Ohio Energy Project

Our unit goal was to learn about saving and being safe with energy, and circuits and electricity.

By: Olde Sawmill 4th Graders
Dublin City Schools, Dublin, Ohio
Science Teacher: Erin Faulk
Participants: 73, 4th grade students
Presented to about 400, k-5th grade students at our monthly Townhall assembly.

Chocolate chip lab

Goal: To guess what order the chocolate chips would melt in and to see the transfer of heat.

The whole fourth grade is doing the lab. We were trying to guess what order would the chocolate chips melt in. How it worked was that there were two pretzel rod containers then there is a knife on it .There is a candle that was lit up and there were multiple chocolate chips on the knife. Then we we're trying to find what chocolate chip would melt then what order the others are going to melt.

PENGUIN HOUSE LAB

The penguins aren't real penguins, they are just penguin shaped ice cubes. when doing the penguin houses our goal was to see what the best insulator was. How we did that is we put the penguin in a box and put a light over the box and over night we would see which one would melt the fastest. We all tried different insulators too. That was what we did for the penguin houses.

The water bottle experiment

Materials

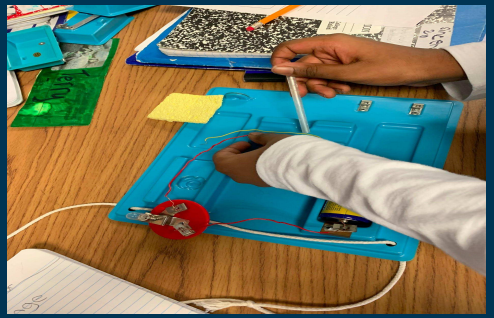
- Paper bags
- Plastic cup
- Paper towel
- Wool
- Cotton
- Plastic wrap
- Foil

The winner was wool because it is an insulator.

The loser was not putting anything around the bottle so heat would come in.

The goal was to keep the water bottles cold.

Light Bulb Lab



Goal: To see which lightbulb was better to use!!

4th Grade did a light bulb lab with LED Bulbs, incandescent Bulbs And CFL Bulbs.We used Thermometers, to see which light bulb was hotter and which one could be used longer. Which one would cost less to get a bulb that could last 25,000 hours. For IL bulbs you would need 25 bulbs, for CFL bulbs you would need 2, and for LED bulbs you would need 1. The Incandescent would cost 12.50 for 25 bulbs, Fluorescent it would cost 6.00 for 2, and for LED it would cost 5.00 for 1 bulb. The LED could last 25,000 hrs and the incandescent could last 1,000 hrs and the CFL could last 12,500 hrs. So you would want the LED bulb because it would cost less and can last 25,000 hrs!!

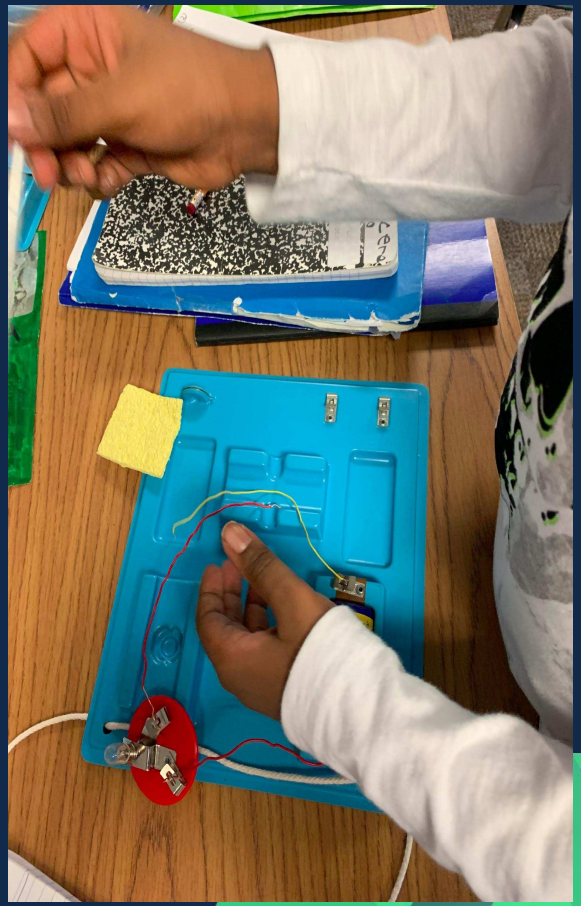
Circuits

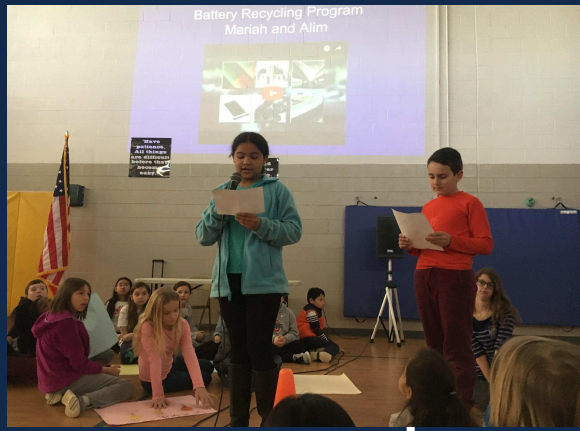
Goal: to make the lightbulb and motor work

We used batteries and wires to turn the light bulb on. Then we did our motor, which was even more fun because we got to put these foam flowers on the motor and they would spin like a fan.

Building circuits

We were learning how energy travels through wires. We learned how you are supposed to put wire on metal and how to make a lightbulb glow or how to make a motor spin. We also learned about how positive and negative energy on the battery; you’re supposed to put the wires on each side.





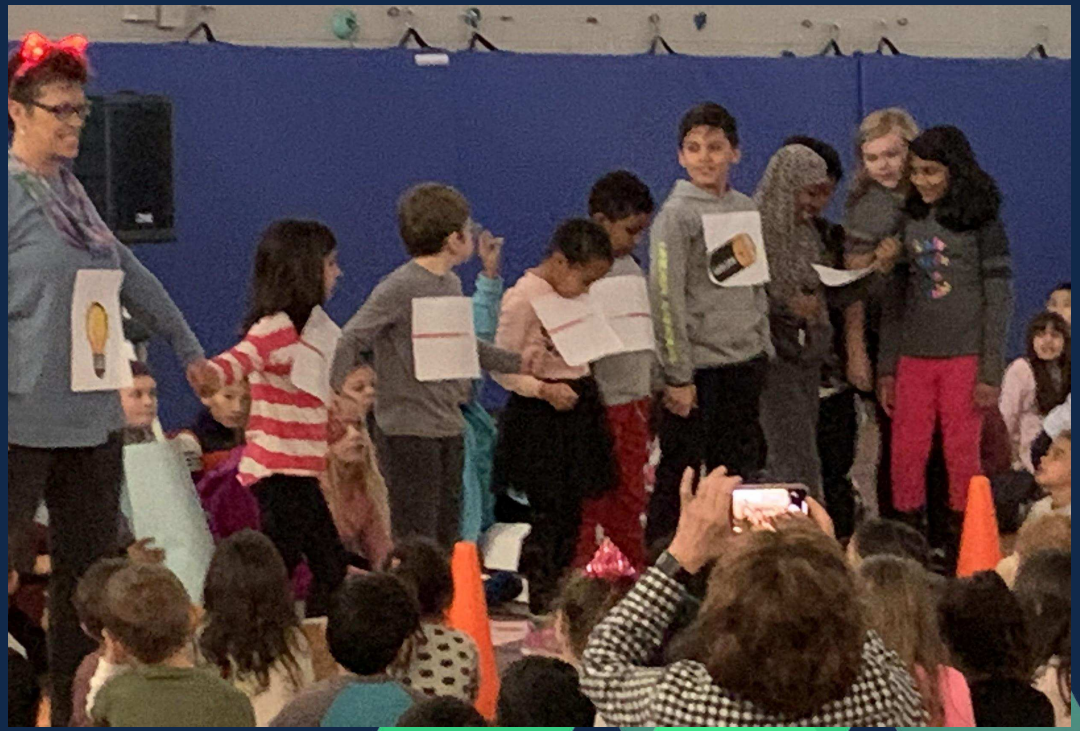
Town hall prep and planning
Goal: teach others about energy

Battery skit: students planned out idea of skit, wrote and typed lines and practiced parts. Students created costumes and props.
Circuit video: students created a script and then shot video.
Vocabulary cards: students created giant energy vocabulary cards
Battery speech: students planned script, practiced speaking parts, presented and teached school about battery safety, how to dispose of batteries and why not to throw them out.

Town Hall

We presented to around 400 students for about 25 minutes. We used videos, skits, posters, songs to represent how a circuit works, and talked about saving energy, energy safety, and where to give your batteries when they are dead. We hung posters in the halls talking about insulators and conductors, different vocabulary, circuits and schematic designs, and types of lightbulbs.

Town hall is when we have basically a school meeting in the gym. Usually it has the pledge, weather, good choice slips, or some info about a school event.



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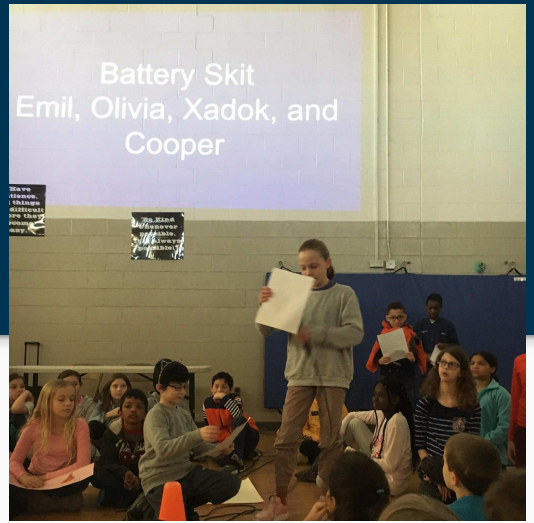

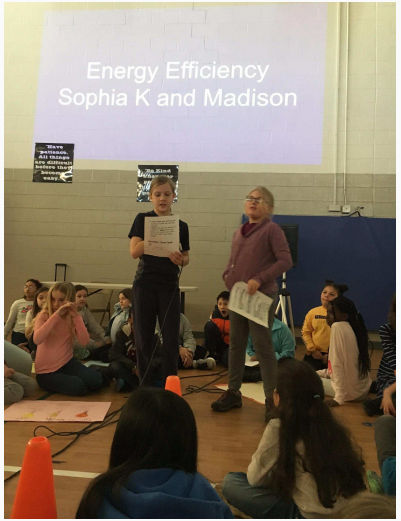

*Posters: students created giant posters with a friend or alone about energy(circuits, batteries,etc.).
*Human circuits: students created parts of a circuit on paper, and asked volunteers to come up to arrange them in the correct order.
*Recycling batteries video: 2 people made a video about recycling batteries and why it is important.
*After the town hall the posters that the students made were hung up on the walls in the hallways of our schools.

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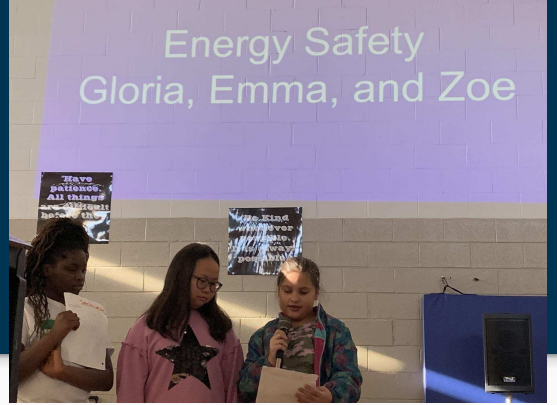
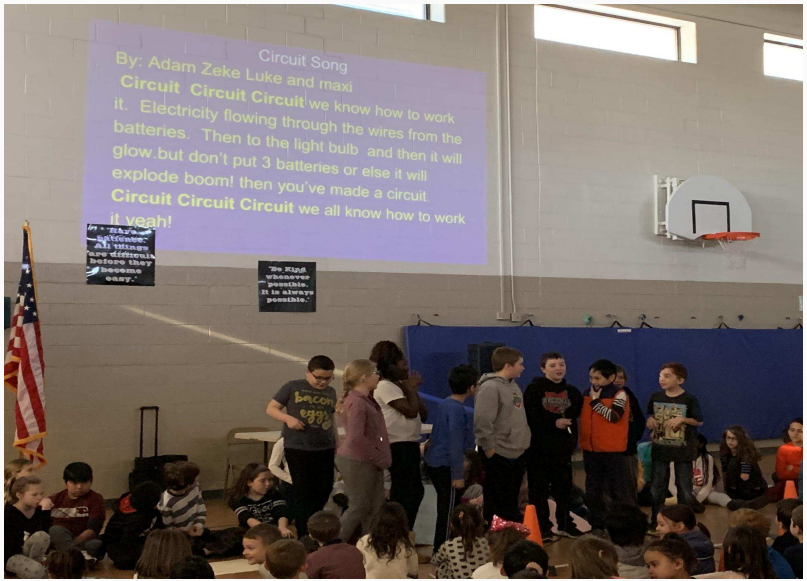




Motor video: students made a script, plan out who was gonna say what, then go out the hall and make the video .

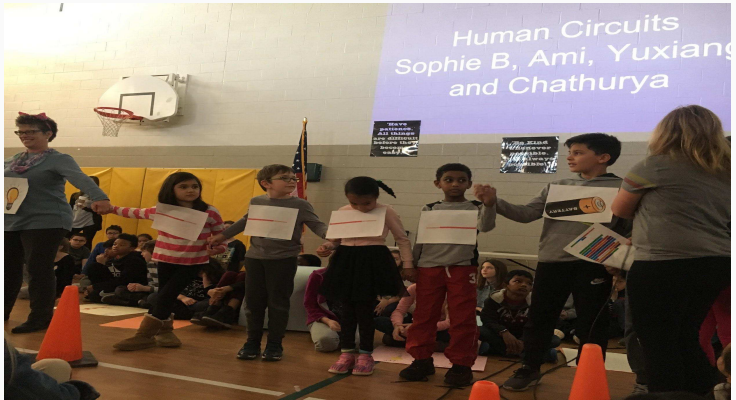
Circuit song: students wrote their own song about circuits and the song was about how to make a circuit.

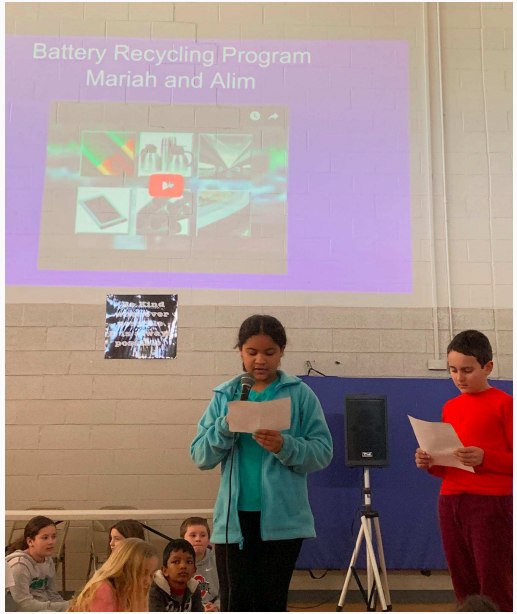
Safety with energy: students wrote 1-10 safety rules about energy safety.

Projects we did at the town hall

No.1 human circuit

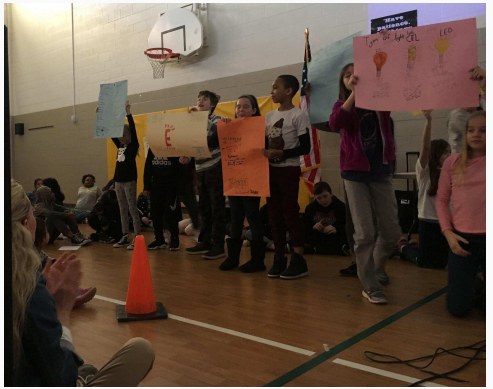
Some 4 graders called up kids from other grades, then taped a symbol onto their shirts there were wires, lightbulbs (who was Miss.Whipple one of the 3rd grade teachers), and a battery.





Town Hall Projects

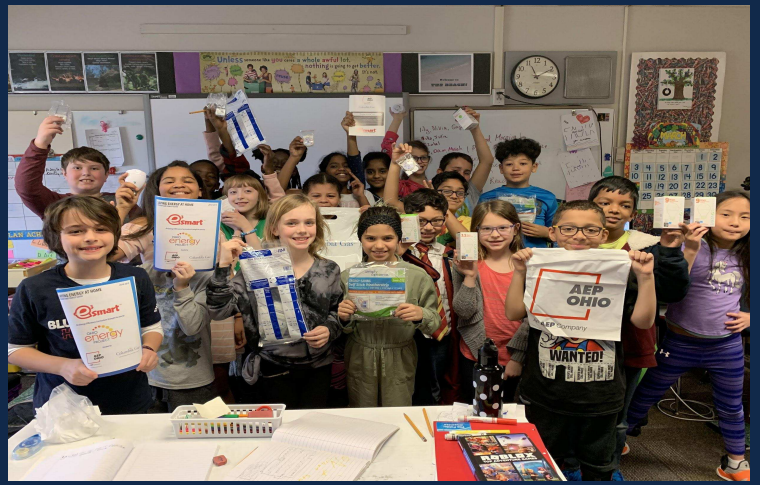
- First, was the introduction, the different types of energy, energy safety guidelines, electricity vocabulary, and a Circuit song .
- Next, was the video about how to build a circuit, a video about how to build a circuit with a motor, current vocabulary, human circuits, and battery vocabulary.
- Last, was a battery skit, a battery recycling program video, source vocabulary, energy efficiency,
- And energy posters.



How Olde Sawmill 4th Graders Reacted To Receiving The Energy Kits

- They were very excited and happy that they got to make their homes more energy efficient!
- They are very helpful to people. It is super amazing that they are giving them out!
- The kits help make things more energy efficient awesome!
- Really happy and excited, It was a really fun bonding experience with my family!
- We think that more schools should be able to get the energy packets.
- We loved the fact that we got to help make things better for our homes.
- The kits were a good way to spread the word about energy.
- They were awesome to experience!
- We loved the energy kits so much!
- We think that all fourth graders should get them!

How Olde Sawmill 4th Graders Reacted To Receiving The Energy Kits More reactions!



Super excited to try out some of the materials and loved the nightlight.

Loved changing the lightbulbs and the nightlight was super bright!

Loved how long the lightbulbs lasted and very happy about doing their part to conserve energy

I was super excited to install and use all of the materials in the bag

I was happy to get it and help the environment

Loved replacing her old lightbulbs and the nightlight was super helpful for her little sister