

West Carter Middle School: Knowing means Changing

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In this slide show you will learn about energy saving skills and tips. First, through a newspaper article. Next, summaries of the lessons we have learned. Then, there will be pictures of our energy houses which we be explained later on. Also you will see a school audit, board presentation, and an awareness outreach. On the last side there will be an evaluation.

Informational Newspaper article

What is energy conservation? How can we conserve our energy? What does it affect during our daily lives? Energy conservation is the act of using less energy to do a task, using a item that uses less energy, or just cutting out on something that you don't need to save energy. Although there are many ways to conserve energy, you don't need to do all of them to have an efficient home. Let's take a look at one example, turning out the lights when you not in there. While this is such a small thing to do and you might even forget about it sometimes, you could save a lot of energy and money by purely doing this one thing. Try it some time, you just might be surprised.

To be submitted to the Carter County Times

School Intercom Announcement

Impact: About 350 listeners, 5 days a week

- 1. If every home in the U.S. replaced one light bulb with an energy efficient alternative, the amount of energy saved could light 3 million homes for one year.**
- 2. The average American household uses 400 gallons of water every day. To reduce your amount try...**
 - Turning off the water when brushing your teeth
 - Taking shorter showers
 - Only using as much water as necessary when cooking
- 3. Phantom loads are devices that may appear to be turned off, but are still using energy. Devices requiring a remote, like a television or dvd player, are some examples. Unplug these devices when not in use to save electricity.**
- 4. Lighting makes up about 10% of home energy costs. Save up to 75% of that energy by replacing incandescent bulbs with compact fluorescent bulbs (CFLs). They also last longer, which saves money on replacements.**
- 5. Instead of using an oven, use the microwave, toaster, or a counter-top grill. You'll use less energy and avoid excess heat that increases room temperature.**



Household Rating sheet

The house hold rating sheet was a test to understand the efficiency of our households and then to improve upon that. The levels of the ratings were 1 being the lowest and 4 being the highest. In the best circumstances our house will be a 65. As you can see our first rating was a 45 which isn't horrible but could be better. Our households greatest flaws were the ENERGY STAR appliances and the light bulbs. On our second rating after improvements our score is now up to 51 because we added LEDs and the thermostat during cold season was changed to a more efficient setting. Overall our power bill has lowered in cost resulting in money conservation.

Impact: 8 of us on the team sharing with our families=about 35 people.

| Energy Efficiency and Conservation at Home | 4 | 3 | 2 | 1 |
|----------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|--------------------------|----------------------------------|
| Appliances That Are ENERGY STAR® Rated | All | More than ½ | About ½ | None |
| Lights That Are CFL Or LED | All | Most | About ½ | Almost none or none |
| Electronics With Phantom Loads (Drawing Power When Turned Off) | None (unplugged) | About ½ | Most | All |
| Thermostat Setting During Heating Season | 68 or lower | 69-70 | 71-72 | 73 or higher |
| Thermostat Setting During Cooling Season | 78 or higher | 76-77 | 74-75 | 72 or lower |
| Laundry Loads Run Less Than Full | None | Less than ½ | About ½ | Most |
| Dishwasher Run Less Than Full | Never | Occasionally | About ½ the time | Usually |
| Hot Water Setting (°F) | 120 or less | 121-130 | 131-140 | 140 + |
| Doors And Windows Closed When Furnace Or Air Conditioner Turned On | Always | Usually | Sometimes | Rarely |
| Lights Left On When Room Is Empty | Rarely | Sometimes | About ½ | Usually |
| Fans Left On Overnight | 0 | 1-2 | 3-4 | 5+ |
| TVs Left On Overnight | 0 | 1 | 2 | 3+ |
| Game Console Or Computer Left Running | Never | Rarely | Occasionally | Frequently |
| Heating System Turned On When... | Temperature inside < 65 | Temperature outside < 65 | Temperature outside < 70 | A/C not turned on |
| Cooling System Turned On When... | Temperature inside > 83 or Not Turned On/In Use | Temperature outside > 83 | Temperature outside > 80 | Heat not turned on |
| Programmable Thermostat | Yes | | | No |
| Calculate Your Score – Total Boxes Shaded | | | | |
| × score per box shaded | ×4 | ×3 | ×2 | ×1 |
| Column Score | | | | |
| Total Score (add 4 column scores above) | | | | Initial Energy Consumption Score |
| Kern County Stud... • Jordan Kichirion - Managing Home Energy Use - Lesson 1.pdf | | | | 51 |

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| Cooling System Turned On When... | Temperature inside > 83 or Not Turned On/In Use | Temperature outside > 83 | Temperature outside > 80 | Heat not turned on |
| Programmable Thermostat | Yes | | | No |
| Calculate Your Score – Total Boxes Shaded | | | | |
| × score per box shaded | ×4 | ×3 | ×2 | ×1 |
| Column Score | | | | |
| Total Score (add 4 column scores above) | | | | Initial Energy Consumption Score |
| 45 | | | | |

Candy Lab Activity

Candy Lab: In the candy lab, we had jelly beans (renewable energy) and M&M's (non-renewable energy) and you would move the candies from one bowl to another using only a straw. Once the M&M's were moved, they stayed there but on the jellybeans, you would keep putting them back into the first bowl and using them again. This helped us to understand with a hands on activity how we need use less non-renewable resource as they are limited. This was a fun activity with Mrs Reagor--especially during the pandemic when we could not go to school



What is the difference between watts and lumens???

In this lesson, we learned about the most energy efficient light bulbs. Not only do they save money, but they also have positive impacts on the environment. Different types of light bulbs go better with different settings/situations. We also learned that watts and lumens are different. Watts measure the amount of power is consumed by the bulb whereas lumens is how much light is emitted by the bulb.

Using energy efficient light bulbs is important. If every home in the U.S. replaced one light bulb with an energy efficient alternative, the amount of energy saved could light 3 million homes for one year.



Energy House

We shared our house progress through Google Meet since we were NTI at school!



Energy House

Jordan Richmond: On my house I used a regular cardboard box i then cut out a door and 2 windows. For the insulation I used under payment which goes under Laminate flooring. I used scotch tape and 2 pieces of saran wrap. I used mainly electric tape for the inside and scotch tape for the outside.



Energy House



Energy House

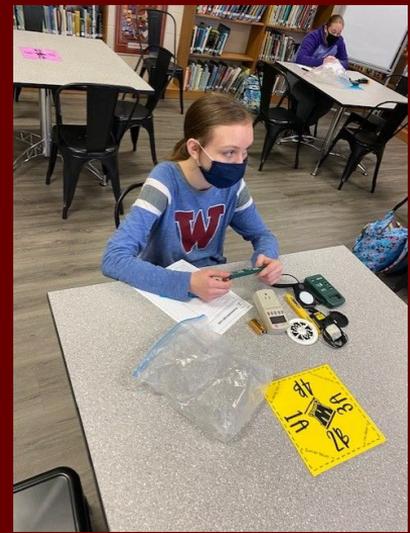
Materials-

- Box
- Popsicles sticks for exteriors
- Aluminum foil and bubble wrap for insulation
- Water resistant cardboard sheets for weather resistance.



School audit with Tyler

In this lesson we learned about the energy inefficiencies in our school and what caused them. We looked at how some parts of the school are too warm or too cold, which can cause more money to spend in heating or cooling. We also talked about our lights, and how they could be more efficient for our school. To sum everything up, we examined certain rooms of our school, to analyze them a try to fix the inefficiencies.



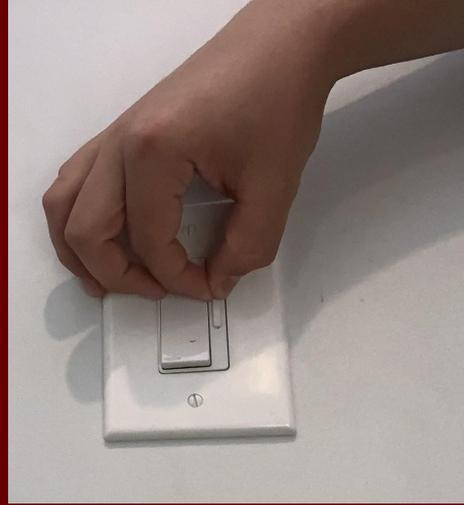
Board of Education Presentation

We will make a interactive set of slides to present to the Board of Education on April 19, 2021. These will include everything we have done, and the progress and awareness we have made.

Projected impact: Typically with the pandemic there have been about 35 people in attendance at the meetings.

Selfie Awareness

Using Natural light instead of electric lights during the day



Dimming the lights instead of turning them on all the way

Unplugging an outlet

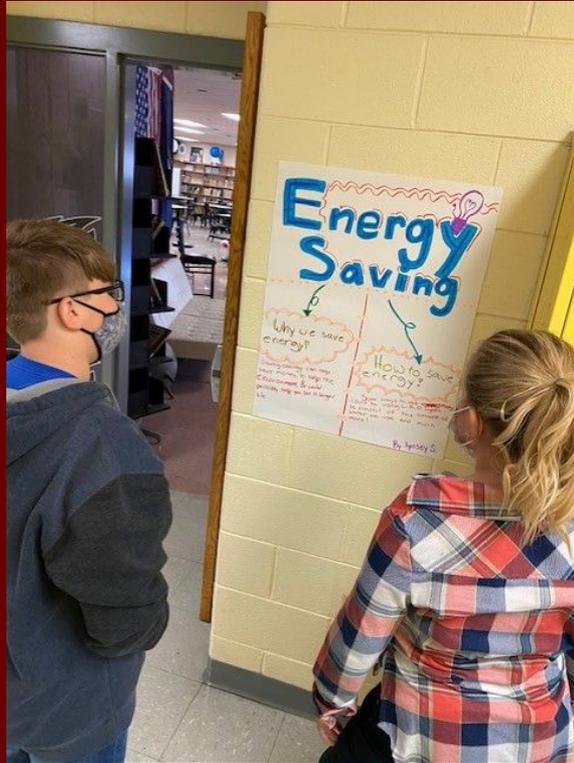


Impact: Photos shared on FB with approximately 40 likes

Filling the washer for a full load!



Informational Poster



We designed posters and shared it with students at our school. We posted it going into the library because a lot of students go there.

Impact: About 350 students and teachers pass these signs.

