Amanda Clearcreek Middle School Ohio Energy Project

Project Summary:

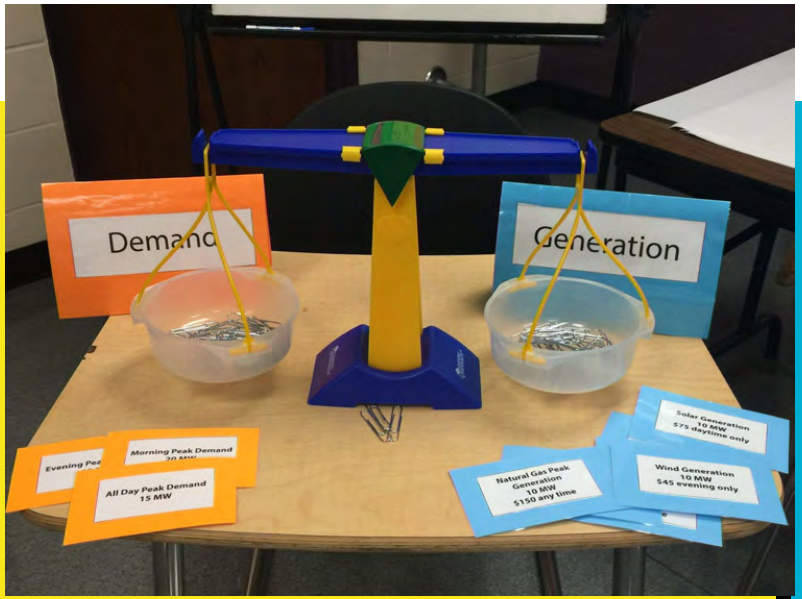
120 middle school students participated in the annual Ohio Energy Project. This project sparks the curiosity of our youth regarding energy efficiency and conservation. The knowledge gained from this project is then put in place in the homes of our youth, connecting science content standards with real world experiences.

Advisor: Heather Evans
School Year: 2019-2020

Goals:

- To discover the forms of energy in their daily lives
- To be able to trace the energy transformations within a system
- To learn how to better conserve energy in both our homes and school
- To collect and analyze data to determine energy efficiency

Baseload Balance - Students took part in an activity to get a better understanding between supply and demand of electricity. Students gained the knowledge that energy plays a giant role in their day to day lives. This activity helped to demonstrate how electricity supply is transmitted to the electric grid to customers.

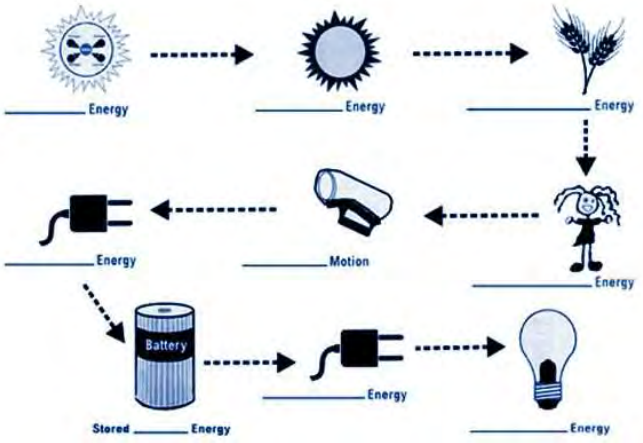


What is energy?

While going over student pages 5-7, students were asked to determine types of energy and energy transformations for various items such as:

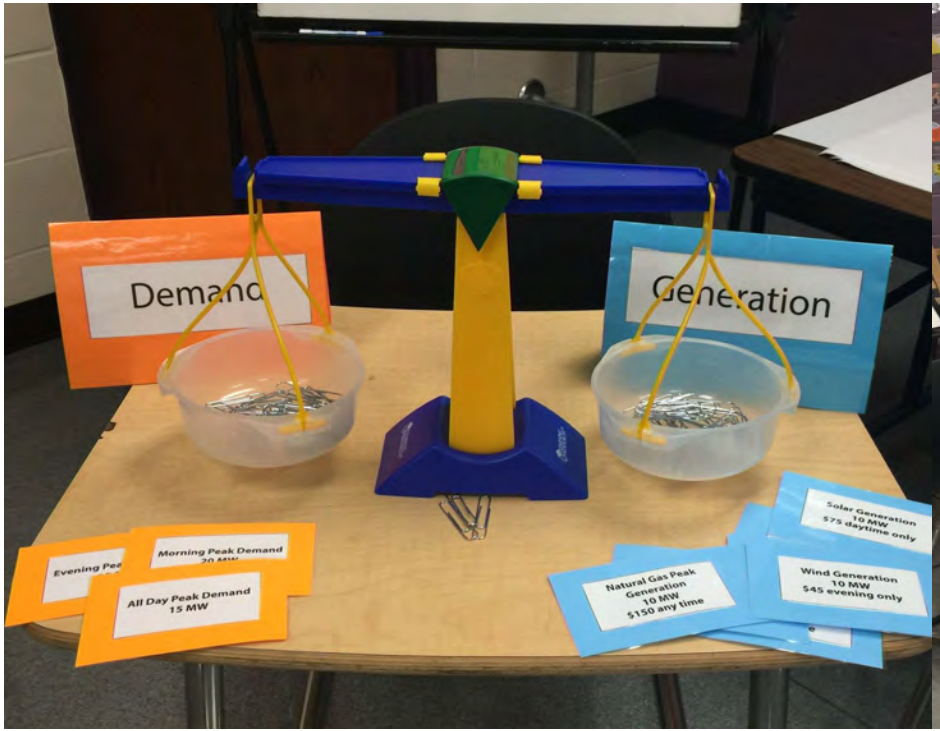
- Blaster balls
- Hand crank flashlight
- Battery flashlight
- Solar device
- Dancing energy man

Student were given small whiteboards to write what they thought the transfer of energy steps were.



Baseload Balance

Students took part in the **Baseload Balance** activity to get a better understanding between supply and demand of electricity




DATE
AGENDA
TODAY WE
Baseload
SCIENCE


SUPPLY
DEMAND

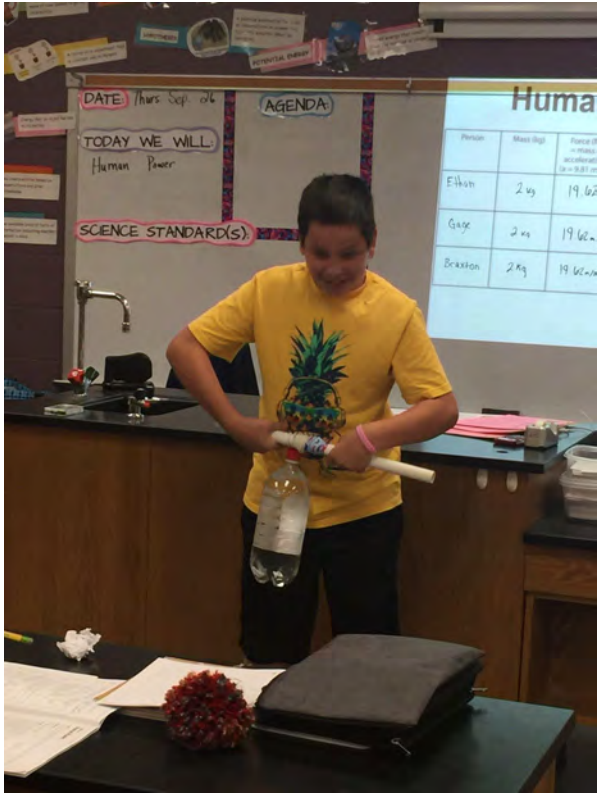

SUPPLY
DEMAND

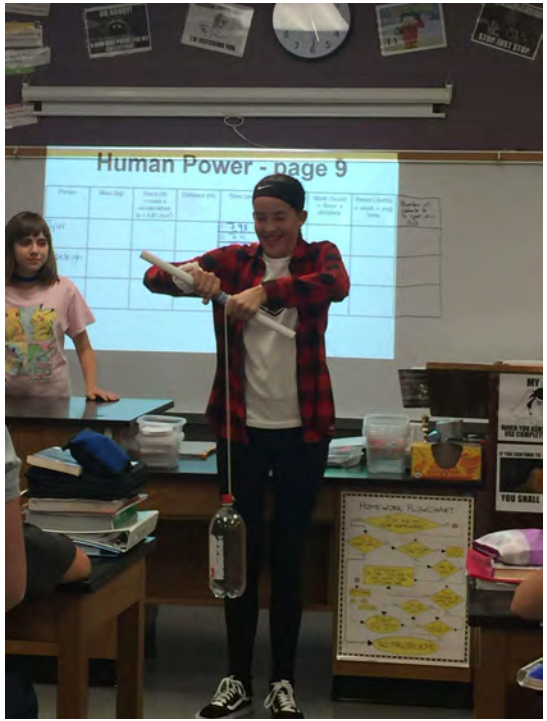

AGENDA

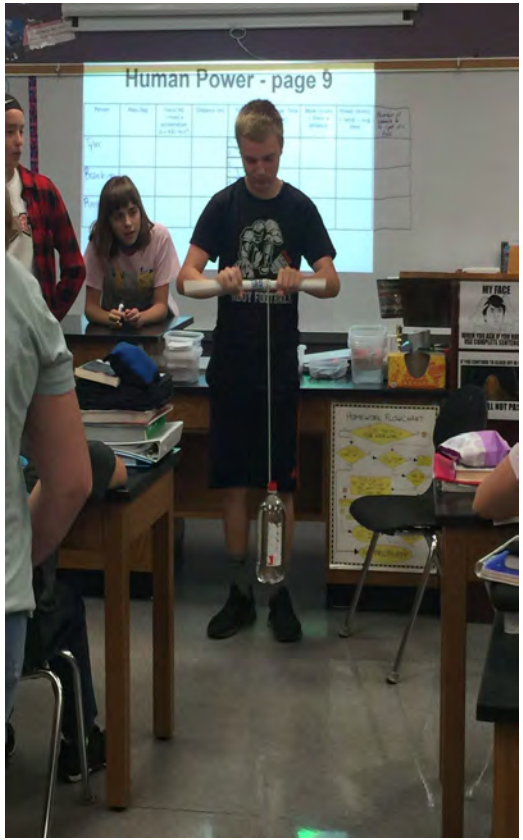
Human Power

Students took part in an activity to learn about the difference between

WORK and POWER

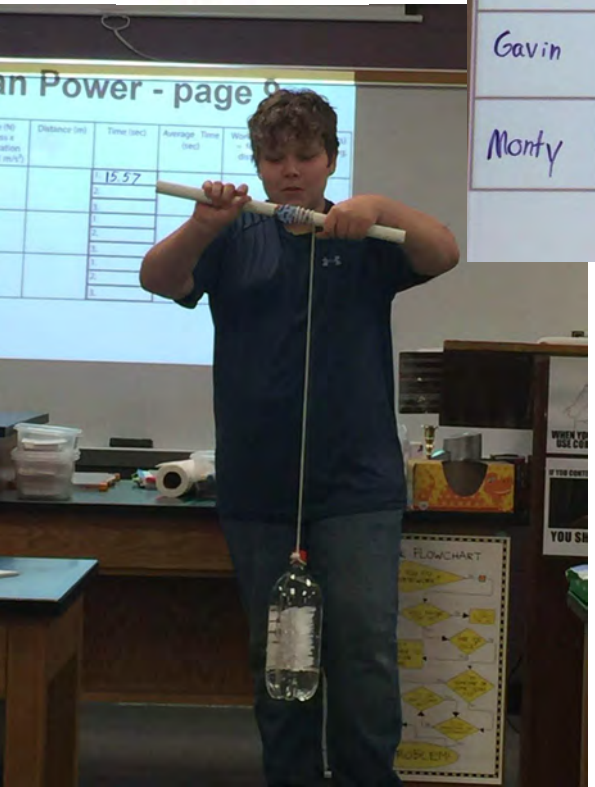


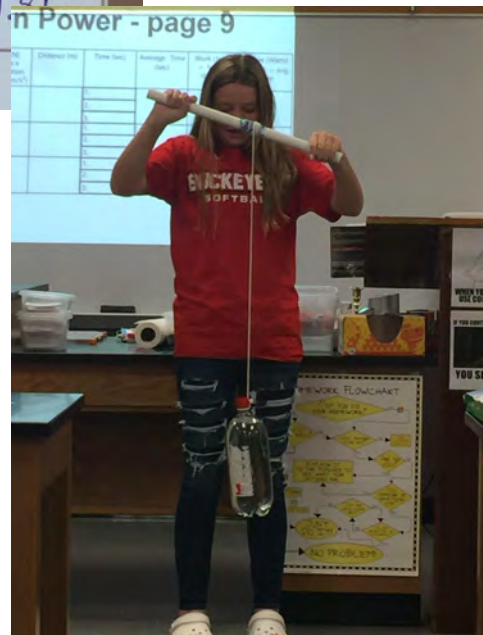


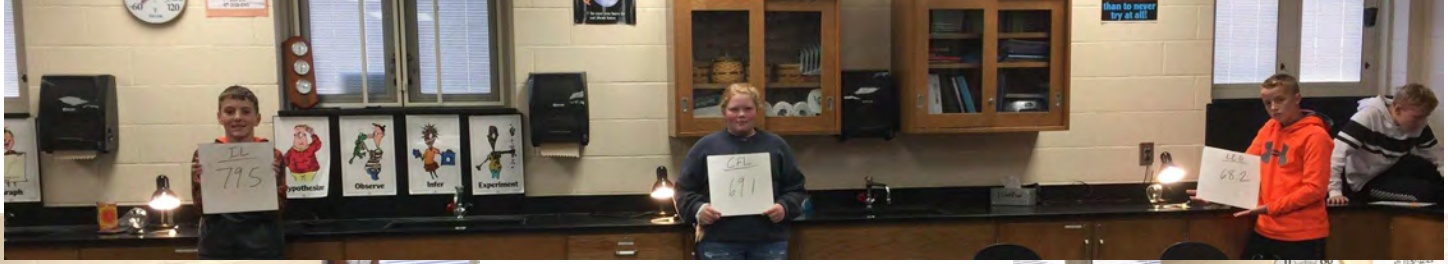


Human Power - page 9

Person	Mass (kg)	Force (N) = mass x acceleration ($a = 9.81\ m/s^2$)	Distance (m)	Time (sec)	Average Time (sec)	Work (Joule) = force x distance	Power (Watts) = work ÷ avg. time
Alex	2 kg	19.62 m/s²	1 m	1. 15.57 2. 11.65 3. 9.75	12.32 s	19.62 J	1.59 w
Gavin	2 kg	19.62 m/s²	1 m	1. 11.39 2. 13.96 3. 11.83	12.39 s	19.62 J	1.58 w
Monty	2 kg	19.62 m/s²	1 m	1. 11.71 2. 12.63 3. 8.15	10.83 s	19.62 J	1.81

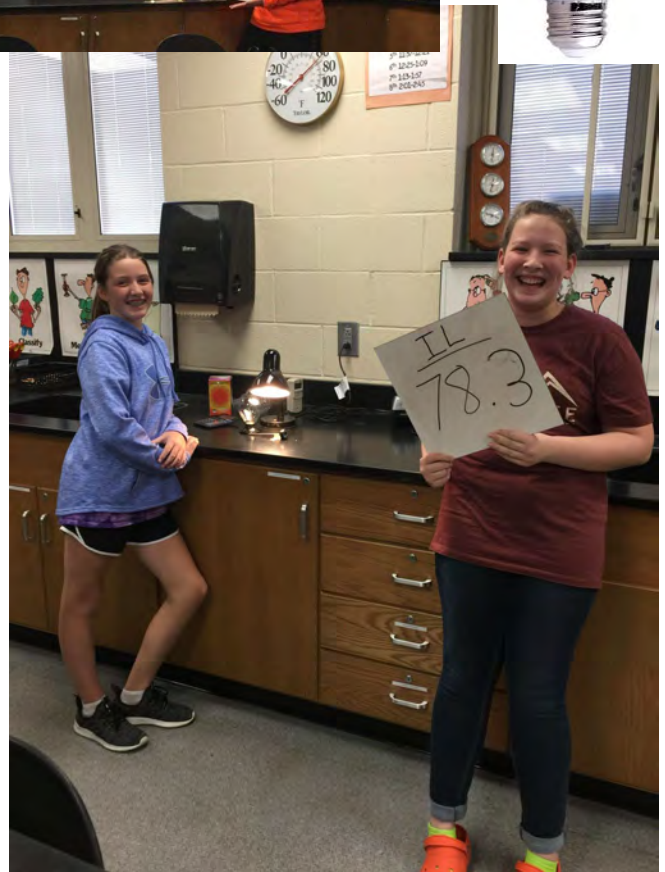




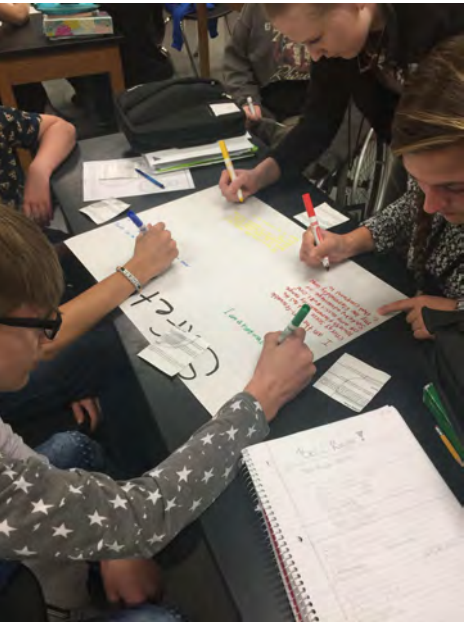


Light Bilb Investigation

Students compared the amount of heat and light given off from IL"s, CFL's and LED's



Energy Source Match Up



Students found energy source “teams” then discussed safety, availability, economic and environmental issues about their energy source. Information was then presented on a poster they created.