

Reedy Fork Elementary



the wise way to save



Energy Wise Teams:
Power Grid

Mrs. Tracee Weathersby



Reaching Community

- ❖ Reaching community one family at a time.
- ❖ Our idea was to reach the community by teaching three energy concepts and having the 5th grade students do a project with a family member.



Our Goals: Reaching Community

Using our Energy to change the world around us one family at a time....

Student Leadership:

We showed leadership by presenting to our peers on Microsoft teams. The topic was solar energy.

We showed leadership doing a presentation on heat transfer to one of our 5th grade classes.

We were leaders in our class by having a round table discussion about wind and assisting the students with making an anemometer.

Resources used:

- NEED: Learning and conservation student guide
- Introductory to wind Energy: by NEED
- Built an Anemometer
- Made Pin Wheels
- School Energy Consumption Survey
- NEED :Elementary Energy Infobook Activities

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- ❖ To educate the community and increase their knowledge about energy conservation and energy concepts.
- ❖ We did three projects which included community participation.

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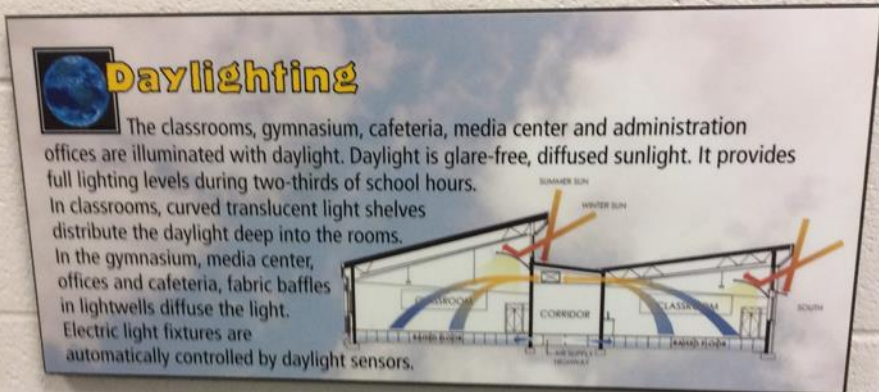
- ❖ We made snowflakes out of recycled materials. To practice reducing and reusing recycled materials.
- ❖ We used the NEED lessons on wind and solar energy.
- ❖ We did a lesson on Heat Transfer

Due to COVID, this year Guildford County Schools did not have their annual Energy Wise program. The Energy Team continued studying and sharing the importance of being Energy Wise.

Our Building: Built to be Energy Efficient



- Reedy Fork Elementary is one of the few buildings in Guilford county schools that is energy efficient. Each classroom has skylights. The building was built from 80% recycled materials. There is rain collection system which provides water for all of the restrooms.
- The teachers have been leaving their lights on for 8 or more hours and it is wasting energy. We encourage everyone to turn out lights when possible. Our building has skylights so we can conserve energy when there is enough day light.
- This year has been a challenging year with the Pandemic. We are having to re imagine what being energy efficient means and how to do it with all of the COVID protocols in place.



SOLAR ENERGY: MAKING A SOLAR OVEN

- ❖ All the 5th grade students were given a kit with supplies to build a solar oven at home.
- ❖ We did a presentation on Microsoft teams for the 5th grade students on solar energy.



Our Thoughts about the Solar Oven Project



Solar oven *From: Maria*
What I think about the solar oven is that it is really cool because you got to make a food without any gas so you would not waste anything. It was also really easy to make. You only had to have a few things to make it. I did not take long for the smore to bake it only took a few minutes.

Solar oven
I like the solar oven
I like getting to make
the smores and eating them



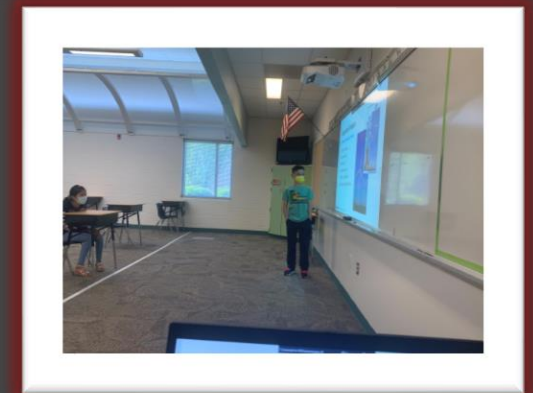
The Energy Team Presenting Solar Energy. Our students were all in remote learning for the first 2 months of School.



The Solar oven *Dobby*
It's a great way to make smores and to do something besides video games

Round Table Discussion about Wind with our Classmates

- We did a presentation on Wind and how it is formed using the NEED PowerPoint presentation.
- We discussed wind in weather patterns, with a focus on Tornadoes. We had an F2 tornado here in Greensboro 2 years ago. One of our schools was so damaged the students couldn't return to the building.
- It was a great discussion!



TURBINES
a wind-wind
SOLUTION



Before



After

Wind Project: Building an Anemometer

In Person students

- ❑ We began by learning about wind and we used the NEED Wind information sheet from the elementary energy infobook.
- ❑ We all had a chance to build and anemometer. We took it outside and used it to see how fast the wind was moving.
- ❑ There was very little wind today, we will try them at home on another day!



Remote Students

Wind

Wind is moving air. We can use the energy in wind to do work. Early Egyptians used the wind to sail ships on the Nile River. People still use wind to move sailboats. In the Netherlands, people used windmills to grind wheat. The Pilgrims used windmills to grind corn, to pump water, and to run sawmills. Today, we use wind to make electricity.

The Sun Makes the Wind Blow

The energy in wind comes from the sun. When the sun shines, some of its light reaches the Earth's surface. The Earth near the Equator receives more of the sun's energy than the North and South Poles.

Some parts of the Earth absorb more solar energy than others. Some parts reflect more of the sun's rays back into the air. Light-colored surfaces and water reflect more sunlight than dark surfaces. Snow and ice reflect sunlight, too.

Some types of land absorb more solar energy than others. Dark forests absorb sunlight, while light desert sands reflect it. Land areas usually absorb more energy than water in lakes and oceans.

When the Earth's surface absorbs the sun's energy, it heats the air above it. The heat on the Earth's surface warms the air above it. The air over the Equator gets warmer than the surface air near the poles. The air over the desert gets warmer than the air in the mountains.

The air over the land usually gets warmer than the air over the water. As air warms, it expands, the warm air over the land becomes less dense than the cooler air and rises into the atmosphere. Cooler, denser air nearby flows in to take its place. This moving air is what we call wind. It is caused by the uneven heating of the Earth's surface.

Land Breeze

Sea Breeze

Wind Energy is Renewable

As long as the sun shines, there will be winds on the Earth. We will never run out of wind energy. It is a **renewable** energy source. It is also free since no one can own the sun or the air.

We Can Capture the Wind

Some places have more wind than others. Areas near the water usually have a lot of wind. Flat land and mountain passes are good places to catch the wind, too. Wind turbines can also work in the ocean offshore.

Today, we use **wind turbines** to capture the wind. Sometimes, there are hundreds of wind turbines in one place. This is called a **wind farm**. Some wind turbines are as tall as 20-story buildings!

Wind Can Make Electricity

When the wind blows, it pushes against the blades of the wind turbines. The blades spin around. They turn a generator to make electricity. The wind turbines don't spin all the time though. Sometimes the wind doesn't blow at all and sometimes the wind blows too hard. Most wind turbines spin between 65 and 90 percent of the time.

Today, wind energy makes about 7 percent of the electricity we use in the United States. Most of the big wind farms are in Texas, Oklahoma, Iowa, Kansas, and California. Many more are popping up all over the country and the world.

Wind is Clean Energy

Wind is a clean energy source. Wind turbines don't burn fuel, so they don't pollute the air. Wind is a renewable energy source and it is free.

Older wind turbines can make a lot of noise as they spin, but new ones do not.

One wind turbine doesn't make much electricity. Most wind farms have many wind turbines. Wind farms can take up a lot of land. Most of the land they are on can still be farmed or used to graze animals. Wind turbines can also be placed in the ocean without disrupting fishing.

Wind is a safe, clean, renewable energy source for making electricity.



We attempted to use our anemometer but there was no wind! We will try it at home later today. 😊

Our Thoughts about Wind

Wind energy,

I liked building the anemometer though there was no wind, and I was able to present about wind, and I hope more stuff like this happens more often!

~ Wind ~

I think that the wind project was really cool and I would do it again. It was kind of hard to make but I was really fun. I can't wait to bring it home and use it, it will be really really fun.

Our finished Anemometers!!

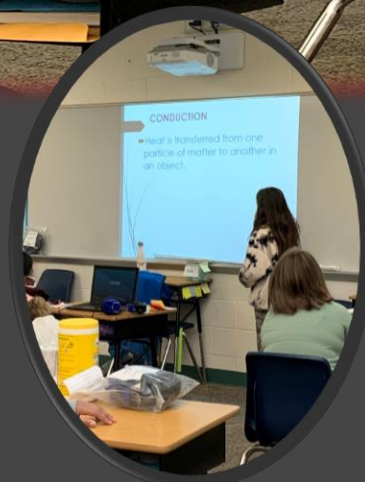
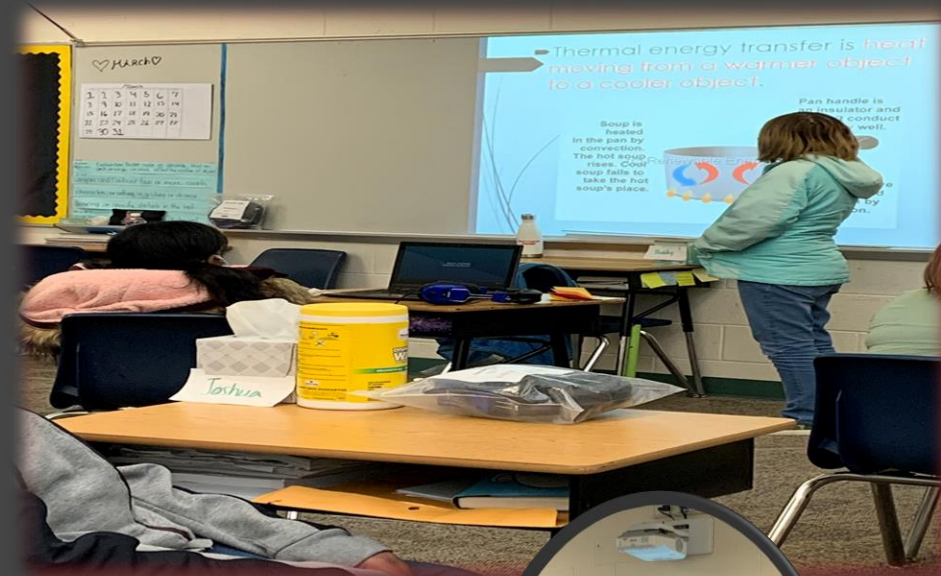
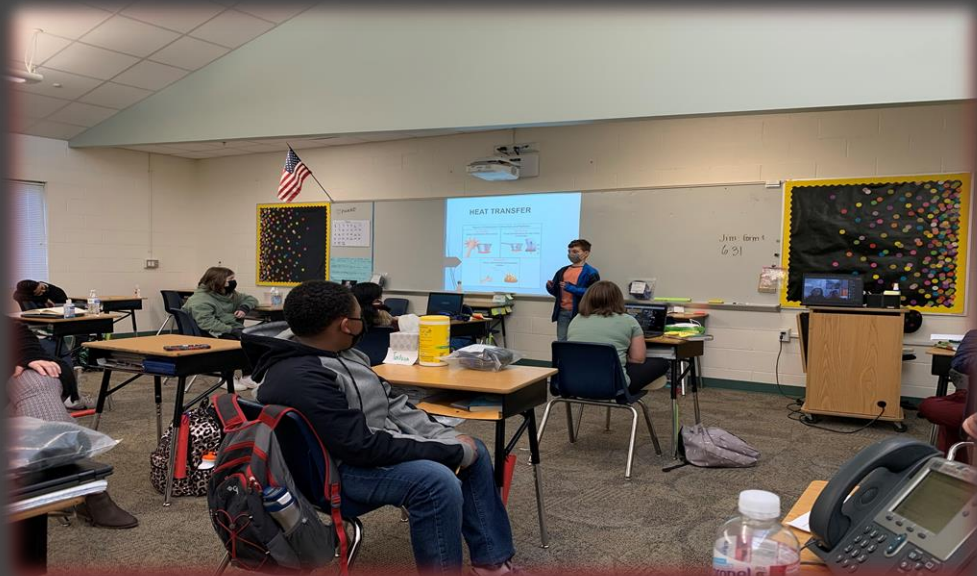


~ Wind ~

Wind help the Earth a lot
I like making anemometer
I can't wait to fix it
out.

Presenting Heat Transfer to 5th Grade Students

We presented heat transfer to one of our 5th grade classes. The class took a project home to complete. The project they completed was the bottle crush experiment.



Heat Transfer: The Bottle Crush Experiment



Before



After



Bottle Crush Questionnaire

Name: Ellean
Date: _____
Teacher: Mrs. Harper
Who worked with you on the project?: me and meda

What is Heat Transfer?
Heat transfer is a discipline of thermal engineering that concerns the generation, use,

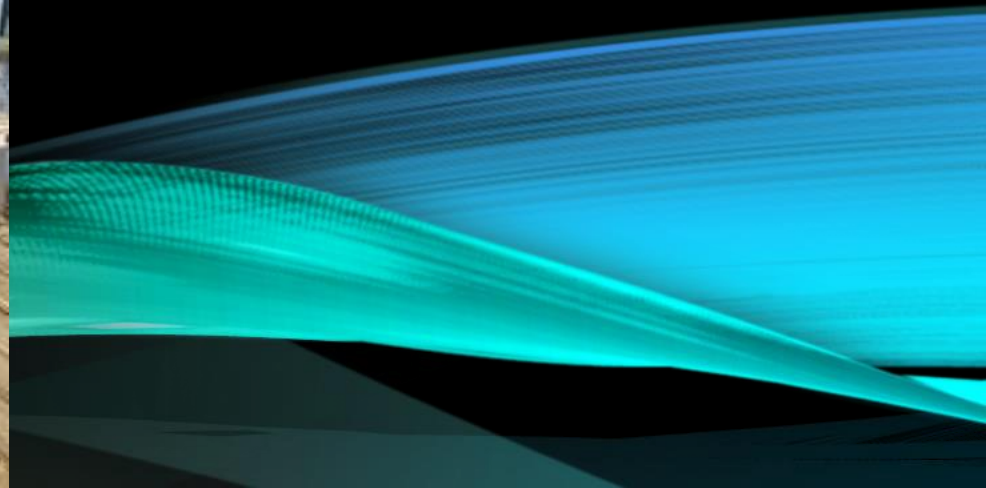
What happened to the bottle once the cold water was poured over it?
The bottle crush when the cold water was poured over it

What is the reason why that happened to the bottle?
With hot water in the bottle, when cold water get poured on it, it will crush

Give another example of heat transfer.
radiation is a nother example of heat transfer because it come from a source and travel throug^{thru} space, it has

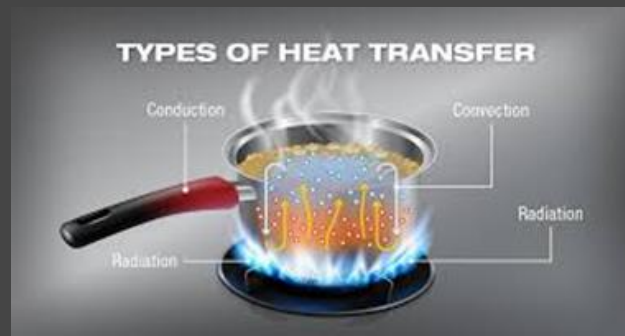


More Bottle
Crush
Experiments...



Our Thoughts about the Heat Transfer Presentation

Heat transfire
I also like the
heat transfire Because
I like talking in front
of the class



Heat transfer
I think that heat transfer is
really cool Because you get to
learn about many things.
Like one thing I learned
a lot about was radiation.

Heat transfer Dobby
It can show you how power ful forces are
When it comes to heat transfer



- ❖ In a normal school year, we collect recycling every Friday from each teacher. It usually is 4 large bags of recycling for the whole school.
- ❖ We recycle plastics, paper and cardboard at Reedy Fork.
- ❖ Due to COVID we were unable to collect recycles this year. We believe in the importance of saving our planet and doing all we can conserve and recycle.



The Energy Team : Team Building



The energy team did a team building activity of making Snowflakes out of recycled toilet paper rolls. Our school is an energy efficient school, and we take pride in our school.

Snowflakes from Recycled Materials



➤ The Energy Wise team made snowflakes out of recycled material. We learned about the importance of recycling. This is what we learned that recycling helps:

- Environmental conservation and protection
- Reduce consumption of energy
- Reduce air and water pollution
- Global warming
- Limit waste in landfills
- Spreads environmental awareness
- Make and save money
- More pollution and energy consumption



Positive Acknowledgements

The Energy Team presented Heat Transfer in my class. They did an excellent job. The presentation flowed nicely and the students presenting had great understanding of the material they were presenting. Some of the positive things that I noted were:

- The students knew exactly what to do.
- The students ran the presentation. The leader did not have to assist them. In my opinion, that shows the amount of work put into the presentation.
- The presenters were able to answer questions and give real life examples.

Heat Transfer is a huge concept for 5th graders. This was a great presentation to remind them of what they learned in the beginning of the year.

Thank you for making this relevant and leading all Energy Wise students into being able to present information accurately and in front of people.



5th Grade Teacher



I would like to give a special shout out to the 2020/2021 Reedy Fork Energy Team

This dynamic group of fifth graders dedicated 300 hours of service, time and energy to improve the environment and surrounding communities. Sacrificing 2 days a week to meet, this group invested time to deliver presentations that educated 5th grade students on Energy conservation, Heat transfer and wind. To connect and extend the concept to the community, the Energy Team identified recycled resources for 5th students to create home projects that reinforced the domain presentations.

I AM Excited for what the future holds for these young ambitious conservations.

Go Energy Team!!!

Jeanette Lindsay

