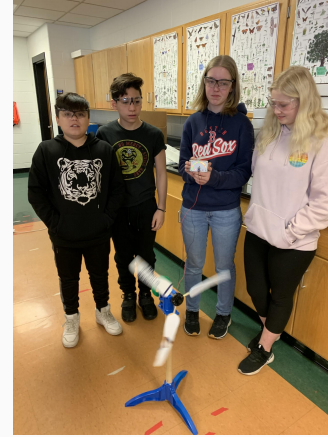


STEM Energy Challenges



NEED Energy House- We designed energy efficient homes and installed solar powered fans. We measured the temperature inside and outside the house and calculated our energy savings over time.

NEED Wind Turbine Blade Design Challenge



We designed our own experiments to test materials or the number of blades.



Save the Penguins - We designed igloos to keep a penguin ice cube from melting

Energy Audit

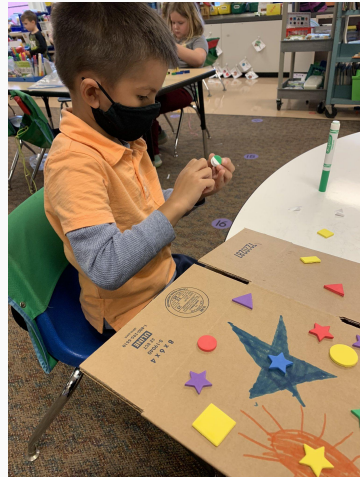


This is the energy club on our energy audit! We learned about energy and how to use tools. We also learned about phantom loads and how to measure the amount of watts a machine is using, how much light there is and how much humidity is in the air.



Goal 2: Increase awareness of our marker recycling program

We discovered that many kids in our school weren't aware of our marker recycling program. We held a contest for each classroom to decorate a used marker bin. Our PTO donated a box for all 18 classrooms. Energy club members made a presentation in each classroom to explain the program and the contest. 327 students were involved in the contest, and now every classroom has their own personalized used marker collection bin.



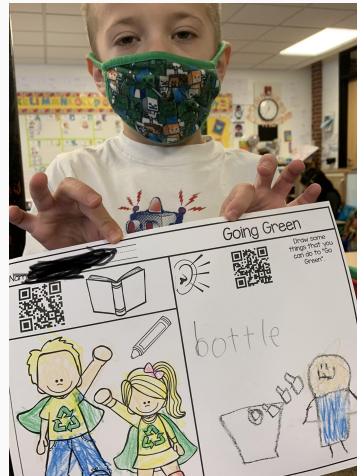
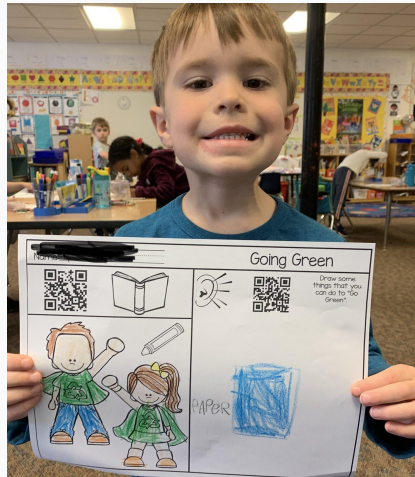
Kate Cyrus @KateCyrus8 · 5d · · ·

Decorating our marker recycling box for @nelsontch5 Energy Club contest! ♻️ #winfield34



All of these used markers were collected after we held our contest!

This was Energy Club's way of incorporating fun and recycling! Kids decorated boxes to collect dead markers for recycling. An awesome bonus was that it inspired people to learn more about recycling!



Kate Cyrus @KateCyrus8 · 4d ...
After decorating our fabulous marker recycling box...we read about recycling and wrote about what we can recycle ♻️ Thanks for the inspiration @nelsontch5 #winfield34



Sarah Hennessey @Ms... · 4h ...
Woohoo! 5H won the Dead Marker Design contest!!
@Crayola #winfield34



Goal 3: Share what we have learned with the community



Energy Family Fun Night

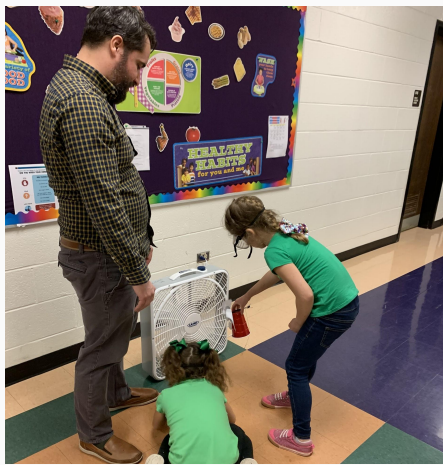


We hosted an event for K-5 students and their families. 24 families registered for our event, including 40 students. Our Energy Club worked hard to advertise for the event, prepare supplies and set up, lead the activities and clean up afterwards. The first game was Candy Collector. Participants learned the difference between renewable and nonrenewable energy sources.



This was our Wind can do Work project. On our Energy Fun Night, families built windmills and lifted paper clips with them.



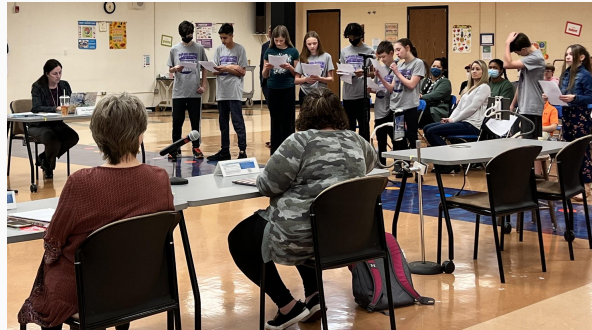
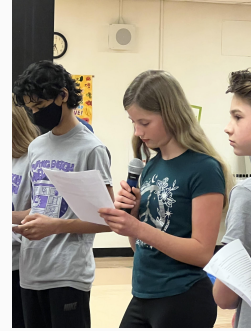


The families had fun testing their windmills!

We ended the evening with door prizes.



We made a presentation at a school board meeting to share all of the awesome things our Energy Club has done! The meetings are livestreamed on Facebook, and this meeting has received 517 views, in addition to the school board and community members who were there in person.

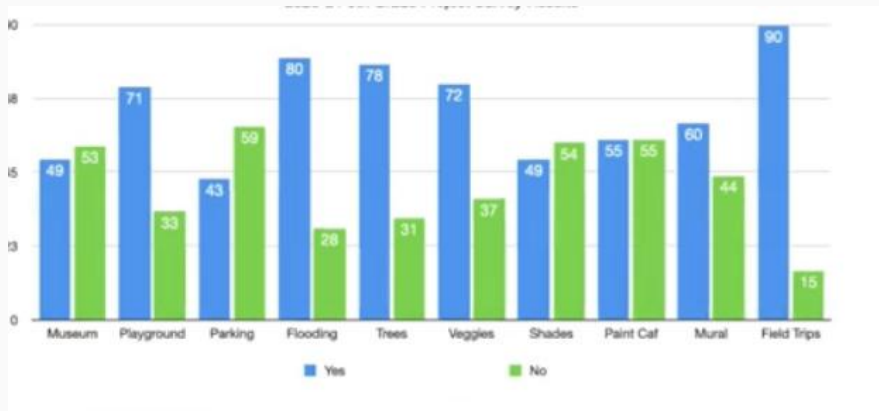


Goal 4: Complete a community service project

In the spring of 2021, we decided to choose a community service project to work on. We toured the school inside and out and brainstormed several ideas. We surveyed students, parents, teachers and staff about what ideas everyone liked the most. We decided to try to solve the problem of the field that floods behind the middle school.

We researched ways to solve this problem, and decided that planting native trees and plants would be a way to help absorb the extra water, take in carbon dioxide, and beautify our school grounds. We met with the school board to pitch our idea and hear their questions. Then we continued our research and even met with an expert from the DuPage Forest Preserve to make sure that we were making the best choices with our plants and trees.

We went back to the school board with our final selections and budget this spring. Our plan is to purchase the trees and plants this fall so that students will be back at school to help take care of them and they have some time to grow before winter.



Data from our survey.



We met with the school board for the first time to pitch our idea.



We went to the field and planned how we would space the trees and plants.



Approximate Design Plan

Meeting with an Expert

- We met with Keriann Dubina from the the Forest Preserve District
- We reviewed our plan
- We asked questions about the plants we chose
- Ms. Dubina recommended possible substitutes, ideal planting time, and locations for planting



Target Planting Date:

Early Fall 2022

First week of September?
The first few weeks of school?

Rationale:

- time to grow before winter
- students can help care for the plants
- Central construction will be done



Purchase Plan

Trees: 4,117.5

3x - \$592.50 River Birch
1x - \$975 Swamp White Oak
1x - \$825 Bald Cypress
1x \$540 American Hornbeam

Fencing: 162.75

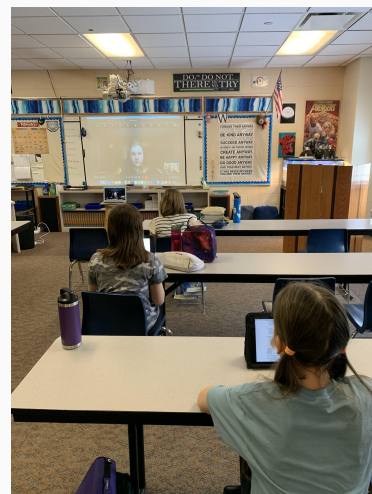
3x \$31.85 4'x75' Barricade Fencing - Menards
10x \$6.72 5 1/2 Foot Fence Posts - Menards

Total Plants: 710.65

4x - \$49.00 Buttonbushes - 196
10x \$16.99 - Ferns - 169.9
15x \$12.99 Irises - 194.85
10x \$14.99 Swamp Milkweed - 149.9

Total Expenditure:

\$4,990.90



Thank you ESP and NEED!

