

Energy Engineers



Cub Scout Pack 405

James Richardson, Zane Davis, & Weston Davis

Project Advisor: Jennifer Davis

Project Summary



We researched on different kinds of energy. We tested sound energy. We dropped 3 different types of balls and their mass and other things led them to bounce high or not. We also researched heat energy, how some chemical reactions make heat and some make things colder. We did other stations to research other energy.

We also made poster about energy sources. After we each choose an energy source, we research about that energy source and put pictures and information about how they make energy that we can use, like electricity.

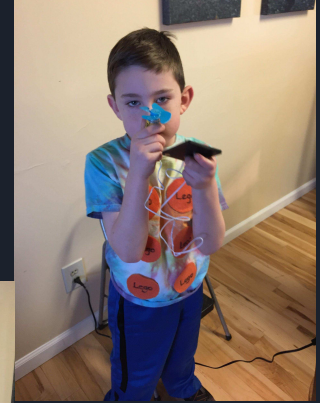
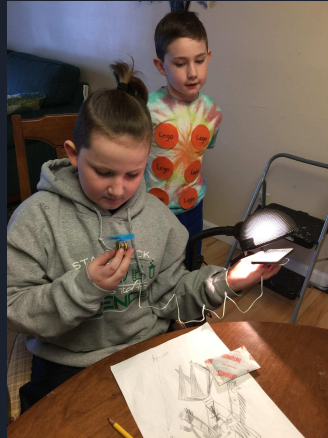
It was fun and we learned a lot on things about energy.

Project Goals:

1. Learning about how different types (forms) of energy works
2. Learn how we use energy/how different sources create energy
3. Help other people understand energy

NEED Materials:

1. Science of Energy
2. Energy Infobooks
3. Energy Source Expo
4. A Cool Coal Story

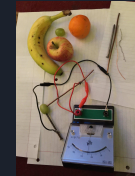
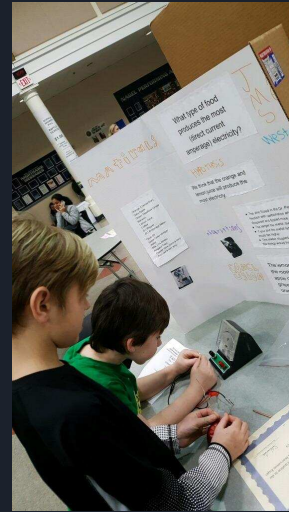


Science Fair

Goal # 1 & Goal #3

For our school Science Fair, James and I (Weston) used zinc and copper wires and put them into different fruits, drinks and foods and saw how much acid was in it to produce electricity. I like how some of them went super high on the meter.

At Science Fair, we told people we were using copper and zinc and putting things in it and the meter went up because of how much acid reacted with the metals. This made a circuit because electricity flowed through the fruit and drinks.



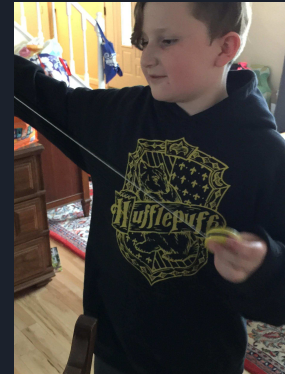
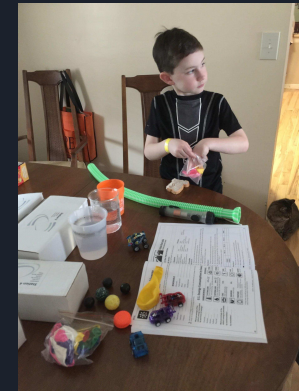
Science of Energy

Goal #1

Station 1: It has potential energy when you pull the car back and when you blow the balloon up. The balls have potential energy when you hold them in the air. When the ball is dropping or when the car or balloon is moving forward it has kinetic energy.

Station 2: Baking soda and vinegar has a chemical reaction that gets colder. When you add calcium chloride and water, once they touch, they start reacting and it starts getting warmer and warmer. Hand warmers have iron inside them. They react with oxygen and make rust. The rust makes heat.

Station 3: We put the solar panel in front of the light and it created electrical energy to make the fan turn. We also used light energy to make the black and white vanes (of the radiometer) turn because black wants to absorb heat and white wants to get rid of heat.

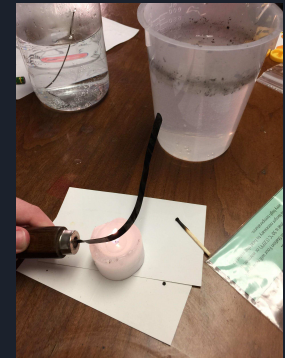


Science of Energy

Station 4: Some types of metal react to heat. We twisted up the (live wire) metal and put it in hot water and the hot water made the metal reform into a straight line. We put the bi-metal bar over a flame and it made the metal bend and once we put it in cold water it reformed (straightened back out). The heat caused the metal move (motion).

Station 5: We dipped the glow sticks in some water and the hot water made it way lighter (brighter) but it made it last shorter because the speeds up the reaction. Cold water makes it darker (not as bright) because it slows down the reaction.

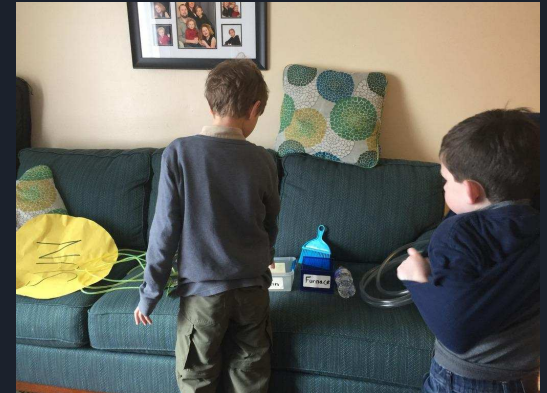
Station 6: We connected to the wires to the batteries and to a motor to make the motor spin. We used a battery and wire to make a compass move too.



A Cool Coal Story

Goal #2

We tried to figure out what order to put the things in to show how coal makes electricity. Coal is made of Sun's energy helping plants grown. The dead plants become coal. The coal is burned in the furnace at a power plant. The furnace boils the water and makes steam. The steam turns the blades and the magnets. The magnets turn around the copper and makes electricity. It goes through the power lines to our homes.



Energy Source Expo

Goal #2 & #3

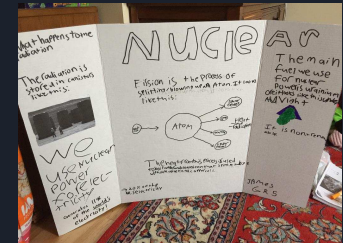
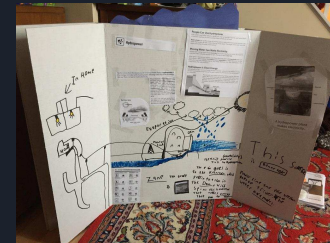
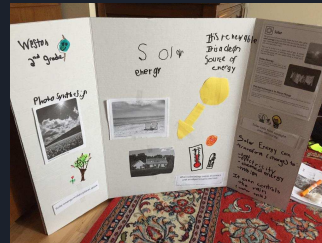
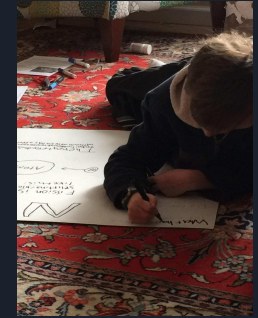
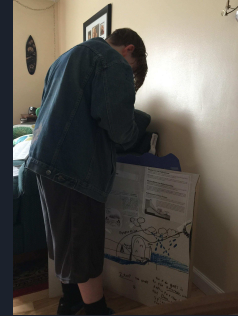
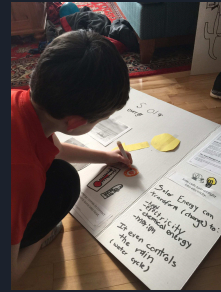
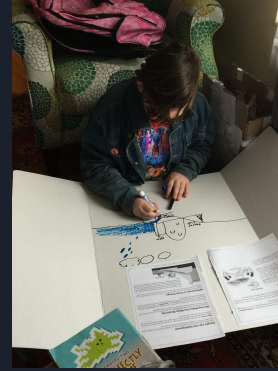
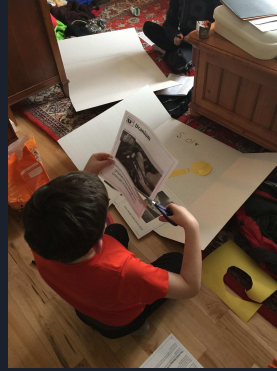
We learned about each energy source first. Then we each choose one source of energy to research more and make a poster about. We put our research on the posters and talked about how the energy is made and how we can use it.

Weston-solar energy

James-nuclear energy

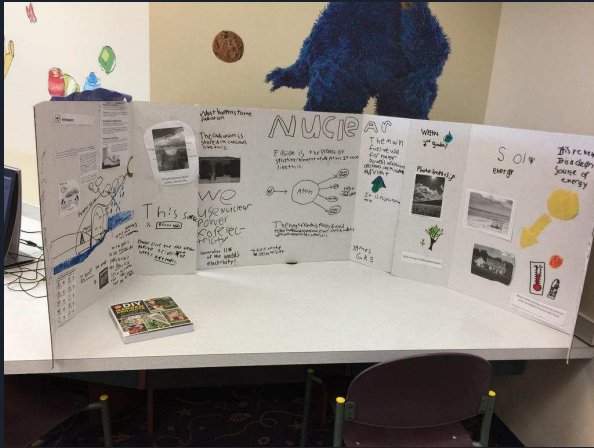
Zane-hydropower

It was fun to do!

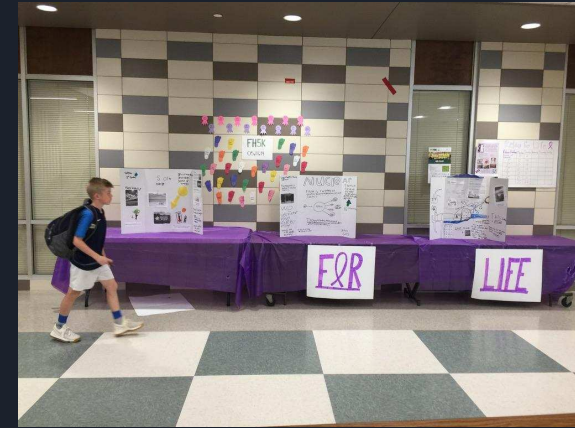
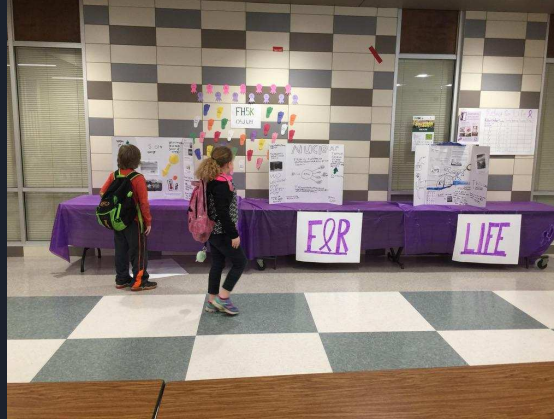


Energy Source Expo

We took our posters to the Anderson library and to Sherwood elementary so that people can learn about them (energy sources).



Anderson Branch
Public Library of Cincinnati & Hamilton County



Sherwood Elementary School



THE
END