

Newspaper in Education Presents

inquizi kidz

BROUGHT TO YOU BY MANATEE COUNTY'S MAGNET SCHOOLS & ADULT CAREER & TECHNICAL EDUCATION

What do you know about solar power?

kidzbiz

Today...Manatee Elementary Tomorrow...NASCAR!

By Leslie Rowe

Okay, maybe April Garcia isn't planning a car racing career, but this fourth grade student at **Manatee Magnet Elementary** may become a scientist! After April's hand-built solar-powered car won the races in Mr. Davis's science lab, she took home the prize—the (expensive!) solar panel used to power the car. April built her winning car using the solar panel, cardboard, Lego parts and wheels, connecting wires, gears, and a motor.



She even helped friends Laura and Shakura with their cars, but April's came out ahead. "Science is fun to me," explained April. Before the project, April didn't realize the sun could give energy and power. At the races, April and the other students watched as their cars accelerated in the warm sun, but stopped dead in the shadows. "Science lab is my favorite," she said.

April and the other students are becoming computer whizzes too. Using the classroom's wireless iBook computers, April uses Google to search the Internet, and creates presentations using PowerPoint. She offers this tip: save your files often so you don't lose your work! (And this is from a fourth grader!)

school biz

Manatee's own science guy

By Leslie Rowe

Bill Nye the Science Guy's got nothing on Manatee County—we have our own science guy right here! Meet Donald Davis, a former winner of the Presidential Award for Excellence in Mathematics and Science Teaching. This guy knows science like you know how to brush your teeth! Spend an hour with him and you'll get excited about science too—he's contagious.



Don's students at **Manatee Elementary Magnet School of Advanced Technology** Plus recently experimented with solar energy. Using solar panels and Lego parts, students built and raced solar-powered cars. For them, it was pure fun and racing thrills. But, as Don explained, this hands-on project taught them about transportation, energy, manufacturing, the engineering process, forces, traction, friction, arc, and energy conversion from sunlight to electrical to mechanical energy! Now that's a LOT of science!

Don is full of ideas, and his new school lab has great equipment. Students use stream tables to learn about the earth's forces, erosion, mapping, math, and civil engineering. They use computers to do research, create PowerPoint presentations, and digital animations. Students peer into digital microscopes, and collect data from a wireless weather station. And this is elementary school! Attention all kids who like science: Manatee Magnet School is the place to be!

Solar Power & Energy

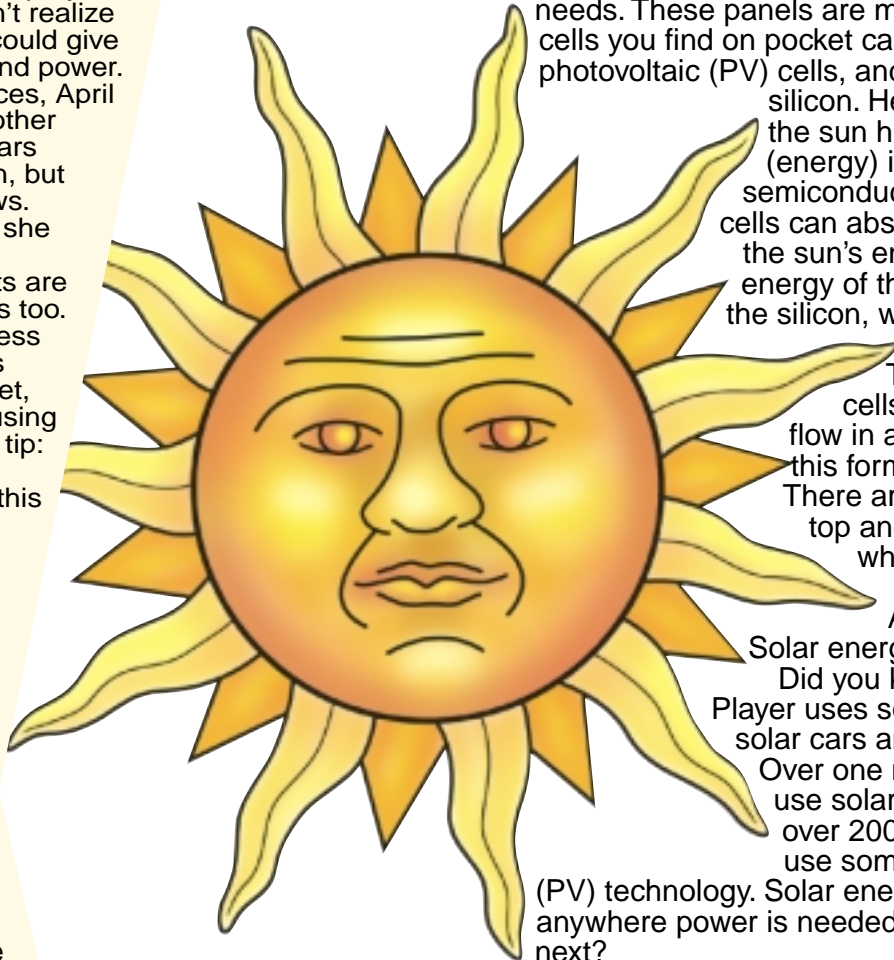
Look up and see the solar possibilities!

By Julie Gillies

When Ben Franklin harnessed the power of lightning back in 1752, he probably never imagined how radically changed the world would be thanks to electricity. Electricity is such a vital part of our lives that things literally come to a screeching halt without it. Remember the blackout of 2003 that left 55 million people without electricity for days? Every part of our lifestyle relies on electricity. Without it, we couldn't watch TV, cook dinner, play computer or video games, shop at the mall, or even drive very far without major traffic headaches. We couldn't last long without electricity...or could we?

Solar power can be a reliable and inexpensive alternative to powering up your house. Did you know that each second, the sun emits more energy than humanity has consumed in all of history? Now *that* is a major power source! Solar power is also one of the simplest forms of power. It requires no moving parts, and doesn't use complicated control mechanisms. It is also clean—it uses no fuel and produces no emissions. It could also lower your parents' monthly electric bill, and that's a good thing.

The average house has enough roof space for solar panels that could generate plenty of solar electricity for everyday needs. These panels are made of the same solar cells you find on pocket calculators. They're called photovoltaic (PV) cells, and are usually made of silicon. Here's how it works. As the sun hits this PV cell, light (energy) is absorbed into the semiconductor (the silicon). The cells can absorb from 15 to 25% of the sun's energy. In other words, the energy of the sun is transferred to the silicon, which then causes electrons to flow freely.



The design of the PV cells forces the electrons to flow in a particular direction, and this forms a current of power. There are metal contacts on the top and bottom of a PV cell which draw the current to use as electrical power. And there you have it.

Solar energy! Did you know that the latest MP3 Player uses solar power? There are solar cars and solar powered RV's. Over one million homes in the U.S. use solar hot water heaters, and over 200,000 homes currently use some form of solar electric (PV) technology. Solar energy can be used anywhere power is needed. Will your house be next?

Discover the Future

If solar energy sounds like a bright future to you, consider a career in any of the following areas.

Architectural Designer/Architect

Electrical Engineer

Solar Home Builder

Solar Pool Heater Sales & Installation

Solar Product Development

Electrochemists

Solar Plant Designer

Laboratory Technician

Electronic Technician

For more career information see your school counselor and get information on-line at:

<http://jobstar.org/tools/career/spec-car.cfm>

OR

<http://www.acinet.org/acinet/default.asp>



explore it

Make a Pizza Box Solar Oven!

This solar oven has been adapted from many designs. Please feel free to improvise! You may want to try making s'mores (graham crackers with melted marshmallow and chocolate) or English muffin pizzas.

The pizza box solar oven can reach temperatures of 275 degrees, hot enough to cook food and to kill germs in water. A general rule for cooking in a solar oven is to get the food in early and don't worry about overcooking. Solar cookers can be used for six months of the year in northern climates and year-round in tropical locations. Expect the cooking time to take about twice as long as conventional methods, and allow about one half hour to preheat.

What You'll Need

- Recycled pizza box
- Black construction paper
- Aluminum foil
- Clear plastic (heavy plastic laminate works best)
- Non-toxic glue, tape, scissors, ruler, magic marker
- Wooden dowel or straw

How to Make Your Pizza Box Oven

Draw a one inch border on all four sides of the top of the pizza box. Cut along three sides leaving the line along the back of the box uncut. (Diagram #1)

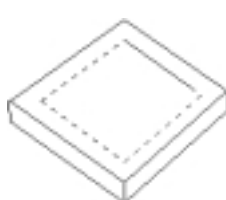


Diagram #1



Diagram #2

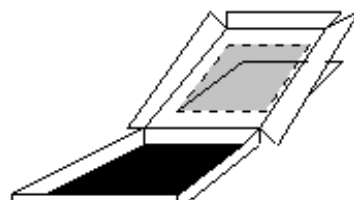


Diagram #3



Diagram #4

Form a flap by gently folding back along the uncut line to form a crease. (Diagram #2) Cut a piece of aluminum foil to fit on the inside of the flap. Smooth out any wrinkles and glue into place. Measure a piece of plastic to fit over the opening you created by forming the flap in your pizza box. The plastic should be cut larger than the opening so that it can be taped to the underside of the flap. Be sure the plastic becomes a tightly sealed window so that the air cannot escape from the oven interior.

Cut another piece of aluminum foil to line the bottom of the pizza box and carefully glue into place. Cover the aluminum foil with a piece of black construction paper and tape into place. (Diagram #3)

Close the pizza box top (window), and prop open the flap of the box with a wooden dowel, straw, or other device and face towards the sun. (Diagram #4) Adjust until the aluminum reflects the maximum sunlight through the window into the oven interior.

Your oven is ready! You can try heating s'mores, English muffin pizzas, or hot dogs, or even try baking cookies or biscuits. Test how hot your oven can get using a simple oven thermometer!

InquiziKidz page is published every Wednesday in the Bradenton Herald-East Manatee Herald. Provided by Newspaper in Education, Kristin Lamphron, Education Manager (941) 748-0411 ext. 5031 Darren Falterman, Digital Media Specialist © Knight-Ridder Productions, inc.

- Sugg Middle School
- Ballard Elementary Magnet
- Daughtrey Preparatory Magnet
- Harlee Middle Magnet
- Johnson Middle Magnet
- Lee Middle Magnet



- Haile Middle School
- Lincoln Middle Magnet
- Manatee Elementary Magnet
- Rowlett Elementary Magnet
- Tillman Elementary Magnet
- Wakeland Elementary Magnet

Schools listed in red offer instruction in the subject area featured in today's InquiziKIDz

Next Weeks Inquizikidz - Who is the Net Generation?

webwise

www.scienceclub.org/kidlink1.html

www.solarplan.info/Pages/how.html

www.learningkids.com/experiment.html

www.ocdsb.edu.on.ca/churweb/308/room308/solarcar/solarenergy.htm

www.fpl.com/savings/conservation/contents/solar_research_faqs.shtml

