

Environmentally Educating Our Community

The Bednarcik Junior High The Environmentalists Team

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Goal 1: Increase motivation for students and staff to recycle.

Goal 2: Decrease the amount of energy used in our school & community and raise awareness about saving energy.

Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.

NEED has given us the resources and opportunities to increase the amount of energy conservation and energy education in our school and community. The Bednarcik Environmentalists are a team of students that meet before school to discuss the ways that we can accomplish our energy and recycling related goals. The different aspects of our project are as followed:

RECYCLING

We increased our recycling efforts through numerous competitions, incentives, and education that we spread through daily announcements.

CONSERVING ENERGY

We audited many classrooms around our school to gain an understanding of ways we could be saving more energy, which we are using to formulate tips and feedback that we can give to them.

COMMUNITY EDUCATION

Bednarcik held the third annual energy fair which was a great way to inform the community about different aspects of energy. We also have daily energy facts that we say on the morning announcements.

Recycling



Goal 1: Increase motivation for students and staff to recycle.

Resources: PepsiCo Recycle Rally, TerraCycle, NEED.org, EPA Make A Difference In Your School, Illinois Department of Natural Resources, Keep America Beautiful, Going Blue: A Teen Guide to Saving Our Oceans, Lakes, Rivers and Wetlands by Phillipe Cousteau

Activities to Promote Recycling in Our School and Community

1. Added recycling bins in hallways and areas that did not have recycling bins and made sure all offices and classrooms had bins. This gave people the option to recycle more and to lower the inconvenience of having to find a recycling bin throughout the school. This action increased the number of recycled containers by over 300 per week and helped us meet a semester goal of 10,000 recycled containers in the 1st semester and has kept us track to meet a 2nd semester goal of 15,000 can and bottles.
2. Surveyed students on recycling habits and created a recycling video to help students understand the benefits of recycling and to make sure they know what they can recycle.
3. Students worked to create more posters for the school hallways.
4. Students write and read announcements daily which includes a recycling tip of the day.
5. Hosted a school-wide recycling competition between homeroom classes and recycled 1878 cans in two weeks for the Keep America Beautiful Recycle-Bowl.



Environmental team member tallying the number of items recycled in the homeroom recycling competition



Environmental team members organizing the items collected for each class in the homeroom recycling competition



Examples of posters and recycling bins located in our school



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6. During lunch hours at the start of the year, incentives were given to encourage students to recycle.
6. A recycling raffle was held to boost recognition for recycling. Every time someone recycled an item, they received a raffle ticket which they could put in a drawing for a gift card. We recycled over 10,000 cans in the first semester.
7. We created a school recycling slogan: Be Clean, Be Green, and Be a Recycling Machine
8. We created a school recycling mascot with facts posted to the sides and presented the mascot at large events and during school hours.
9. We held our second annual spring recycling drive. Weeks 1 and 2 were clean out the bathroom
9. and kitchen for contact cases, contact solution bottles, and old Tupperware. Week 3 was clean out the closet for old shirts which we then upcycled them into dog toys for the Naperville Humane Society. For weeks 4 and 5, our team collaborated with Bernie's Book Bank, a Chicago based organization that donates not just one, but personal libraries of books to low income families across Chicagoland. We made a homeroom competition out of it to see which class could bring in the most books. By the end of it we collected over 800 books which allowed us to provide 67 kids with a library of books.



Students collecting books for Bernie's Book Drive



A student wearing the Bednarcik recycling mascot costume



Students collecting raffle tickets for the school recycling raffle



Energy Conservation



Goal 2: Decrease the amount of energy used in our school & community and raise awareness about saving energy.

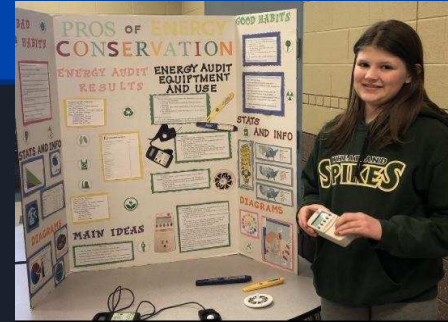
Resources: ComED Student Power and NEED.org

Monitoring Energy Use Activities

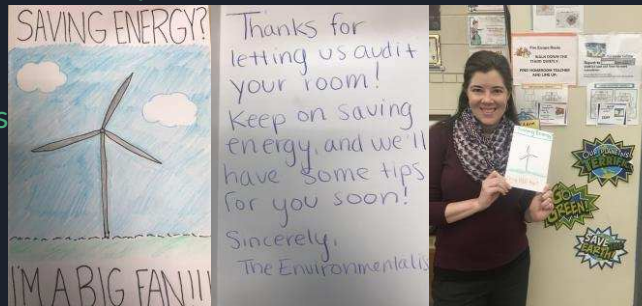
1. Returning team members taught new members how to do energy audits in the classrooms. The students were taught how to use tools such as a Kill-A-Watt meter, a Humidity and Water Thermometer, a Light Meter, and a Ballast Checker to help measure the amount of energy used in the classrooms.
2. October through March, teachers signed up to have an energy audit done on their classrooms. Currently, the team has been conducting a list of positives for each teacher and different aspects they can improve upon for the coming year. The results of the audits were also compared to the results of last year's audits in order to see habitual errors and improvements.

Presented findings at faculty meeting.
Working with custodians to make changes

3. April Energy Conservation Challenge
Families use their smart meters and compete to see who reduces home energy use the most.



A student demonstrates how to use some of the items in our school auditing kit



Energy Conservation



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Resources: ComED Student Power and NEED.org

More Activities to Monitor Energy Use

- Members of the team met with a professional energy auditor. With her help, the team made a list of ideas to improve classroom energy audits. These students also located the source of many phantom energy sources, as well as finding key areas in the building that could be improved with energy usage. Teachers signed up for audit dates and the team highlighted the good habits and discussed ideas for teachers to try.
- Members of the team went around the school at the end of each day and shut down energy draining devices including all of the school computers and coffee machines to ensure that they were not continuing to drain energy at night when nobody was using them.
- Environmental team members educated the school on energy saving tips and reasons to care through daily morning announcements.
- The team made digital flyers and held a social media campaign that was sent out to the community with tips on how to save energy.



Students met with a professional energy auditor to gain insight about school energy usage



Energy Conservation

Energy Fair 2018- Planning and Executing

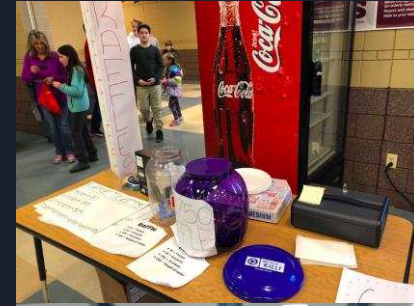
As an annual tradition for Bednarcik Junior High, the Energy Fair consisted of 7th and 8th grade projects which included different activities, displays, and demonstrations created by the Environmentalist Team at the school.

Environmentalist Team Tasks

1. Plan and assemble the layout and items for the Energy House Exhibit
2. Write display information and scripts for the different parts of the Energy House
3. Create flyers, posters, and announcements for the event
4. Decide on and collect raffle items
5. Prepare game stations
6. Make signs for each area of the fair
7. Film an explanation of the Energy House Exhibit
8. Hand out free materials and information sheets provided by ComED, Nicor, and Resource Force
9. Display Energy Conservation Art for the Art Gallery

Over 400 visitors attended the fair!

Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.



Energy Conservation

Energy Fair 2018- Alternative Energy Projects

As a part of the Energy Fair, 8th Grade students presented multimedia presentations similar to the television show, Shark Tank. Each group chose an alternative energy type- Biomass, Geothermal, Wind, or Solar to explain in 5 minutes, and why the school board should choose their energy source.

The students researched the pros and cons of their energy type as well as the components needed in order to actually implement the source at our school. Students researched costs involved and potential grants and other funding sources. They used building blueprints and spoke with building engineers and other professionals to help support their plans.

The SD308 school board members were all very impressed with the presentations. Evergreen Inc. won the vote, convincing the school board members that if the district were to ever switch to an alternative type of energy, biomass would be at the top of their list.

Resources from NEED: Intermediate Energy Infobook, Energy at a Glance Fact Sheets (Solar, Wind, Biomass, and Geothermal), Blueprint for School Energy Teams, Building Science, Energy from the Sun, Energy from Wind. Additional resources: DefinedSTEM, EnergyStewards, Illinois Solar and Wind Schools, Illinois Energy Learning Exchange Library, Think Green NASA JPL, SaveOnEnergy, Chicago Tribune, ReliantEnergy, City of Aurora, Information on TRANE's Natural Gas heating and cooling system

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Students eagerly wait outside the shark tank



Team Genuinely Geothermal



Team G.E.O (Geothermal Energy Operations)



Team Evergreen Inc.

Energy Conservation

Energy Fair - Museum Exhibits



Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.

The museum exhibits at the energy fair educated students and community members about different aspects of energy such as ways it can be produced, ways it can be used, and ways to save energy. Students got very creative with their projects and learned many new things about the topics they were covering while making it.



A student explains information about home lighting



A student explains information about solar energy



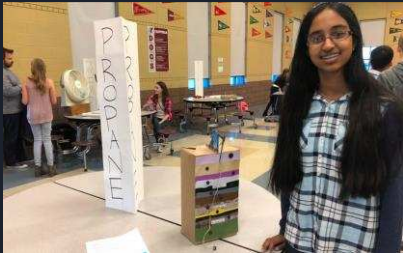
A student learns about smart meters at the smart meter exhibit



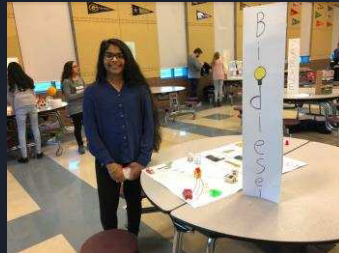
A student teaches the community about hydropower



A student designed compressed water nuclear power plant



A student explains the uses of propane



A student informs community members about biodiesel



A student learns all about coal



A student demonstrates her knowledge of baseload balances



Students learn about nuclear energy and its uses

Energy Conservation

Energy Fair- Energy House

Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.

Students constructed a life size version of a house space, including: a kitchen, bathroom, office, and sitting area to help visitors learn how they can save energy in their own homes. Students also displayed an energy audit kit, and how the tools inside were used to measure the amount of energy used in each classroom. The team helped families learn how to use a smart meter to monitor energy use and reduce consumption.



A student explaining ways to save energy in the kitchen



A student displaying some tools in our audit box as well as ways to save energy at home



A student giving a tour of the energy house to people who attended the fair



A student talking about energy efficient lighting within homes



A student explaining how it can be beneficial to have plants inside of homes

Energy Conservation

Energy Fair - 7th Grade Energy Efficient Home Design Challenge

Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.

7th grade Honors Science students were challenged to create the most energy efficient house that ran off of solar power. The students presented their houses at the energy fair. The public voted on the house that they thought was the most energy-efficient and liked the best. Students utilized their knowledge of energy efficient water heaters, home heating, and heating and cooling insulation techniques.

7th Grade

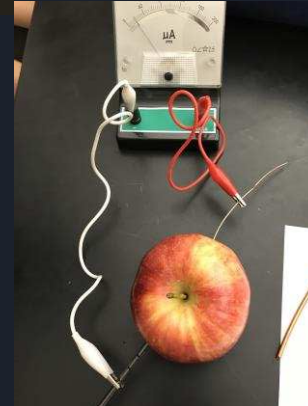


Displayed are some of the houses featured at the fair

Learning Energy in the Classroom

Goal 3: Educate the community about energy use and environmental issues so they know how and why to conserve energy at home.

NEED has provided so many useful materials to teach energy in a fun way. The students had a blast learning about energy transference and then we got opportunities to apply the knowledge that we learned.



Environmental Songs and Videos — on our YouTube channel

Our team finds that a great way to engage our school and community in learning about environmental information is through music videos. Below are some of our educational lyrics:

To the tune of "Victorious" by Panic! At the Disco

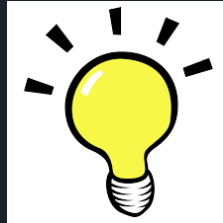
Many people don't know that
Things that don't fit in a can
Still can be recycled too
This is what you have to do
Woah oh oh oh oh
Recycle that
Woah oh oh oh oh
Have you ever wanted to recycle something big?
But you can't because it won't fit inside of the recycling bin.
Refrigerators, furniture, computers galore,
Say goodbye to all your worries, this won't happen anymore.
Just look and search it up online,
you'll see that many places can take away your trash if you go to a recycling drive
Oh, it's time to recycle bigger things,
Like your ancient washing machine
We won't take a break till our Earth is clean
Keep thinking green
Keep thinking green
big appliances
Have certain requirements
Check all of the regulations
Before you go recycle them
This includes items such as freezers and stoves
Furnaces and heaters, the machines that warm your home
You can arrange for furniture
To be picked up at your house
You don't have to worry it'll be recycled somewhere else

Oh, it's time to recycle bigger things,
Like your ancient washing machine
We won't take a break till our Earth is clean

To recycle a computer
Go to a local retailer
That has a computer program
I swear it's pretty easy fam
do you have an old TV?
Call your waste disposal team
Go check out your city's website
Then you'll gain some new insight

Oh, it's time to recycle bigger things,
Like your ancient washing machine
We won't take a break till our Earth is clean
Keep thinking green
Keep thinking green

Many people don't know that
Things that don't fit in a can
Still can be recycled too
This is what you have to do



To the tune of "Havana"

Bottles, cardboard, cans
Make sure that you go and recycle all of the
Go put them inside of the recycling bin
The world's starting to run out of space
We're try'n to clean up this place
So start recycling
Recycling has many benefits
It aids in cleaning up our environment
It helps to conserve natural resources
It lets companies save lots of money
It saves energy
All you have to do
Is find a recycle bin
Then put all your items in
Your action may have been very tiny
But you just made a difference
The earth will now be
A little bit more tidy
Bottles, cardboard, cans
Make sure that you go and recycle all of the
Go put them inside of the recycling bin
The world's starting to run out of space
We're try'n to clean up this place
So start recycling

Landfills

Are getting way too stuffed with trash (that's bad)
They're full of things like aluminum cans
Plastic bottles, glass containers
And too many newspapers
Foil chip bags, even milk cartons
The thing about those
Is that they take to long
To decompose
It's kinda gross
They're just sitting there
Making stench for your nose
But they could be recycled instead
Then the object could be used again
Come on we have to clean up our act
That fact's exact
Bottles, cardboard, cans
Make sure that you go and recycle all of them
Go put them inside of the recycling bin
The world's starting to run out of space



Getting Involved in the Community

Check out our Instagram TruScienceClass,
Twitter and YouTube Channel TruSciClass

The Environmentalists have been invited to present at several events at other schools and around the community to help clean up the Earth and help spread conservation awareness.

We have also worked with our Alderman, Mr. Bugg, to promote recycling and energy conservation ideas at local businesses.

Some of these include:

- Aurora-Ward 9 Annual "Clean-Up The Streets" Day
- Southbury Elementary School STEM night
- Churchill Elementary School STEM night
- Bernie's Book Bank
- Naperville Humane Society
- Keep America Beautiful Recycle Bowl
- Ward 9 Clean Out and Recycle Drive

In order to check out some more of our information and achievements check out: Our Blog <https://besome1whoconservesenergy.wordpress.com/>

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BEDNARCİK RECYCLING DRIVE

Week 1: Feb 26- Mar 2: Clean out your bathroom! Bring in objects like disposable contact lenses, empty contact cases, empty toothpaste tubes, empty mouthwash bottles, and empty contact solution bottles!



Week 2: Mar 5- Mar 9: Clean out your kitchen! Bring in objects like tupperware, empty k-cups, grocery bags, and empty jars!



Weeks 3 & 4: Mar 12- Mar 23: Clean out your closet! Recycle things like old t-shirts and sheets to help us turn them into dog toys for the Naperville Humane Society! Also bring in books that you no longer use to donate them to Bernie's Book drive. These books will then be given to children all around the Chicago area who are unable to purchase nice books of their own!



Project Summary



The Environmentalist Team at Bednarcik Junior High is a recycling and energy conservation team that leads the recycling and energy conservation projects that go on in school. The team consists of 6th, 7th, and 8th graders that all contributed to our successes this year. This year, the team has tried to get more involved in the school and the community, encouraging people to save energy and to recycle materials in order to save the Earth. Some of the students on the team who are in other clubs, have also used their club platforms in order to help spread the environmental benefits that come with recycling and saving energy. We are hoping that as the 8th graders move on to high school, not only will they be able to spread their knowledge, but they will also help begin a recycling and energy conservation team there. The team is hoping that the current 7th and 6th graders on the team will carry on the importance of this team and will continue to achieve more. By using different programs such as PepsiCo Recycling Program, NEED, ESP, Student Power, EarthEcho and others, the team has been able to have new opportunities, experiences, and interactions with all different kinds of challenges and goals each month. With these challenges comes a new excitement for recycling and energy conservation. We also added in more environmental challenges, looking at water quality and how plastics and chemicals had to the global water crisis. We looked at ways to reduce single plastic use and we are currently working with our area McDonald's franchise owners and they are sharing our ideas with corporate office. It feels very accomplishing to be able to teach adults new information and tips that they could also help spread. We also enjoyed making three videos to educate our community on energy conservation. Our team is very proud of all we have accomplished this year! From monthly competitions to all of the different parts that went into our annual Energy Fair, we continue to hope that we have not only achieved what we set out to do, but also more. We're excited to see how the club will continue to grow!

The Environmentalists would like to thank all of our sponsors, especially the NEED and ESP programs for allowing us to participate in such wonderful learning experiences. We are so grateful for how these programs have allowed us to succeed and inspire us to improve the environment of our world.



“I am so grateful for all of the amazing opportunities and learning experiences the NEED program has allowed me to be a part of. Thanks to NEED, I have become an environmentally aware citizen that is striving to make my world a better place.”

-Megan Schwab

“In the past two years I have learned so much about energy conservation. Through the knowledge and resources of NEED I am now able to be a responsible and knowledgeable citizen.

-Samuel Mendoza

“From all of my experiences with the NEED program, I have learned so much more about energy conservation and I am happy that I can apply the information I have learned to my future and to assist others.”

-Erin Hudson

