

Morningside Elementary  
5<sup>th</sup> Grade NEED Project: “There’s No Place Like Home”  
Advisors: Mollie Mukhamedov & Sara Bolton

There’s No Place Like Home is the theme of Oxbow’s Earth Day Festival, and we thought that was just a perfect title for our NEED Project this year. There truly is no place like home at Morningside Elementary. We have the best students and staff at our school, and we love learning about energy with curriculum from the NEED Project. Using the philosophy of NEED, “Kids Teaching Kids”, gives us the opportunity to reach out to our community and teach others what we have learned.

Fifth graders presented an Energy Expo at the Indian River Lagoon Science festival in October of 2022. This was the first year the Science festival was back since 2019, and we had a blast getting together with community members and showing off all that we learned from the Science of Energy Unit and the Energy Expo Unit. This was also the first year since 2019 that our school district hosted a Science Expo. It was fantastic to have students represent our school and take some of their energy projects.

Fifth graders will host an Energy Expo at the Oxbow Eco-Center on Earth Day. The Earth Day festival will be exciting, because we are partnering with our 4<sup>th</sup> Grade Everglades Ambassadors to host an interactive exhibit from our school. Morningside Elementary is working towards becoming an Everglades Champion School this year, so it is a perfect opportunity to combine our NEED project with the efforts of our Everglades committee. Learning about the Everglades through specific lessons in each grade is engaging students in learning about a very important natural resource right at home. There is no place like home at Morningside Elementary where we work together make a positive impact in our community.



# Goal 1: Learn and Teach the Science of Energy

## Energy Content Activities

1. Students studied the Science of Energy.
2. Students taught other students about energy transformations.

## Student Leadership

1. Students oversaw learning their experiment and planning their presentation for other students.
2. Students were given the script to study and the materials and procedure for their experiment.
3. 5<sup>th</sup> grade students taught 3<sup>rd</sup> and 4<sup>th</sup> grade students about forms of energy and energy transformations.

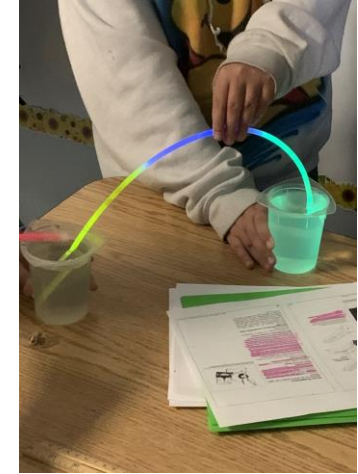
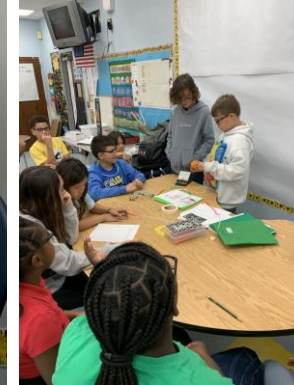
## Resources

1. NEED Elementary Science of Energy Unit
2. NEED Energy Info books

## Evaluation:

1. Unit test on energy
2. Student interest and participation
3. Teacher monitoring of presentations
4. Feedback from other students and teachers about presentations





# Science of Energy Stations

Station

Station One

- Potential and Kinetic Energy

Station

Station Two

- Endothermic and Exothermic Reactions

Station

Station Three

- Radiant Energy Transformations

Station

Station Four

- Thermal Energy and Motion Energy

Station

Station Five

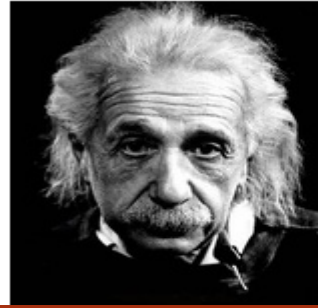
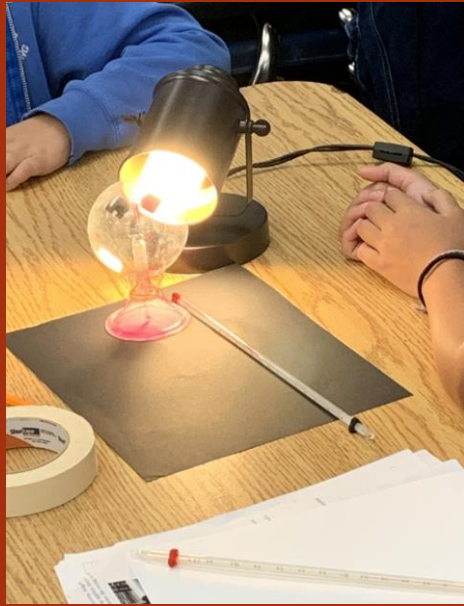
- Chemical Energy

Station

Station Six

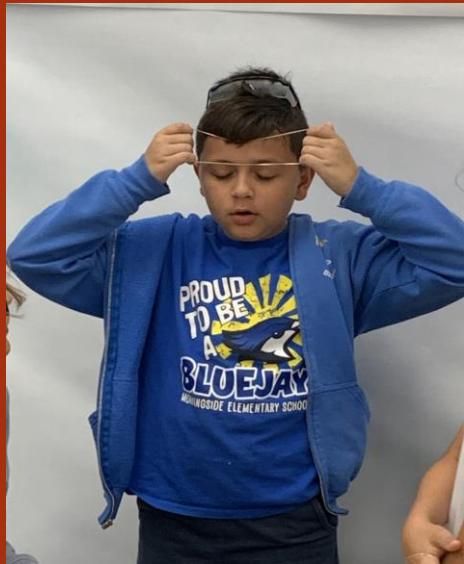
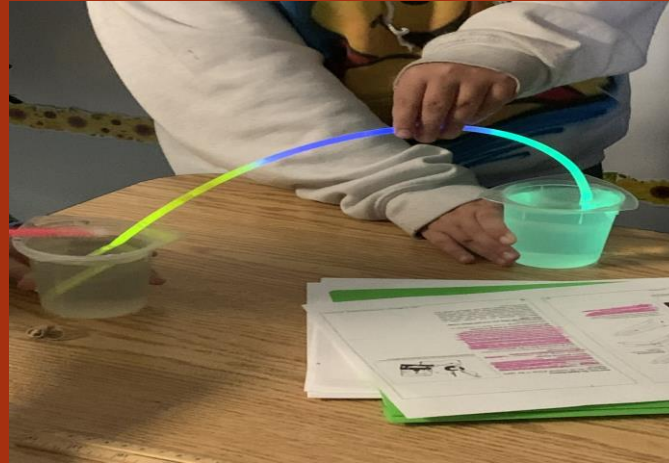
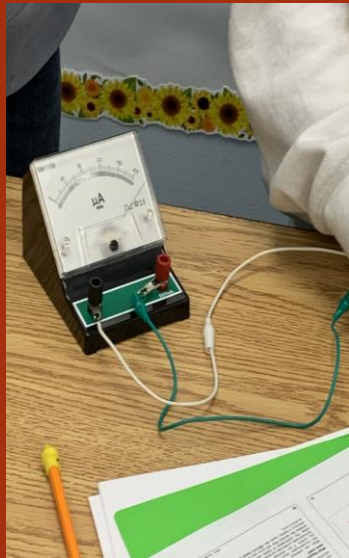
- Electrical Energy





“Energy cannot be created or destroyed, it can only be changed from one form to another.”

— Albert Einstein





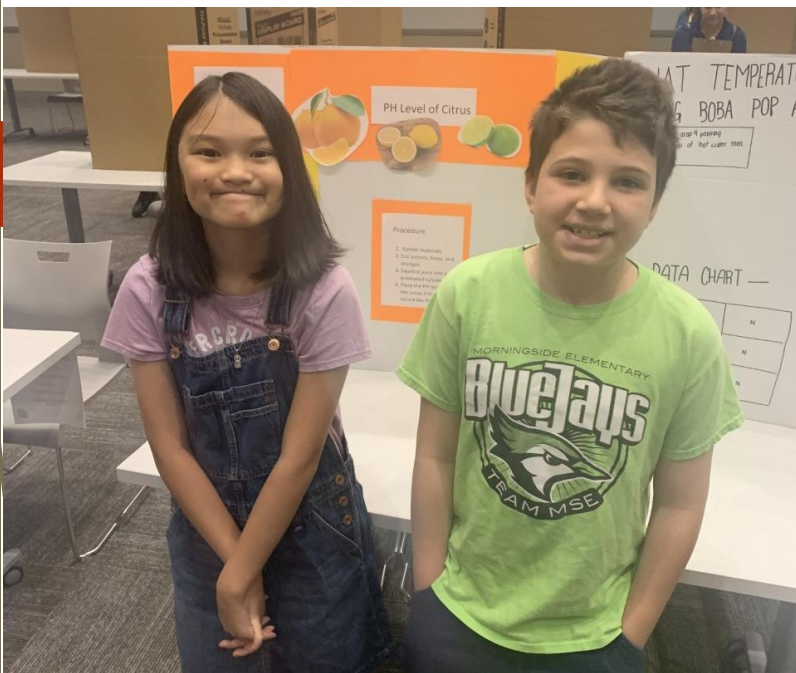










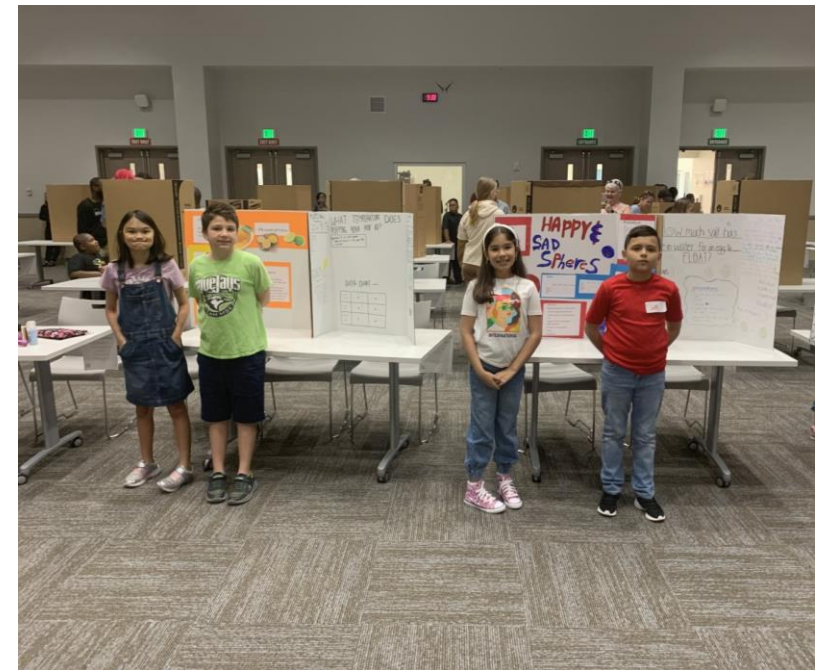
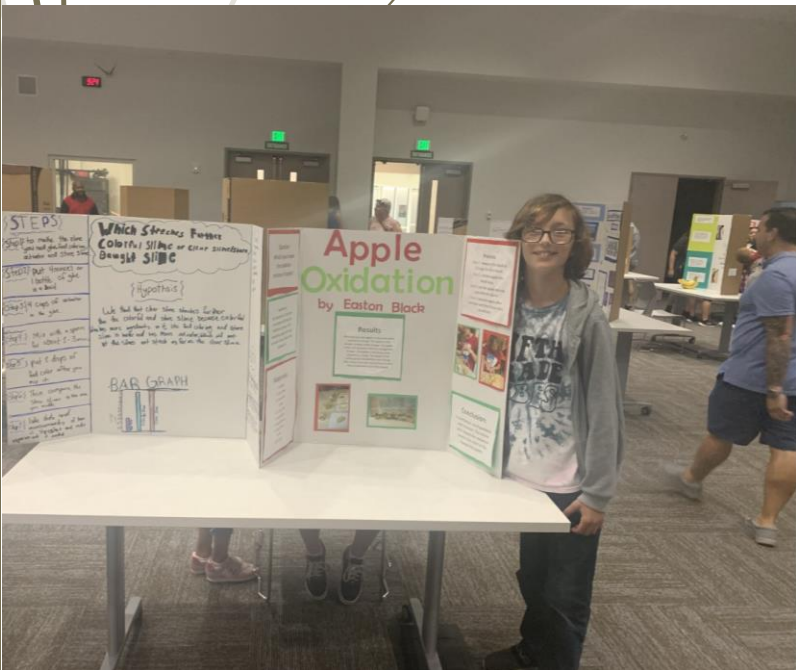
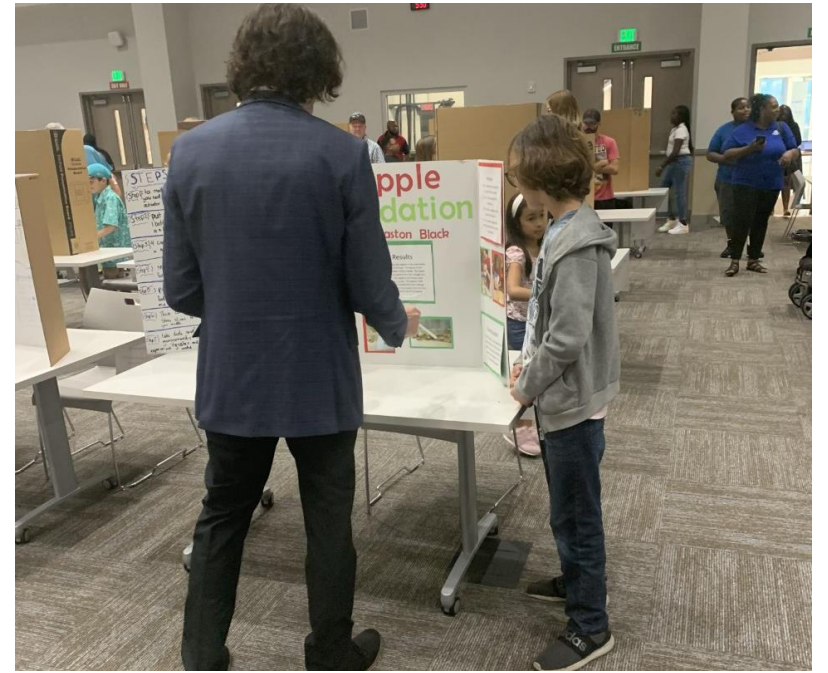


# SCIENCE SHOWCASE

**SATURDAY, APRIL 1, 2023**  
**9:00 A.M. - 11:00 A.M.**

ST LUCIE PUBLICS  
SCHOOLS DISTRICT OFFICE  
9461 BRANDYWINE LANE  
PORT ST. LUCIE, FL 34986

At this event, students will have the opportunity to exhibit, talk about, and answer questions about their projects, either individually or as a group. This is a showcase presentation, and there will be no judging for this event. This experience will afford students the opportunity to prepare for the St. Lucie County Regional Science and Engineering Fair STEM Competition.





## Goal 2: To have an Energy Expo at the Indian River Lagoon Science Festival

### Energy Content Activities

1. 5th grade students studied a source of energy and created a poster on their source.
2. Students presented their posters to the class.
3. Students attended the Indian River Lagoon Science Festival where they displayed their posters and presented hands on demonstrations for festival attendees.

### Student Leadership

1. Students were responsible for researching their energy source and designing their poster.
2. Students were responsible for running the table for our school at the festival.
3. Students were responsible for demonstrating energy transformations to festival attendees.

### Resources

1. Energy Expo Unit
2. NEED Energy Infobooks
3. Science of Energy hands on experiment materials

### Evaluation:

1. Teacher monitoring of student presentations at the festival
2. Unit test on energy
3. Evaluation of student posters for the Energy Expo





# Energy Expo

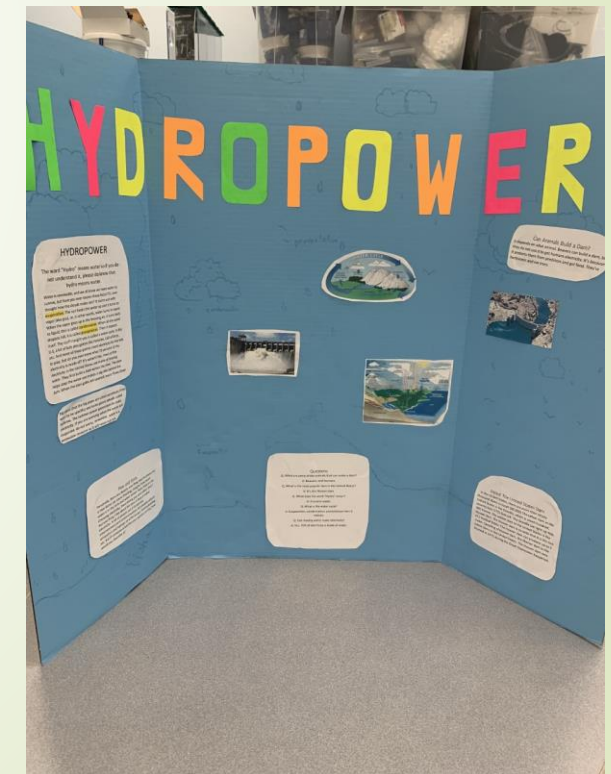
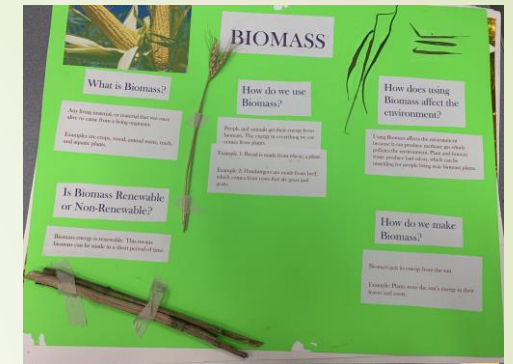
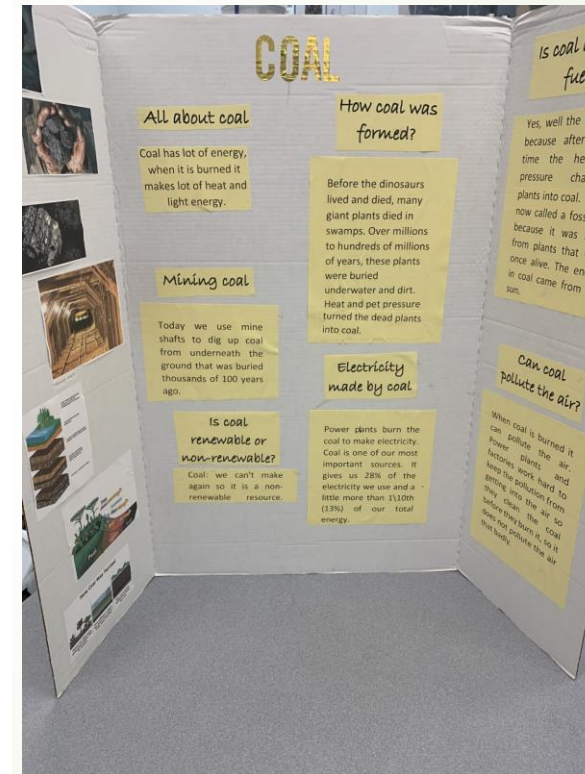
Wow! Uranium is such a cool thing and seeing how it works and what it does is even cooler. Uranium can be extremely dangerous but there is no harm in learning about it. I think that uranium is one of the coolest energy sources so learn about it with me.

First, what is uranium and what do I call this? Uranium is nuclear energy, "nuclear energy is energy in the nucleus of an atom." This means that in a bomb each atom has a nucleus that has nuclear energy in it. "In nuclear fission, energy is released when atoms are combined or fused together from a bigger atom." This is important because when smaller atoms are combined from a bigger atom you can split the whole thing into different sections.

To add on, where did we find uranium, here is where it comes from. "It wasn't until the early 1930s that scientists discovered that the nucleus of an atom is made up of particles called protons and neutrons." That means that only 92 years ago we did not have protons or neutrons, so we did not have any positive electric charge or neutral charge." A few years later, scientists discovered that the nucleus of an atom could be split apart by bombarding it with neutron-the process we call fission." This is important because now that they know that they can split it there is more energy we can use.

Finally, here are the uses of uranium. "The Uranium fuel is formed into ceramic pellets." This means some ceramic pellets we use are from uranium fuel. "Fission generates thermal energy in a reactor just as coal generates thermal energy in a boiler." This is cool because when you start a fire with coal it is just like having fission energy and both generate thermal energy.

In conclusion, uranium is very cool to learn about and to see how it works is cool also. Learning about uranium is an exciting thing to learn about and one of the coolest energies to learn about too.





# IRL SCIENCE FESTIVAL

22

SATURDAY, OCTOBER 22, 2022 AT 10 AM

## Indian River Lagoon Science Festival 2022

600 N Indian River Dr, Fort Pierce, FL 34950-3079, United States

### Details

2.2K people responded



Event by IRL Science Festival

600 N Indian River Dr, Fort Pierce, FL 34950-3079, United States

COVID-19 health and safety requirements:

- **Outdoors**

[Learn more](#) about COVID-19 guidelines

Public · Anyone on or off Facebook

The Indian River Lagoon Science Festival is back for its seventh year! This is a FREE science, technology, engineering, art and math (STEAM) festival featuring hands-on activities from over 50 exhibitors across the Treasure Coast for all ages. There will also be exciting stage presentations and food trucks!

We aim to make STEAM accessible, interactive, relevant and FUN for children and adults.

This year's exhibitors and activities include:

Early Learning Center of SLC/STEM GEMS of St. Lucie: Fossil Dig  
FAU Harbor Branch: Marine Mammal Rescue and Population Assessment  
FAU Harbor Branch: Citizen Science  
FAU Harbor Branch: Ocean Science for a Better World®  
FAU Harbor Branch: Indian River Lagoon Research  
FDEP/IRLAP: Organisms of an IRL oyster reef-"Friend or Foe"  
Florida Department of Agriculture and Consumer Services: Meet our tiny insect sidekicks: beetles!  
Florida Oceanographic Society: Sharks & Rays Q&A  
Florida Oceanographic Society: Spat, What's That?  
Florida Power and Light: EmPower Yourself!  
Fort Pierce Police Department: Crime Scene Investigations  
Fort Pierce Westwood Academy/MOA: Sea Turtle Survival  
Good Ways Group: Neurons at Work  
Goofy Grapefruit 4-H Club  
GSSEFL: Wonderful Wind!  
Indian River State College: "Ocean Acidification"; "Cell to Organ Systems"; "Chromatography Butterflies"  
Joyful Noise: Sound Wave Demonstration  
Leap Lab Florida: Dino Digs, Extinctions and Resiliency  
Loggerhead Marinelife Center: Build a Sea Turtle Enrichment Device  
Manatee Observation & Education Center: Bone Detectives  
Max Planck Institute for Neuroscience: Cognitive Commander: Control

Morningside Elementary : Blue Jays NEED (National Energy Education Development) Project Expo  
ORCA: Fish Bioaccumulation Game  
Oxbow Eco-Center: The World of Away Eco-Art Experience!  
Real Estate Navigators: Ocean Art  
Samuel S. Gaines Academy of Emerging Technologies: STEAMBots  
Savannas Preserve State Park: Sand Box Animal Prints  
Smithsonian Marine Station: Coral probiotics  
Smithsonian Marine Station: I've Got a Crush on You!  
Smithsonian Marine Station: Where's Corey the Coral?  
St Lucie Audubon Society  
St Lucie County Sheriff's Office Dive Team: Underwater Search & Recovery  
St Lucie County Utilities: To Flush or Not to Flush  
St. Lucie County Library System: Discover, Connect, Inspire at the Library: The Florida Otter Project  
St. Lucie County Solid Waste and Recycling: Recycle Right & Waste Wise  
St. Lucie Mosquito Control District: Fight the Bite!  
Stella Maris Environmental Research : Sea turtle crawl scene investigation  
Sun Grove Montessori School: Go with the Flow - Ocean Currents  
Tradition Preparatory High School: Let it Glow!  
Treasure Coast Beekeepers Association: Observation Beehive  
U.S.C.G. Auxiliary Flotilla 58, Fort Pierce Boat and Environmental safety  
UF / IFAS - Florida Medical Entomology Laboratory: Mosquito Discovery Zone  
UF IFAS St. Lucie County Extension, Florida Sea Grant: Seaweed,



# IRL SCIENCE FESTIVAL





# Goal 3: Host an Energy Expo and Everglades Expo at the Oxbow Eco Center Earth Day Festival



## Energy Content Activities

1. 5th grade students studied a source of energy or a transportation fuel, wrote an essay and created a poster on their source or transportation fuel.
2. Students presented their posters to the class.
3. Students will attend the Earth Day Festival at the Oxbow Eco- Center on April 22 and host an Energy Expo. They will take their posters, an energy wheel and some energy demonstrations to share with visitors at the festival.
4. 4<sup>th</sup> Grade students who are “Everglades Ambassadors” will co-host our Earth Day exhibit. They will bring interactive exhibits to teach about the importance of the Everglade.

## Student Leadership

1. Students were responsible for researching their energy source or transportation fuel, writing an informative essay and designing their poster.
2. Students will be responsible for running the table for our school at the festival.
3. Students will be responsible for demonstrating energy transformations to festival attendees.

## Resources

1. Energy Expo Unit
2. NEED Energy Infobooks
3. Science of Energy hands on experiment materials
4. Everglades Literacy curriculum

## Evaluation

1. Teacher monitoring of student presentations at the festival
2. Informative essay scores
3. Unit test on energy
4. Evaluation of student posters for the Energy Expo







A St. Lucie County Environmental Learning Center



## St. Lucie Earth Day Festival Exhibitor Registration

Saturday, April 22, 2023 at Oxbow Eco-Center from 10am-5pm

To ensure your participation, please complete this Exhibitor Registration Form. Exhibitor space is limited; please register early. This form must reach us no later than **March 22**

### Exhibitors must provide:

- Hands-on activity or demonstration that engages families
- Tent, Table(s), Chair(s)

- 5th grade students will use curriculum from the NEED (National Energy Education Development) project to provide an energy expo. This expo will feature hands on demonstrations showing how energy transforms. Student posters and essays on the sources of energy will be on display. There will be an energy wheel that participants can spin to learn some facts about energy sources.
- Our school's Everglades ambassadors will display some of their projects about the Everglades. Our school is working towards becoming an Everglades champion school. Everglades conservation is a core value of our school, and we want to share our knowledge and efforts with our community.



STLUCIEEARTHDAY.COM

ST. LUCIE EARTH DAY FESTIVAL 2023  
no place like home

FOOD & DESSERT TRUCKS      SILENT AUCTION

INTERACTIVE EXHIBITS      CHILDREN'S NATURE PLAY ZONE

SUSTAINABLE LIVING VENDORS      WILDLIFE ENCOUNTERS

RAIN OR SHINE #STLUCIEEARTHDAY      FREE ADMISSION

LIVE MUSIC & ENTERTAINMENT

Chobee Stealers      RAINFALL REGGAE      THE SMOKEBOSS MILITIA  
RISE AGAIN

**SATURDAY APRIL 22**  
10AM - 5PM  
OXBOW ECO-CENTER  
5400 NE ST. JAMES DRIVE      PORT ST. LUCIE

STAGE SCHEDULES, PARKING INFO & MORE AT [STLUCIEEARTHDAY.COM](http://STLUCIEEARTHDAY.COM)

The Everglades Literacy Program provides a free, online K-12 Teacher Toolkit with comprehensive Everglades lesson plans that align to the State Academic Standards.

This statewide program provides the skills and tools necessary to act to protect this threatened ecosystem which provides the daily water supply for 9 million Floridians, contributes billions of dollars to Florida's economy, and provides recreational and educational opportunities for millions of visitors from all over the world.

# THE EVERGLADES FOUNDATION™

The Everglades Foundation is a 501(c)(3) non-profit dedicated to leading efforts to restore and protect the greater Everglades ecosystem. Since its founding in 1993 by a group of local outdoor enthusiasts, the Foundation has become a respected and important advocate for the sustainability of one of the world's most unique ecosystems. Serving as an influential powerhouse in the environmental world, The Everglades Foundation has a history of influencing environmental policy by providing bipartisan solutions backed by sound scientific research.

Rooted in science and inspired by these solutions, The Everglades Foundation takes on a powerful democratic approach when advocating for the restoration of America's beloved wetland.