

Dayton Public Schools and Ohio Energy Project

ADVANCING ENERGY UNDERSTANDING AND EXCELLENCE

ADVISORS: BONNIE PORTER & CHRISTOPHER PERKINS

THE GOAL OF THIS PARTNERSHIP IS TO INSPIRE AND EMPOWER STUDENTS, TEACHERS AND THE COMMUNITY TO BECOME EFFICIENT AND PROFICIENT ENERGY USERS. THROUGH PROFESSIONAL DEVELOPMENT AND STUDENT PROGRAMS THIS PARTNERSHIP SUPPORTS INNOVATIVE EDUCATION AND A SUSTAINABLE ENERGY FUTURE.



Goal One- Professional Development

Partnering with Dayton Public Schools, OEP provides high quality, relevant and engaging professional development opportunities all about energy. Teachers learn and practice hands on energy experiments and activities in addition to receiving all materials required to perform these labs with students in the classroom. These opportunities aim to influence the teachers, student and the community to help bring energy awareness to people's every day lives.

Energy Content Activities:

- Grade 5: Light and Sound
- Grade 7: Electricity

Student Leadership:

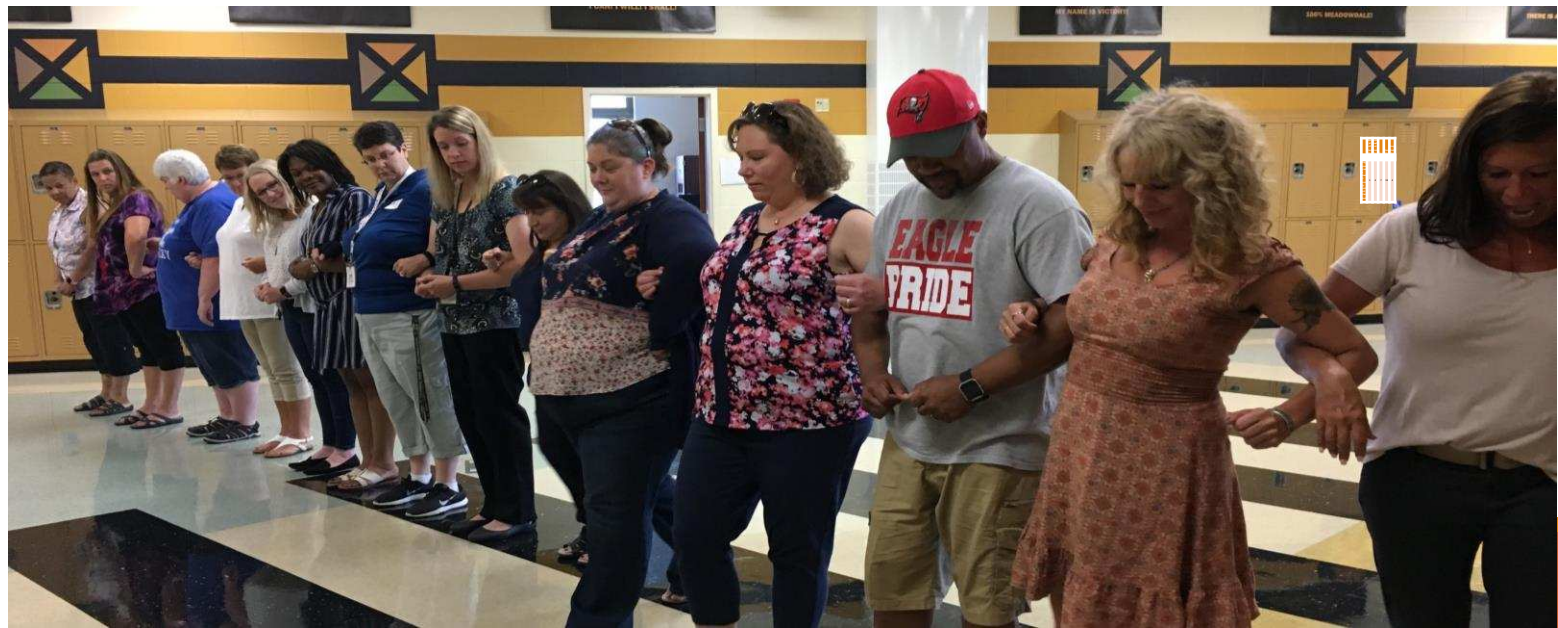
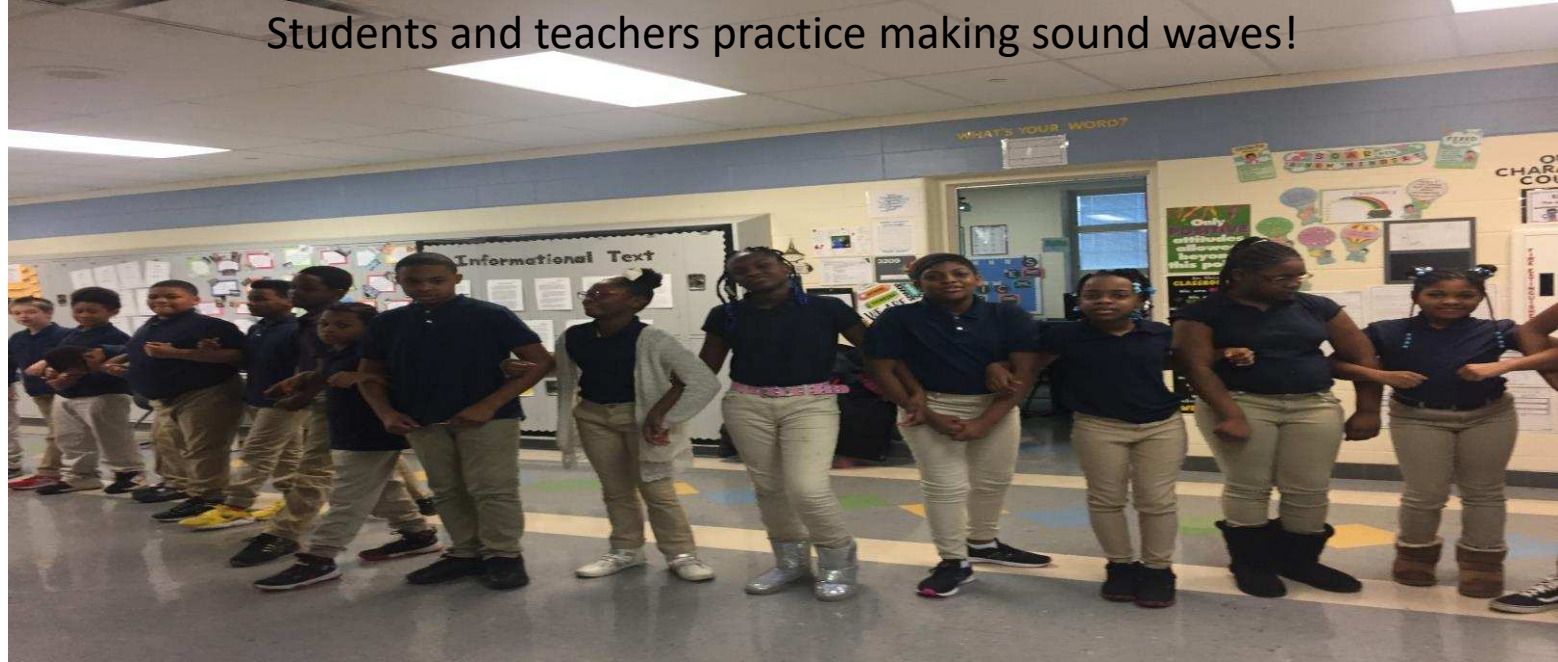
- 1,710 students (860 middle school and 850 elementary) were impacted through trainings, resources and activities- increasing their awareness and knowledge of energy
- 21 teachers (6 from 7th grade and 15 from 5th grade) received training and incorporated energy curriculum into the classroom

Resources:

- OEP grade level specific curriculum and materials
- OEP Staff



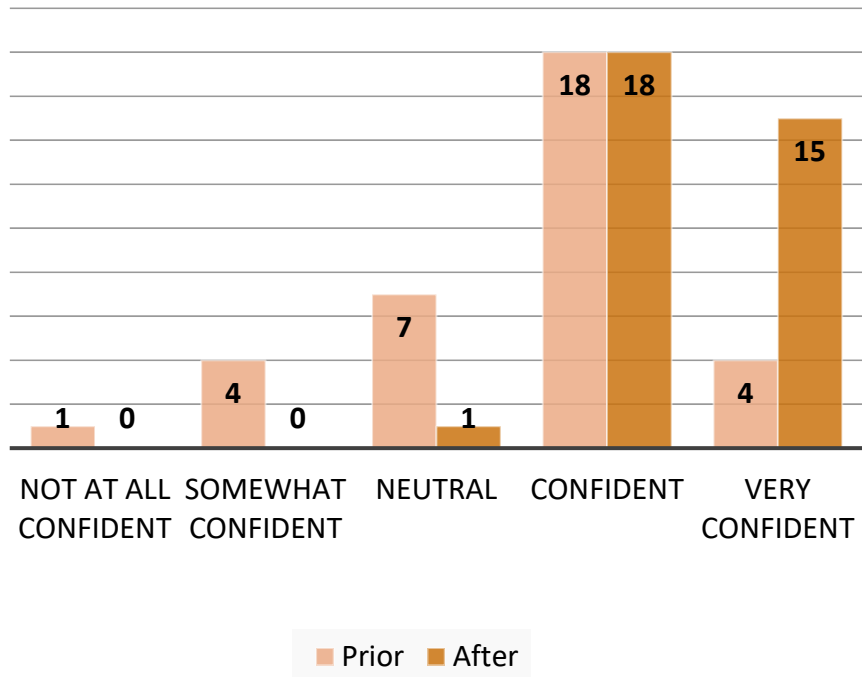
Students and teachers practice making sound waves!



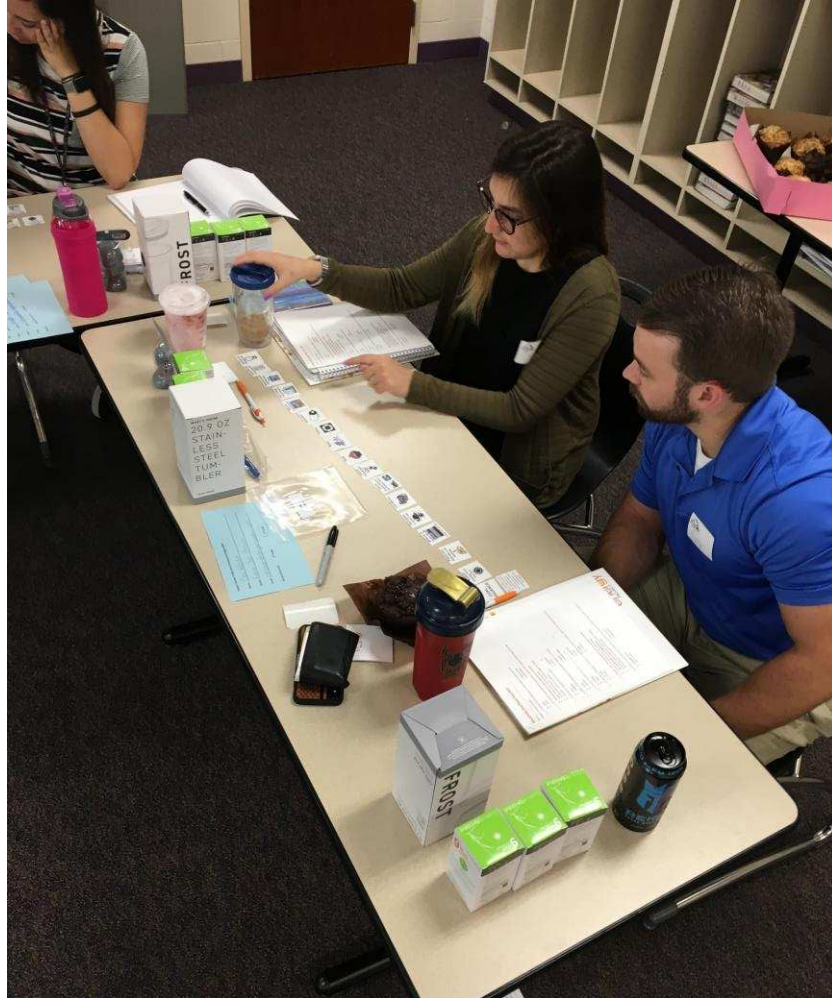
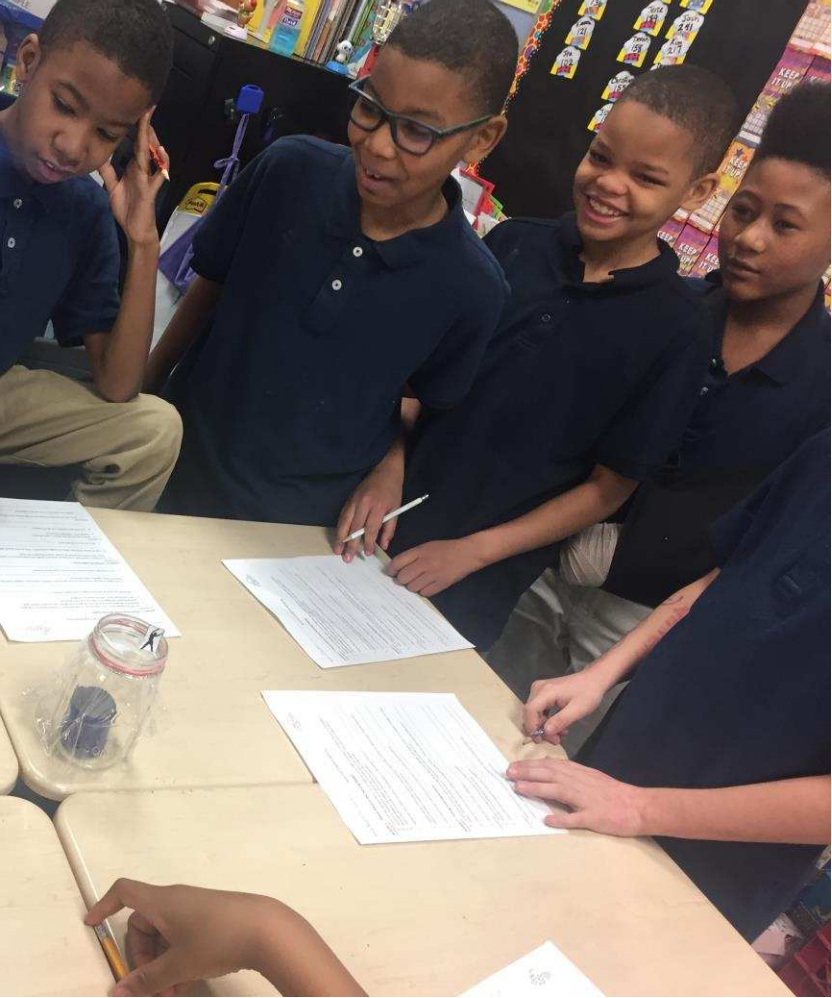
Evaluations:

Teachers completed pre and post workshop evaluations:

Confidence in teaching grade level energy standards

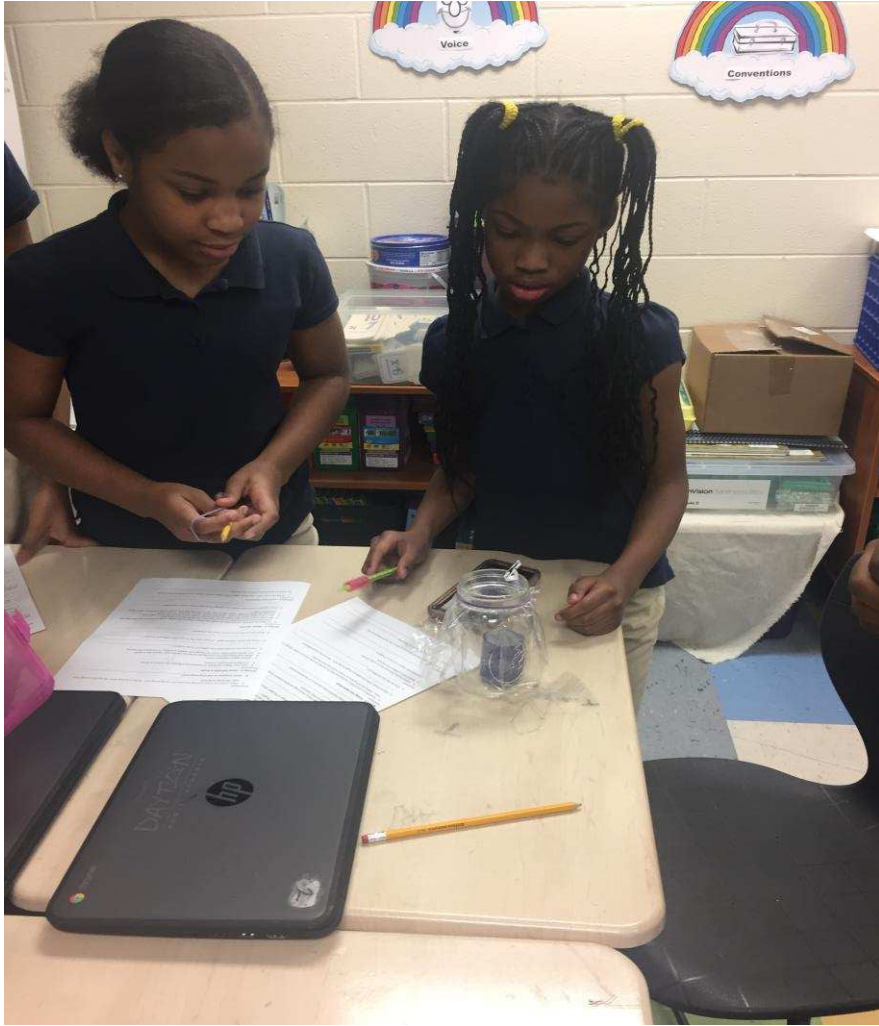


Based on teacher evaluations, 100% of teachers were “very satisfied” with their overall experience and believed the training was a good use of their time.



“Hands-on circuit kits helped me understand at home concepts through using them! My students will benefit from this immensely and it gives them something tangible to tie in standards and things at their residence.”
Stephanie Ward, Wright Brothers Middle School

Pictured below: 5th grade students learn all about sound through hands on exploration



“This program provides my students with opportunities for authentic learning and I feel more confident teaching the content. I like that we get hands-on activities and we were shown how to use the items.” Crystal Howes, Kiser Elementary School

Goal Two- Energy Efficiency & Community Outreach

The Energy Efficiency program provides teachers and students the opportunity to learn about energy efficiency and conservation through hands on experiments and investigations. This program gives teachers professional development opportunities and the curriculum and materials to connect science and energy with daily life. Students conduct experiments at school and apply their knowledge at home and in their communities as they install items from their home energy kits. This school to home to community approach promotes energy awareness no matter the setting.

Energy Content Activities:

- Energy Efficiency professional development workshops for teachers grades 3-12
- E3 Smart secondary and elementary curriculum and investigation materials
- Student home efficiency kits

Student Leadership:

- 135 DP&L (13 Dayton Public) teachers received training and materials to teach the E3 Smart Program
- 8,942 (945 Dayton Public) home energy kits were distributed and installed at home after learning about the efficiency measures through hands-on labs at school
- Through the investigations, students reflected and identified ways to be more energy efficient at school, home and in the surrounding community



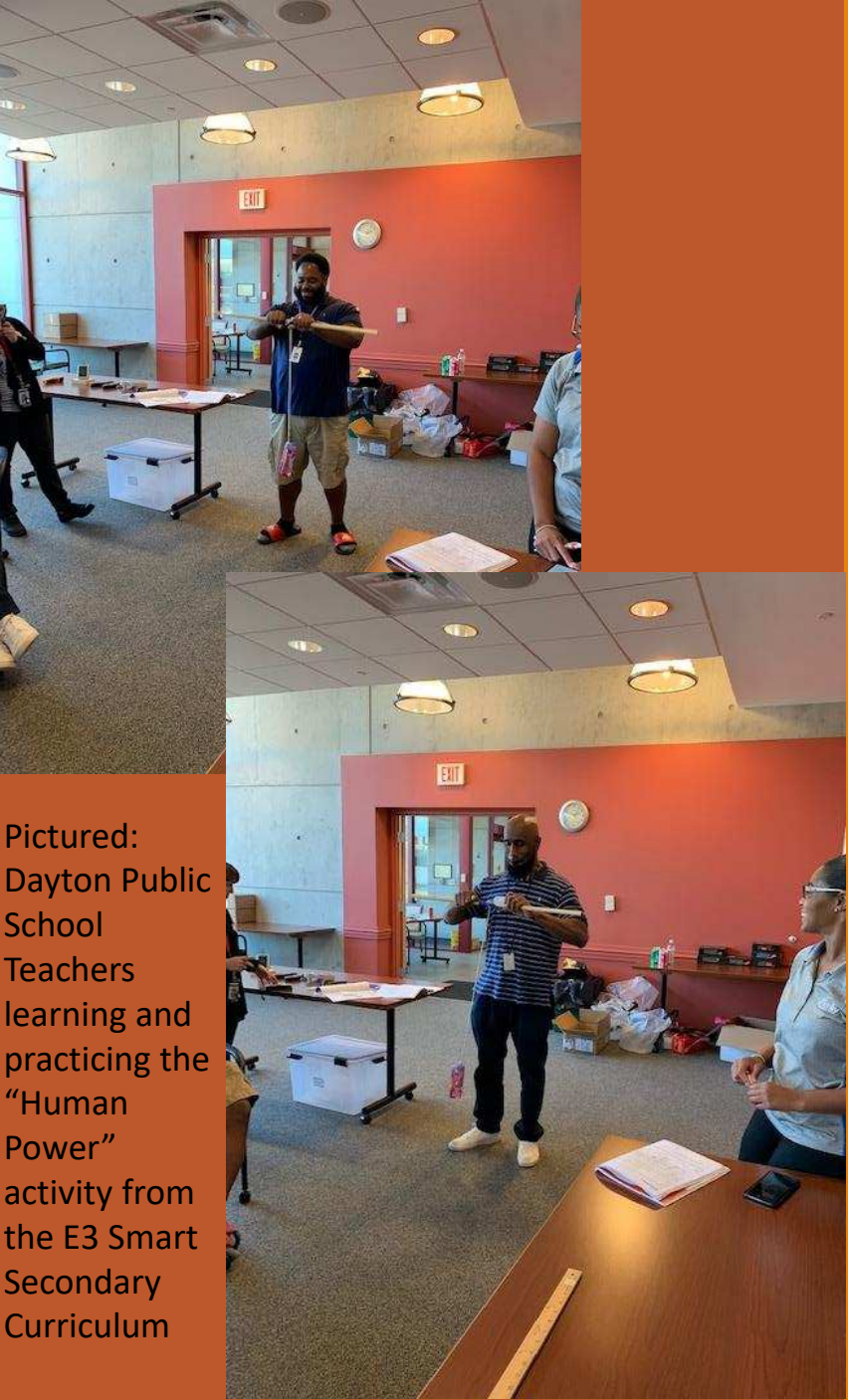
Energy Efficiency & Community Outreach

Resources:

- E3 Smart curriculum (student and teacher guidebooks)
- Secondary and Elementary teacher materials for hands on labs and investigations
- Student energy efficiency kits for home installation of efficiency measures

Evaluation:

- Students complete pre and post assessment
- Family installation survey upon installation of home kit materials
- Teacher evaluation upon completion of E3 Smart curriculum



Pictured:
Dayton Public
School
Teachers
learning and
practicing the
“Human
Power”
activity from
the E3 Smart
Secondary
Curriculum



Goal Three- Student Leadership

Middle and high school students participate in a half day training (Energy Summit)- acquiring the leadership, presentation and teamwork skills needed to teach 5th grade students about energy at a future Energy Workshop. Energy Leadership Summits and Workshops capitalize on our core philosophy of “Kids Teaching Kids”, allowing students the opportunity to collaborate, communicate and display their leadership traits to help younger students learn all about energy!

Energy Content Activities:

- Teamwork Games- Human Calculator, This or That, Rock-Paper-Scissors
Cheerleading
- 10 Energy Exploration Stations focused on light, sound and forces and motion
- 5 Energy Carnival Games including Light and Sound Jenga, Forces and Motion Connect 4, Heads Up, & Play it Smart

Student Leadership:

- 10 students from EJ Brown Middle School were trained as student leaders
- 162 elementary students (52 from Edison Elementary) were led by EJ Brown’s student leaders at the Dayton Energy Workshop



Student Leadership

Resources:

Ohio Energy Project Staff

Energy Explorations and Carnival Activities

Evaluation:

Students completed a pre and post assessment to analyze knowledge gained about energy through participation in Energy Workshops:

Pre-poll Score Average: 54%

Post-poll Score Average: 73%

Gain in Knowledge: 35%



Kim Dubbs and students from EJ Brown Middle School after a successful Energy Leadership Summit!