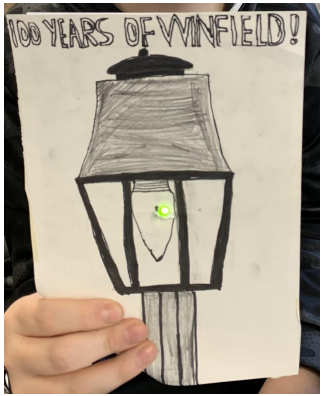
Winfield Central School
Winfield's 100th is Lit!
Mrs. Cori Nelson

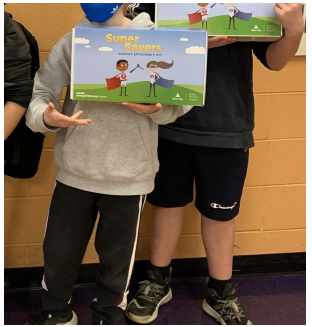


The 2020-2021 school year was a year like no other. Our goals for the year were to have fun learning more about energy, host a fun science event for the younger students, and share what we have learned with all of the students and community in District 34.

We were faced with the challenge of not being able to have students in different grade levels interact face to face. We were also unable to invite visitors into our building. Our solution was to host a live event for younger students through a Google Meet and have a Digital Energy Fair throughout the town.

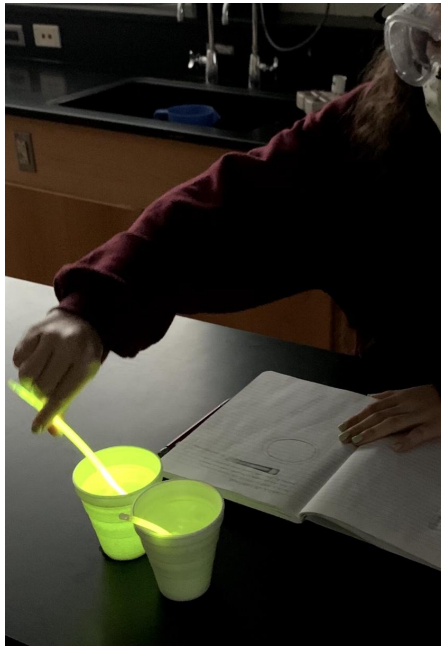
Goal 1: Learn about energy

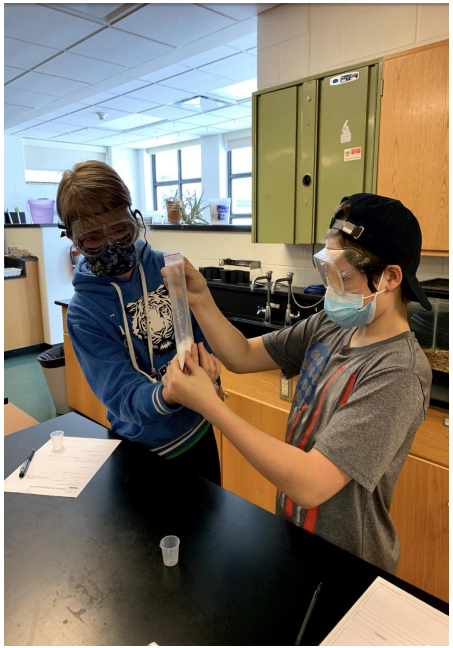
Our Super Savers kits!



- NEED Science of Energy stations
- Learn about our local history of energy as Winfield celebrates its Centennial in 2021
- NEED Sidekick Circuits to create streetlamps that really light up
- Energy research projects using NEED's Energy Expo and Energy Infobook
- Pretzel Power from NEED Transportation Trio
- Road Trip from NEED Transportation Trio
- Learn more about energy efficient vehicles by conducting a virtual interview with the owner of an electric vehicle
- Participate in the ComEd SuperSavers program
- Learn about the potential of algae as a renewable energy source through Algae Academy

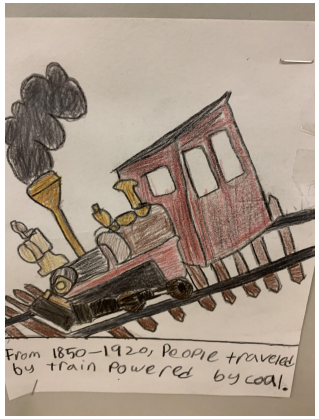
Science of Energy

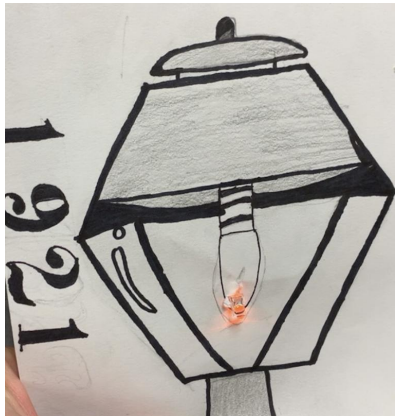


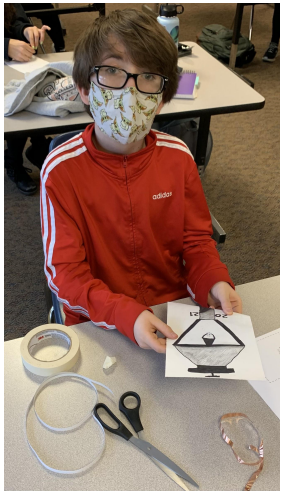


We learned about endothermic and exothermic reactions and radiant energy. We learned that an exothermic reaction releases heat and endothermic absorbs heat. We explored chemical reactions and radiant energy with glow sticks.

100 Years of Energy in Winfield



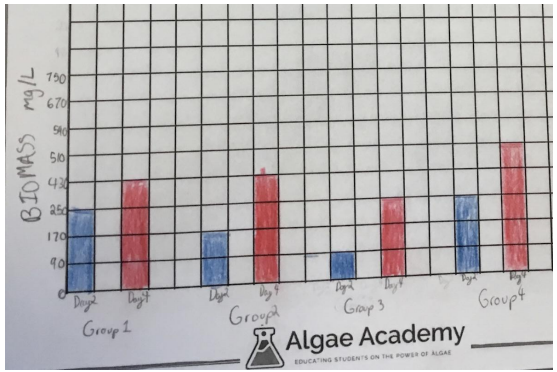


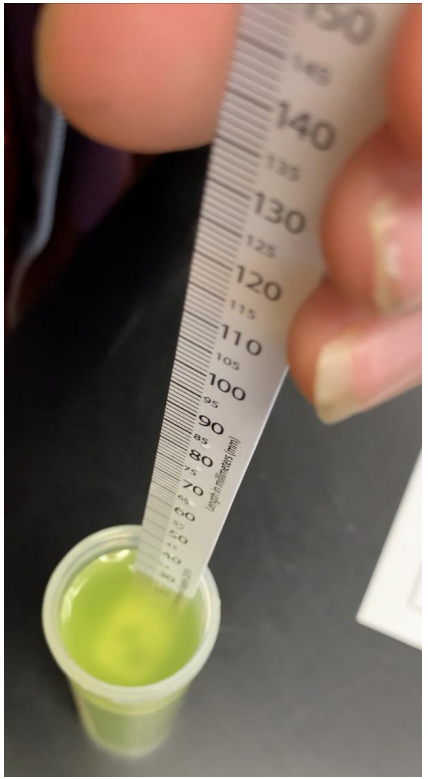


This year, Winfield celebrates its Centennial as a village. We joined in the celebration by researching the local history of energy, and learned about how transportation and home lighting have changed over the years. Winfield's logo is a streetlamp, so we took a closer look at how these have changed from gas lighting to electric lighting over the years. Our art teacher, Mrs. Dawn Eaton, helped us create realistic street lamps and we followed NEED's Sidekick Circuits directions to make them really light up. We created a hallway display with all of our street lamps and energy facts.

Algae!

During Algae Academy, we learned many things about algae and how it helps us. The overall consensus in our grade was that learning about algae made us appreciate algae more and that we learned a lot of new things about algae. At the beginning, a lot of people did not think algae was helpful and important to the environment we live in. The experiments that we did really enlighten us about their uses. When we finished with the experiment of looking at algae and how it grew, many people wanted to keep the algae. Basically, we all felt that it was a very fun and different activity. We loved it.





At first, we thought algae was just slimy and gross. We learned that it has many uses and could be used as a renewable energy source. We experimented to see how fast it can grow.

We learned how to use a Secchi Stick to estimate the algae biomass.

Pretzel Power and Road Trip

The National civil war museum- Harrisburg, Pennsylvania

The budget is low so we wouldn't have to spend an extreme amount. It's the largest civil war museum and we think that would be a really cool stopping point. It's one of the few places opened and has amazing reviews.

- Distance Traveled (Miles): 690
- Gasoline Used (Gallons): 16.8
- CO_2 Emissions (Pounds:329.28

2 Waypoint #2 3

Cleveland botanical garden Cleveland, Ohio

Gardens are pretty cool so why not stop at a garden. It is also kinda cheap.

- Distance Traveled (Miles): 382
- Gasoline Used (Gallons): 9.3
- CO_2 Emissions (Pounds: 182

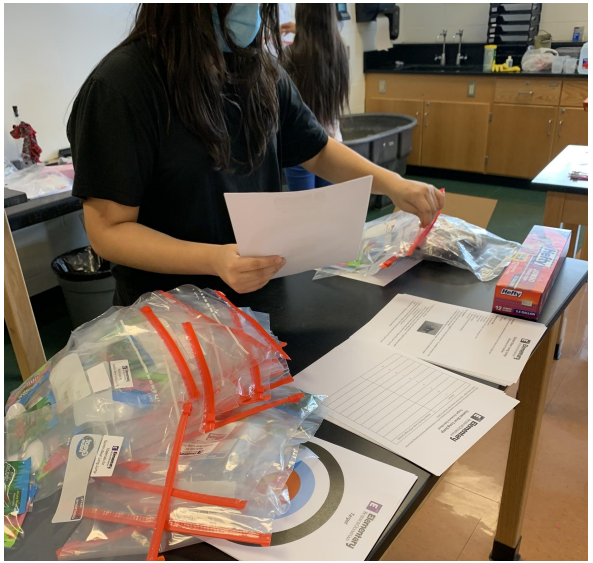
We were assigned groups and picked a car that we thought would be best if our groups were to go on a large road trip inside of the continental United States. We had a guest speaker who owns an electric vehicle. We used a website called Roadtrippers to find destinations we wanted to visit and how many miles we traveled along the way. We used this information to create a Google slideshow which described each of our stops including a few pictures to aid the mental photo that we had created of these places. The information of how many carbon fuels were burned and how much gas was used at each stop, along with the total trip was also used in the slideshow.

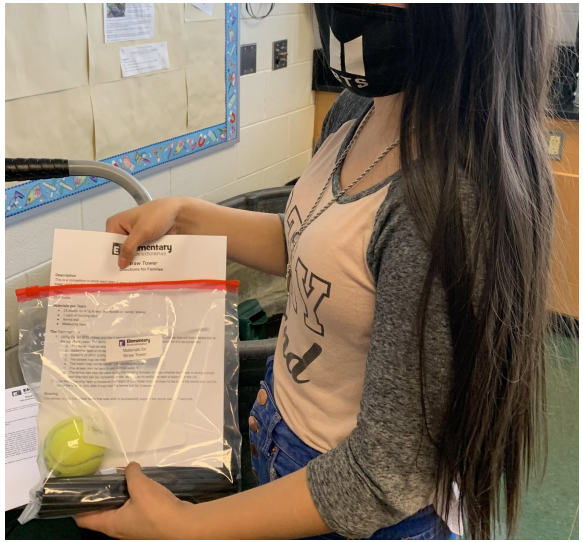
NEED Transportation Trio

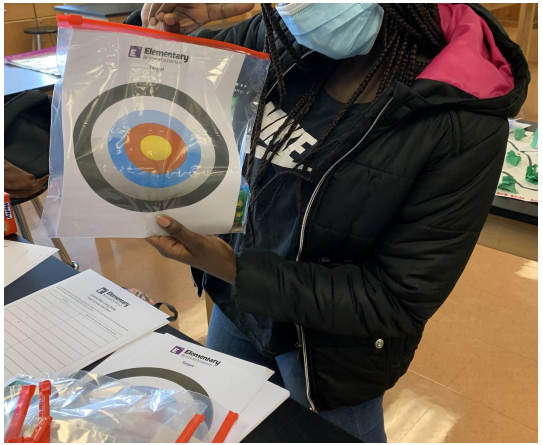
Goal 2: Host a virtual science event for K-5 students and make a presentation to the school board

- Host Virtual Elementary Science Olympiad Fun Night through Google Meets
- Middle School students assembled supplies to be sent home with students
- 21 families with a total of 31 students participated in the event
- Middle school students introduced and gave directions for each activity
- This was our first ever event of this kind, so middle school students made a presentation to the school board in hopes that we can hold more events like this in the future!

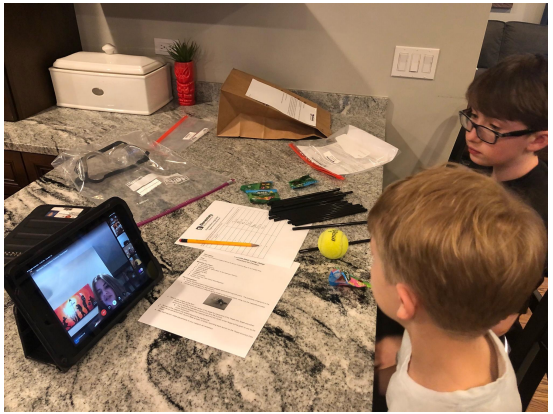
We prepared supplies for the event

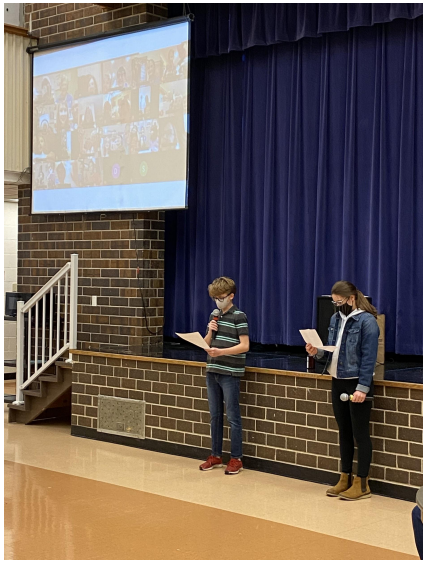






We hosted the event and gave the participants directions for each activity. Later, we made a presentation to the school board about the success of the evening. We hope to host more events like this in the future!





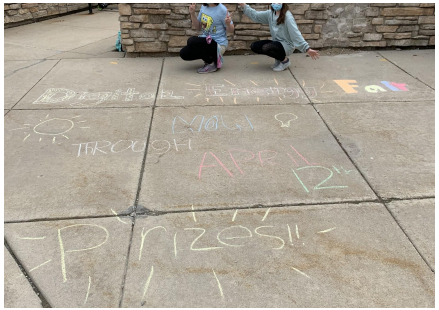
Participants built a catapult to launch a gummy bear and constructed a straw tower. We love helping our younger students get excited about science!

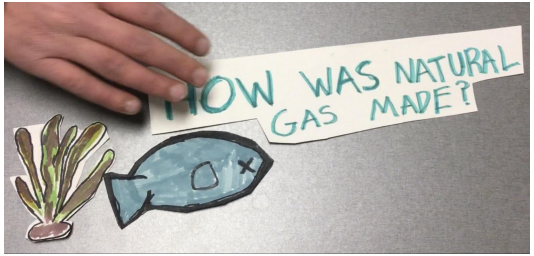
Potential to kinetic energy!

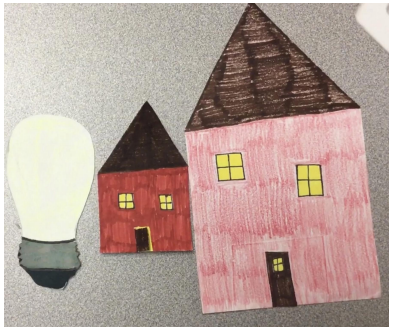
Goal 3: Share we we have learned about energy with the community by hosting a digital energy fair scavenger hunt

We couldn't invite the community into our building for an Energy Fair this year, so we brought the Energy Fair to them! We created videos of our projects and linked them to QR codes. The codes were placed on posters with questions to answer about our projects. We visited local businesses and community partners to ask for their support and allow us to hang up the posters.

- 15 businesses and community partners participated in our event
- 8 businesses sponsored our event by donating prizes and we included their logos on our posters
- Clues about where to find the posters were announced on social media
- We advertised for the fair by putting a message on the digital sign in front of our school, chalking the sidewalk, and posting in our school newsletter
- We sent thank you letters to the businesses and partners that participated

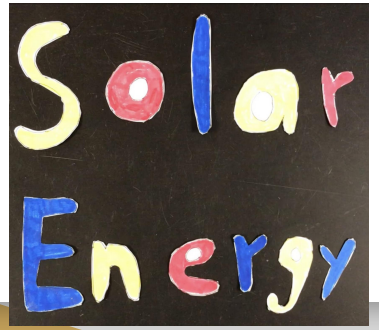






Energy research and videos:

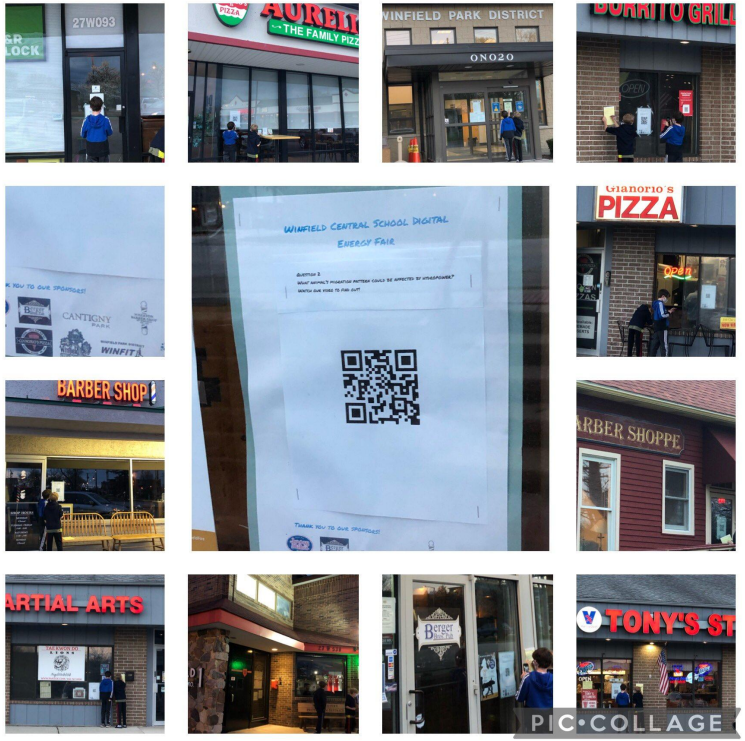
7th grade did research on energy sources and if they are or are not renewable. Every group picked a different topic within the category and did research to answer the given list of questions. The students were given Energy Infobooks that they could find all the answers to their questions on. After the research was done, 7th grade created a video with pictures and created a script to go along with the pictures. After the videos were made they were transformed into a QR code and were hidden throughout Winfield for anyone to find. On the page with the QR code was a question that would be answered in the video and then you would write down the answer, and submit it to see who had the most correct answers.



Road Trip Ozobot Movies

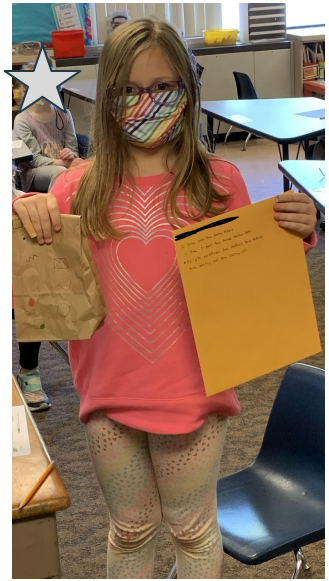
We chose a vehicle and planned a fun road trip with stops along the way. We calculated how much gas we would use and what the carbon dioxide emissions would be for the trip. We made a video of our road trip by creating the scenery and having an Ozobot travel the route. The videos were linked to QR codes in the scavenger hunt and participants answered a question for each one.

Digital Energy Fair Scavenger Hunt

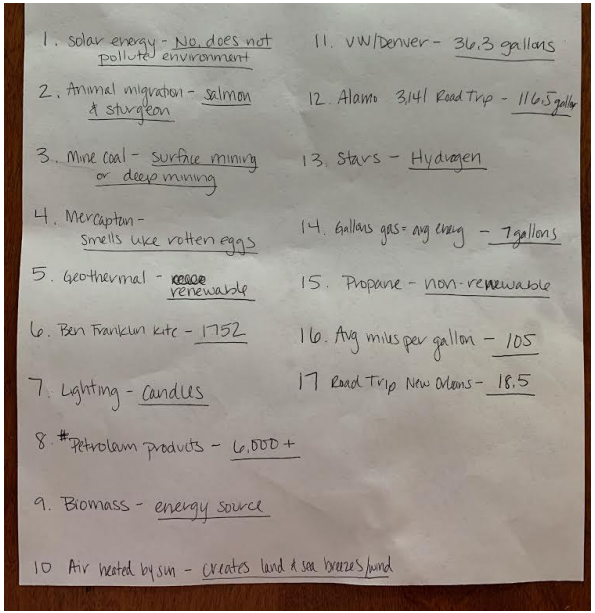


We appreciate our local support!

Our videos received 164 views throughout the hunt.

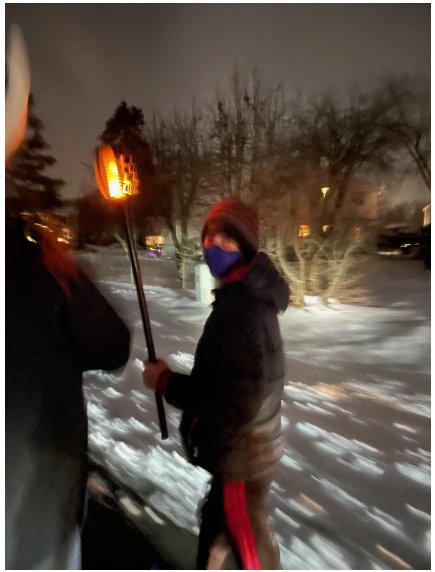


One of our elementary school winners!



Answer sheet from family who found all 17 posters!

We want to thank our local sponsors and community partners. Thank you ESP and NEED!



Happy 100th Winfield!

Some students helped pass the torch through town on New Years Eve to welcome 2021.