

green ecowarriors

SAVING THE PLANET THROUGH EDUCATION AND MOTIVATION

**Where Does
Your Electricity
Come From? 3**

**Stop The
Phantom
Draw 2**

This could
be you. See
details on the
back cover.

**Register for
our Energy
Conservation
Challenge.
See details
inside.**



Meet Dinero the Frog 2

This publication aligns with Next Generation Science Standards (4-ESS3-1, 4-ESS3-2) and CMT Science Standards (4.2 B.11) for grade 4.

Be sure to complete your monthly Challenge form and submit it to your teacher for a chance to win monthly prizes and awards!



Meet the Green Eco Warriors

Green Eco Warriors work with others who care about the environment. They use education and motivation to fight for our planet's survival. The original Warriors were fifth and sixth grade boys and their families. They began by watching documentaries about human-kind's impact on the planet. Then they started the Green Eco Warrior recycling program in their schools. Eventually the boys were featured on several news shows. Anyone can be a Green Eco Warrior! The ways to take action are endless. Jonathon (left photo) helped to pass the bottle bill.

Learn more at GreenEcoWarriors.org



Green Eco Warriors Summit

Youth and teachers that compete in the "Save Energy Save Dinero" challenge can win tickets to the summit, held in the Spring. The event will host an award ceremony, games, speakers, and fun.

Hello, I'm Dinero

I use my knowledge to help kids and their families find ways to save energy, fight the Phantom Draw, and help the planet. You can watch my video at www.greenecowarriors.org

Defeating the Phantom Draw

The phantom lives in appliances that are still running after you have switched them off (this is called standby mode). You will know the phantom is still *drawing* power by a small green, blue, or red light on your appliance. The Phantom Draw is a major electricity waster and adds to air and water pollution.

Learn more about the Phantom Draw in your worksheet.



VOCABULARY

Energy
Appliance
Electricity
Kilowatt
CFL Bulb
Natural Resources

Find the definitions in your student worksheet.

Where Does Your Electricity Come From?

Did you know that nearly half of the electricity generated in the United States comes from the burning of coal? The use of fossil fuels, like coal, to create electricity contributes to pollution and asthma rates, as well as global warming.

NON RENEWABLE ENERGY

COAL is collected through a process called strip mining. This process is also known as mountain top removal. Explosives are used to blow up mountains and then the coal is processed, leaving behind slurry waste sites which contaminate ground water.

The coal is then burned in a power plant, the exhaust from the burning leads to air pollution, acid rain, and increased asthma rates.

NATURAL GAS is mined through a process called fracking. Deep wells are drilled then water and chemicals are pumped into the ground to bring up the gas. The toxic waste has been known to seep into groundwater supplies.

The gas is then burned to heat water for steam. Natural gas is a fossil fuel. Approximately 20% of the nation's electricity is fueled by natural gas.

PETROLEUM is used to make steam to turn a turbine. Petroleum also generates about 2% of all electricity in U.S. It is also used to create gasoline which runs cars and trucks.

The combustion of gas and petroleum leads to carbon monoxide (CO) in the environment and air pollution.

NUCLEAR POWER uses a method called nuclear fusion which creates steam by heating water. In a nuclear power plant, a reactor contains a core of nuclear fuel known as uranium.

When atoms of uranium fuel are hit by neutrons they split, releasing heat. The heat is used to turn water into steam that spins a turbine to generate electricity. Nuclear power was used to generate 19% of all the country's electricity. It is dangerous and creates toxic waste bi-products.

Source: United states DOE- <http://www.eia.gov/kids/>

Continued on next page



Continued from page 3

Where Does Your Electricity Come From?

RENEWABLE ENERGY

HYDRO-POWER is the source for almost 7% of U.S. electricity generated. In this process, flowing water is used to spin a turbine connected to a generator. Pressure to

the turbine blades produce electricity. It does not create toxic waste or air pollution but can harm populations of fish if not properly planned.

WIND POWER is created when the wind turns blades like a pin-wheel and this turns a wind turbine creating electricity. Wind power is used for less than 1% of the nation's electricity and is a rapidly growing source of electricity.

GEOTHERMAL POWER comes from heat energy buried beneath the surface of the earth. This is clean energy and does not produce pollution or hurt ecosystems.

BIOMASS includes wood, garbage, and farm waste, such as corncoobs and wheat straw. These sources replace fossil fuels in a boiler. The burning of wood and waste creates steam that is typically used in conventional steam-electric plants. Biomass accounts for about 1% of the electricity generated in the United States.



FAST FACT

Burning fossil fuels releases carbon dioxide, a heat-trapping gas, into the atmosphere, which is the main reason why the climate is changing.

Learn more at www.epa.gov/climatestudents/basics/today

SOLAR POWER is derived from the energy of the sun. It does not create harmful pollution or damage ecosystems. Less than 1% of the nation's electricity is based on solar power.

You Could Be On Our Cover

What are you doing to help the environment? You might be featured in our next issue. Please send your photos and stories to Lcolonees@gmail.com or mail them to:

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398 Palisado Avenue
Windsor, CT 06095

About The Green Eco Warriors Youth Initiative

Our comprehensive program fosters leadership skills, scientific inquiry, scholastic success, and environmental stewardship among young people. We engage students and educators in an interactive program that helps them become energy conservation leaders in their homes, schools, and communities.

Coming Next Issue...



Find out what causes Global Warming. We will also highlight one student who demonstrates their super powers by helping to conserve energy.

Credits: Cover photograph courtesy Dreamstime.com, Photo above by Joseph Hillman, Illustrations of Dinero and The Phantom Draw by Tamara Visco

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4



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