Worthington City Schools and Ohio Energy Project

Encompassing Energy Excellence

Advisors: Brian Geniusz and Tim Gehring

The goal of this partnership is to empower students, teachers, schools, homes and community members through professional development, materials and energy education programs to understand the roll of energy in their lives.
Middle and high school students had the opportunity to receive training and to practice leadership and communication skills at a half day workshop. In addition, students learn and practice hands on energy and efficiency lessons that are Ohio Department of Education specific for fifth grade students.

**District Participation:**
- 2 high schools
- 3 middle schools
- 9 elementary schools

**Student Leadership:**
- 75 high school leaders trained
- 71 middle school leaders trained

**Resources:**
- NEED Energy Carnival
- OEP hands-on Exploration Stations

**Evaluation:**
- 7 teachers led Leadership Summit teams
- High school and middle school leaders impacted 535 5th grade students
Goal Two – *District Wide Energy Education Programs*

Promoting quality energy education programs for Worthington students.

**Energy Content Activities:**
- OEP hosted school based Energy Workshops at nine elementary buildings. This allowed 5th grade students in the district to participate in 60 minutes of hands on energy explorations.
- Students rotated through 10 stations concentrated on the physical science topics of light, sound and forces and motion which are the content standard topics prescribed by the Ohio Department of Education.

**Student leadership:**
- 146 student leaders were trained

**Resources:**
- OEP hands-on activities for light, sound and motion.

**Evaluation:**
- Worthington 5th grade students had the opportunity to learn about energy at the Workshops.
- The average knowledge gain on the pre vs. post poll was 15%
Kids teaching kids.
# 5th grade Energy Workshops

"So engaging! Hands on activities that got all students doing science."
Emily McMullen
Granby Elementary

<table>
<thead>
<tr>
<th>School</th>
<th>Number of students</th>
<th>Pre-poll average</th>
<th>Post-poll average</th>
<th>% gain in knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluffsview Elementary</td>
<td>65</td>
<td>80%</td>
<td>90%</td>
<td>13%</td>
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<tr>
<td>Brookside</td>
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<td>67%</td>
<td>82%</td>
<td>22%</td>
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<td>Colonial Hills</td>
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<td>66%</td>
<td>93%</td>
<td>29%</td>
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<td>Evening Street</td>
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<td>90%</td>
<td>4%</td>
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<tr>
<td>Granby</td>
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<td>87%</td>
<td>87%</td>
<td>0%</td>
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<tr>
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<td>94%</td>
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<td>Worthington Park</td>
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<td>80%</td>
<td>89%</td>
<td>11.25%</td>
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</table>
Goal Three – *Professional Development*

Promoting energy education to Worthington educators by providing them with excellent professional development opportunities and up-to-date resources.

**Energy Content Activities:**
- Energy Blitz: Day and a half tour of Ohio energy sites with on-site experts
- Energy Tour: Three day tour of Ohio energy sites with on-site experts
- Grade Level Training: Grade specific half day learning sessions geared to match the energy curriculum for grades 3, 4, 5
- E³ Smart Program: Energy Efficiency - 8 teachers participated

**Student Leadership:**
- 524 students involved in the E³ Smart Program installed energy saving devices in their home.

**Resources:**
- OEP curriculum and training kits
- 3rd grade – Sources of Energy, States of Matter
- 4th grade – Electricity, Circuits, Thermal Energy
- 5th grade – Light and Sound
- E³ Smart curriculum and home energy kit
Goal Four – *Promote Real World Application of Energy Concepts*

Through the sponsorship of the **Outstanding Energy Award**, students are motivated to further explore and the application of energy by designing a Science Fair Project.

Pictured: Jessica, a 3rd grader at Evening Street Elementary School, won the Outstanding Energy Award for her project exploring air pollution and vehicle exhaust.
Goal Five – **Community Engagement/Energy Efficiency**

Promoting energy education to Worthington educators by providing them with excellent professional development opportunities and up-to-date resources.

**ENERGY CONTENT ACTIVITIES:**
- Four schools with eight teachers were trained and received materials for the E³ Smart program.
- 524 students received an energy efficiency kit through the E³ Smart program and installed them at home. This also included a home energy audit.

**STUDENT LEADERSHIP ACTIVITIES**
- Students put classroom labs into practice with a “school to home” approach teaching their families about energy efficient measures being installed at home.
- Students also conducted an energy audit and identified one behavior they could change to save energy.

**EVALUATION**
- Efficiency kit installations provided residents with a 268.6 potential megawatt/hours of electricity savings.
- Students potentially impacted 1,572 family members.