Bremen Elementary School

Bremen, Kentucky

Presents

ENERGY EAGLES

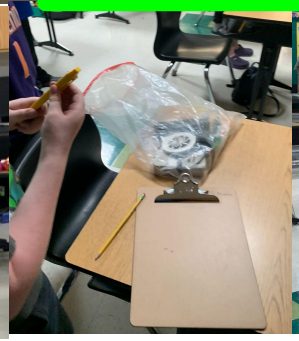
This year is our FIRST ever Student Energy Team! Our goal this year was to learn as much as we could about energy conservation and energy efficiency so that we could have a positive impact on the energy consumption in our community, school, and homes.

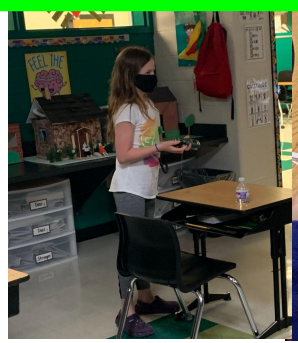
4th & 5th Grade Student Energy Team 2020 - 2021

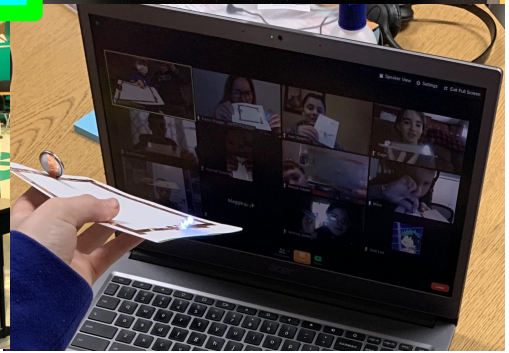
Sponsor: Mandy Toomey

Goal 1: Learning about energy

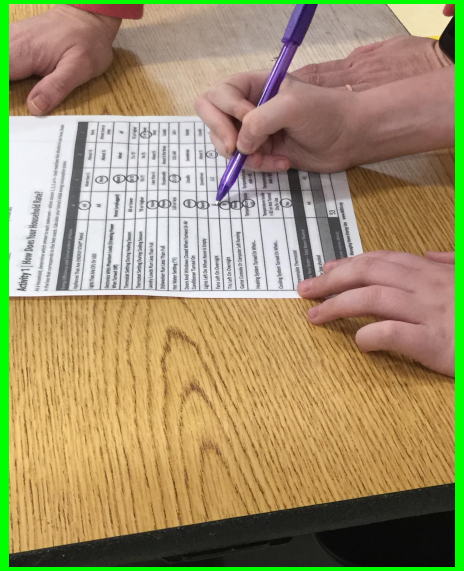
Before we could dive into ways to conserve energy and be energy efficient, we had to learn and investigate!



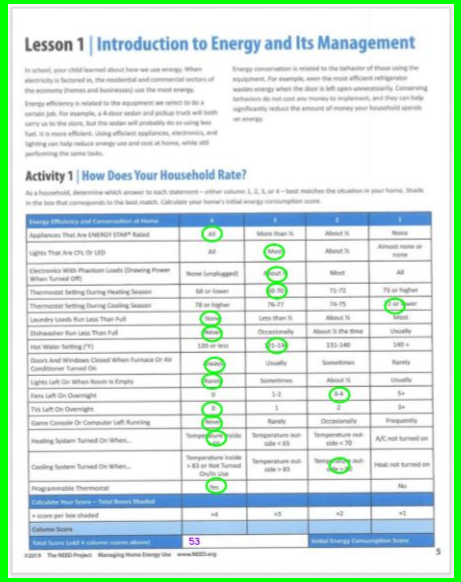




Managing Home Energy Use



At the beginning of the year, I sat down with my parents and scored my family's home energy use. We looked at ways that we use a lot of extra energy. Then we figured out ways that we can conserve energy in our home.



Lesson 1 | Introduction to Energy and Its Management

Activity 1 | How Does Your Household Rate?

At our meeting, we discussed our results and shared our ideas on how to conserve energy at home.



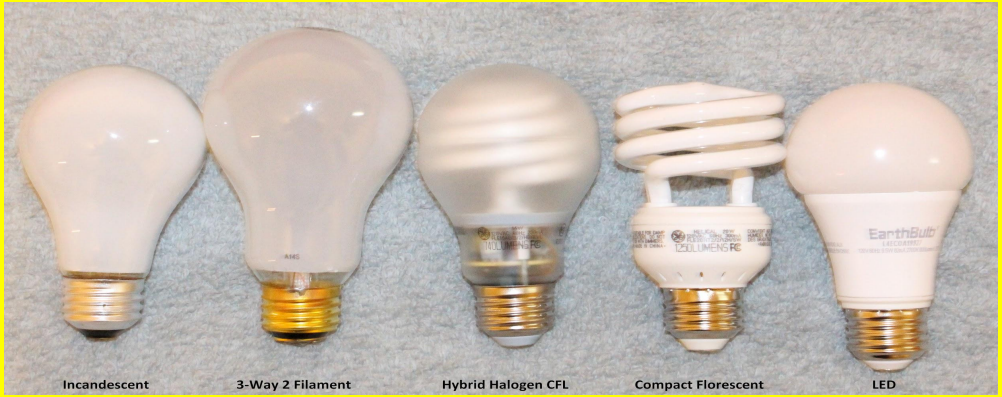
Learning about Thermal Energy
Air Infiltration Investigation

First, I created a device to test air flow around the edges of my windows and doors using a pencil, some tape, and tissue paper. I tested it in my moms room. The window faces three west. There are two panes of glass in the window and the frame is made of wood. I tested with the window latch closed and noticed it didn't have any gaps anywhere. Around the window felt solid and flat but as you can see in the pics above there is a small air infiltration around the middle of the window

Which light bulbs are the most energy efficient?

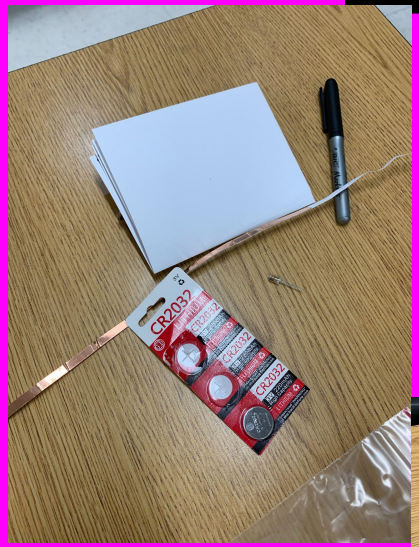
TYPES OF LIGHT BULBS:

- **Incandescent**- LIFE: 1,000 hours, PRICE: per bulb .50 cents each.
- **Halogen**- LIFE: 3,000 hours, PRICE: per bulb $1.50.
- **Fluorescent**- LIFE: 8,000 hours, PRICE: per bulb $1.50 each.
- **LED**- LIFE 25,000 hours, PRICE: $1.33 per bulb.

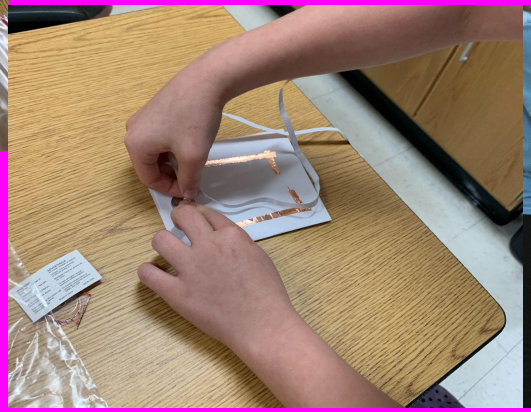


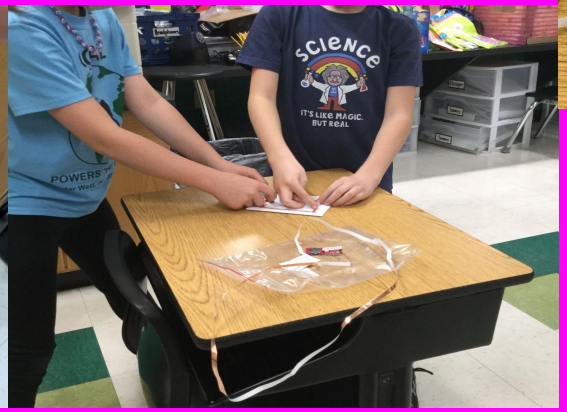
*__PROS TO SWITCHING ALL YOUR BULBS TO LEDS__- THEY HAVE A LONGER LIFESPAN, SO THEY PAY FOR THEMSELVES OVER TIME! THEY EMIT LESS HEAT THAN INCANDESCENT, SO THEY ARE SAFER. THEY SAVE ENERGY AND ELECTRICITY!

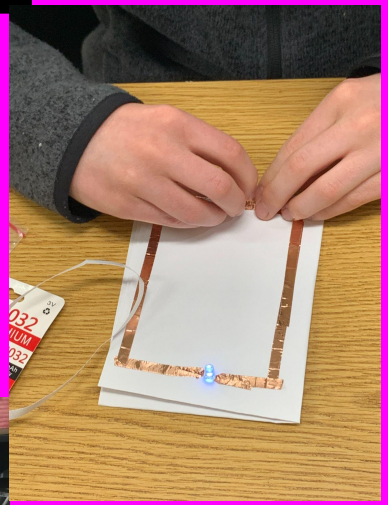
How do circuits work?



We learned about
open and closed
circuits by creating
our own!



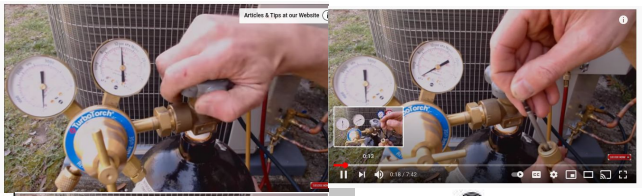




Home Systems
Checking your air conditioning, heat, and humidity

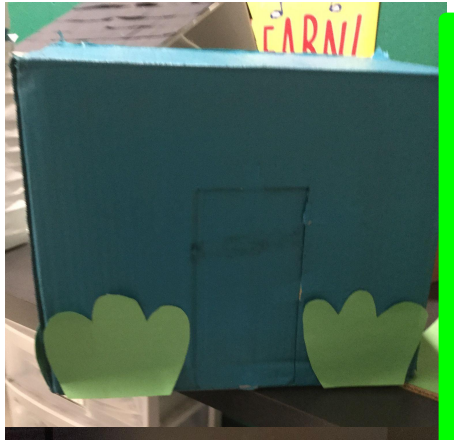
Checking your humidity

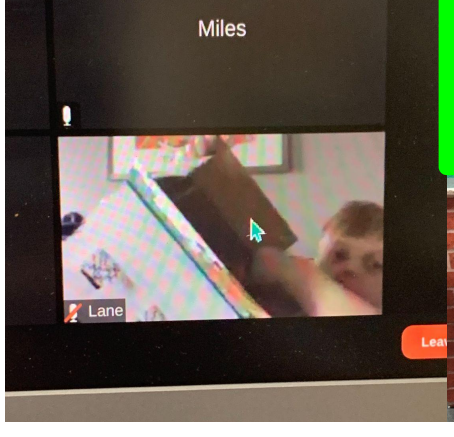
Checking your air conditioning



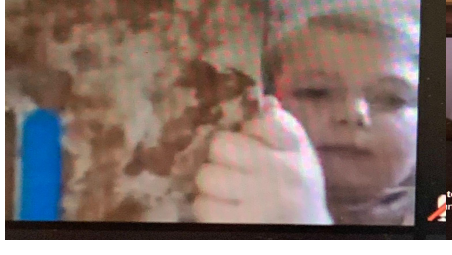
Checking your temperature/heating

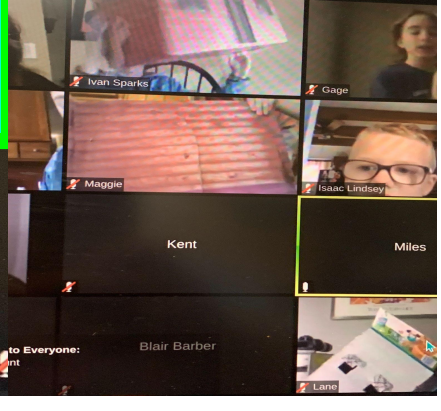
Goal 2: Building Energy Efficient Houses





Using what we learned, we created our own energy efficient houses. As we talked about different topics, we would add new things onto our houses. We worked with our parents and discussed energy efficiency in our own homes.





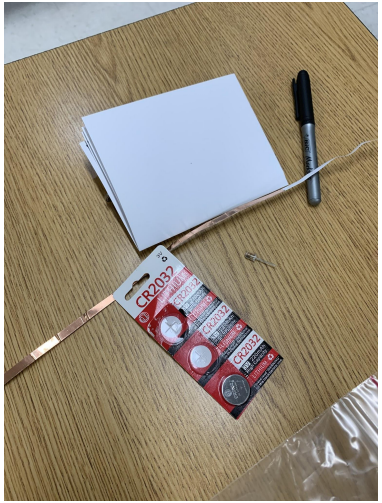
Energy house - Step 1

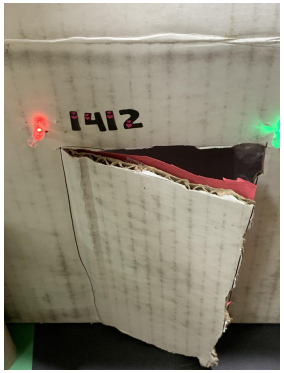
First, we had to choose a box that would be large enough so that we had two 10x10 cm windows and a 10x20 cm door. Then, then we had to decide what we would like to have for our windows. Some ideas were transparency film, clear cling wrap, and freezer bags.

Energy House Lighting

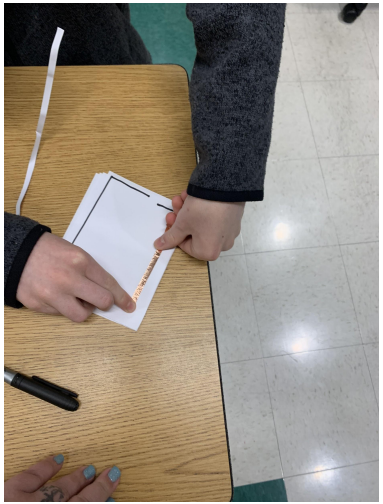
Some of the materials that we used to make our Energy House's lighting were

1. Copper Tape
2. Paper/ cardstock
3. Battery (3 volt Lithium)
4. Marker
5. LED





To make your circuit you will need to fold/cut your paper or cardstock into a rectangle, then draw a bracket [ ], cover your bracket with your copper tape, grab your battery and put the tape on both sides but make sure it does not go onto the other side,



Energy House: ISOLATION TIME!

COMPLETED ENERGY HOUSES


Reece


Gage


Miles


Maggie

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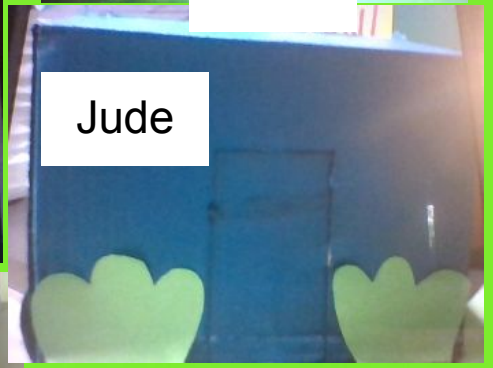
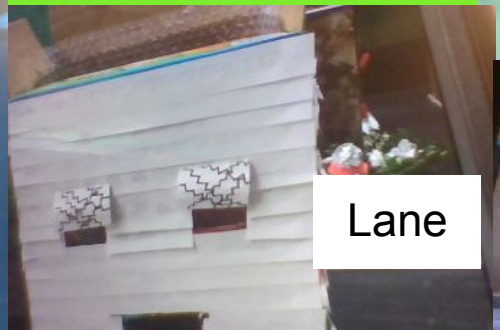

Jude

Hannah


Ivan

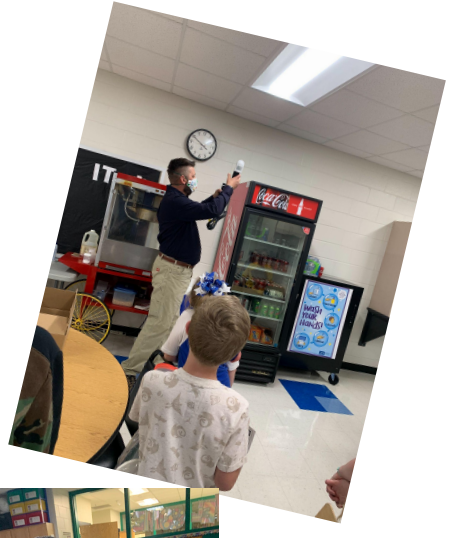

Madilyn

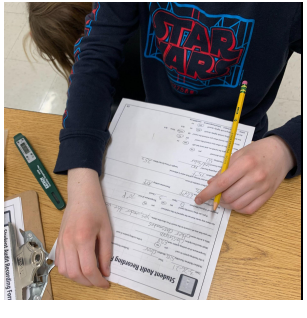

Lane

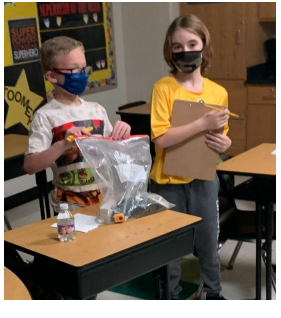

Isaac

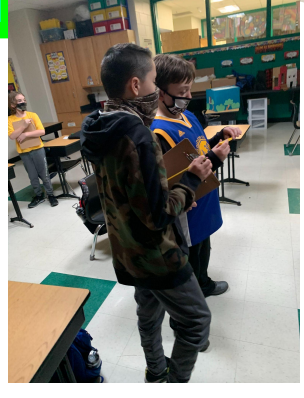
Goal 3: School Energy Audit

We investigated energy usage inside of our school building. We learned how to use different types of measurement tools and used them to audit our energy usage. We used this information to help our school find new ways to conserve energy.





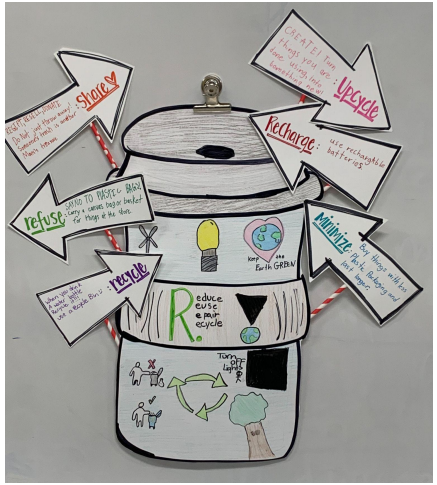




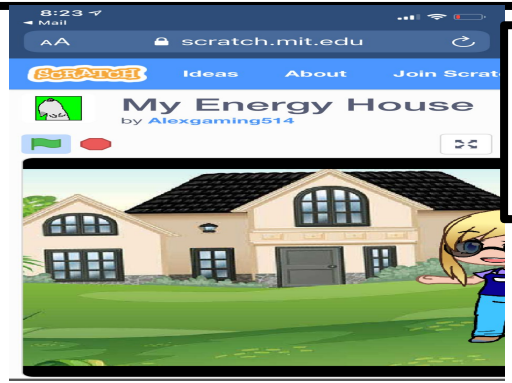
School Energy Audit

Some of the tools that we used were a light meter, a thermo-hygrometer, a thermometer, a plug load meter, and a infrared thermometer.

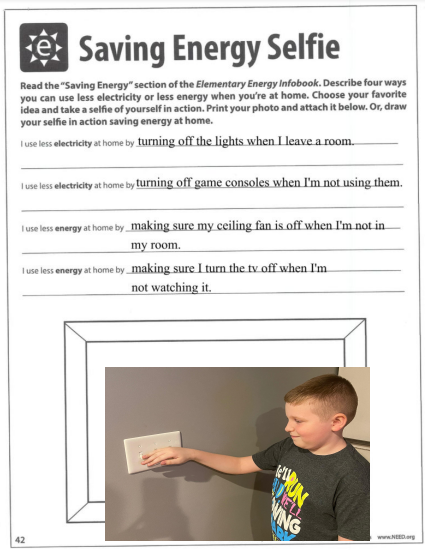
What did we learn this year on the FIRST ever Bremen Elementary Student Energy Team?



We wanted to share what we have learned this year on Student Energy Team with our school and community by creating awareness projects!



Click here to watch "My Energy House" Video!



Our projects are on our SET webpage!
http://teachingwithtoomey.weebly.com

Our projects are on display in our media center!

Our projects have been shared with our district PR representative!