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## SPECIAL INTEREST ARTICLES:

- ❖ THE GATOR APES TEAM WINS OVERALL IN THE 2009 BROWARD ENVIROTHON, P. 1
- ❖ JP TARAVELLA HIGH'S WALL MURAL, P. 1
- ❖ WINNERS OF THE 2009 ENVIROTHON, P. 7

## INDIVIDUAL HIGHLIGHTS:

SCHOOL HIGHLIGHTS, P. 3

WINNERS OF THE ENVIRONMENTAL CONTEST, P. 3

BROWARD STUDENTS ARE TURNING IT OFF! P. 6

TEACHING RESOURCES, PP. 6-7

*We encourage the electronic distribution of this newsletter to reduce paper usage.*

BROWARD COUNTY PUBLIC SCHOOLS  
SCIENCE DEPARTMENT 754-321-1874

## THE GATOR APES TEAM OF EVERGLADES HIGH WINS OVERALL IN THE 2009 BROWARD ENVIROTHON!

The Gator Apes Team (pictured on right) from Everglades High School, won First Place Overall in this year's Broward Envirothon Competition. The team members, including Team Captain Beth Simon, Zyonne Arcena, Dustin Dougherty, Lauren Friedman, Ashley Capps and Dawn Gomez, under their sponsor Terry Pitman, will represent Broward County in the Florida State Envirothon Competition in Tampa on April 25, 2009. The winner of that competition will then compete at the 2009 Canon National Envirothon in Ashville, North Carolina, in August.



The Gator Apes Team with Pat Crawley (left), Envirothon coordinator, and Terry Pitman (far right), team sponsor.

The Broward Envirothon, a unique outdoor annual competition for high school students, requires teamwork and the application of knowledge in five areas – Aquatics, Current Issues, Forestry, Soil, and Wildlife. This year's competition

was held at the Hugh Taylor Birch State Park in Fort Lauderdale on January 28, 2009. Representatives from the Florida Association of Conservation, the Florida Department of Agriculture and Consumer Services/Division of Forestry, The Science Eye, South Florida Water Management District, and Broward County Parks and Recreation Division designed the test questions and guided the students during the competition.

*Continued on page 6, Broward Envirothon*

## JP TARAVELLA HIGH'S AMAZING WALL MURAL MADE OF RECYCLED MATERIALS

What do you get when you cross science, the fine arts, language arts, and various recycled materials? An amazing wall mural, called "The Wall," at JP Taravella High School (JPT) that utilized cross-curricular instruction, differentiated instruction, environmental awareness, and art advocacy.

terfly garden that was created the previous year by the students of Pamela McMahon and Maureen Daffner, who were awarded a beautification grant.

*Continued on page 2, Taravella Mural*

JPT teachers Susan Anderson and Donna Haynes submitted a proposal to the Zone Residency Grant, which is funded by a partnership between The School Board of Broward County and The Broward Cultural Arts Division. The grant was awarded for \$9,000.00 and the mural project was started. The mural was created to complement a but-



The finished "The Wall" mural at JP Taravella High School is pictured above

## TARAVELLA MURAL

*Continued from page 1*

Art teachers Ann Langer and Pat Taback, Environmental Science teacher Pamela McMahon, and English teacher Maureen Daffner were also involved in the project.

Beth Ravitz, Public Artist and Mosaic Muralist, worked with the JPT teachers and students as the “Artist in Residence”. Ravitz has created murals with art students throughout the district, and has also worked on community projects, which include mosaic tile murals, large metal sculptures, and the like.

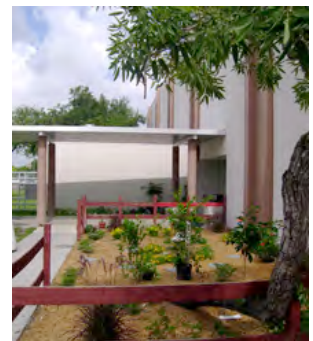
This project was a true collaboration, which involved about 300 students in 4 art classes, and 2 cross-curriculum classes. ESOL and ESE students also participated in this exciting project. They used recycled materials to create an amazing mosaic mural that corresponded with the newly planted butterfly garden created by JPT science and ecology students. This mural makes a statement about and stands for the importance of respecting the earth, our environment, and recognizes our positive value of education and art in our world.

This was a massive project. Students researched ecology and learned about household items that are harmful to our earth. They also investigated plants that were planted in the butterfly garden, and researched artists that use recycled materials to create art. They took field trips to see actual tile murals around Broward County. They worked on the design of their project to come up with images and text that corresponds to their theme, incorporating positive words and phrases

about education, the environment and creativity.

The ceramics class made small clay relief sculptures, which were incorporated into the design. The students collected recycled material including old silverware, jewelry, shells, broken plates, and ceramics that were incorporated into the project. They worked with their Partner in Education, Lowe’s, who donated broken bricks, tiles, and rocks that were normally discarded.

The wall (behind the walkway) before the mural is pictured on right. The butterfly garden is in the foreground.



Even the ribbon cutting ceremony and reception, held on January 28, 2009, demonstrated the integration of various groups and departments on this project. Guests were greeted by a small group of musicians who played some soothing tunes in the courtyard, the Pro Start students made and served some delicious refreshments, the English class worked on a press release, the graphics design department designed the flyers for the event, and a drama student performed a song that was particularly apropos, as he sang about arts in Coral Springs.

JPT Principal Shawn Cerra, School Board Member Stephanie Kraft, Broward County Cultural Arts Council Chair Grace Krue, and Coral Springs Commissioner Roy Gold were among the many who attended and spoke at the ribbon cutting ceremony. The many guests that enjoyed the event also included businesses that donated items or time, students, parents, teachers, prominent artists Toby Archer and George Gadson, and support staff.



JPT student Kiara working on the mural.

CREATE YOUR OWN ART  
WORK USING RECYCLED  
MATERIALS!



Close up of a section of “The Wall” is shown on left.

## SCHOOL HIGHLIGHTS

### DRIFTWOOD MIDDLE STUDENTS HAVE GREEN THUMBS

By Joyce Vickers

Students at Driftwood Middle School (DMS) literally see their knowledge grow as they care for the garden they planted. The students took part in the planting of six traditional raised beds and constructed a hydroponics area where plants grow without soil.



Students pictured above are gathered by the plants they are maintaining in the traditional garden. In the background you can see the hydroponics garden with strawberry plants. They are checking to see if the broccoli is ready for harvest and "deadheading" the marigolds. Students from left to right are: Brian, Camilo, Gabriel, Amanda, Evelyn, Emely, Esteban, Chani, Tyler, Brandon, and Jared.

The garden has been a powerful educational tool. Students compare and contrast the two types of gardens and have the opportunity to question and create experiments. Not only do students use reading, math, and science skills as they research how to care for the plants, develop a more extensive vocabulary, measure the plant growth, record data and learn about plant life cycles; they also report that they learn patience, responsibility,

and acknowledge that they like eating healthy food.

The students love being outside in the natural environment and take pride in their work. They demonstrate respect and cooperation as they nurture their garden. Since this is a nine-week elective course many students participate in authentic hands-on learning experiences. Students are also delighted to taste what they actually grew. Many tasted broccoli and cauliflower for the first time and to their surprise, liked them. Their favorite plants are the strawberries, many of which have been given to needy families. Experiences such as these lead to positive attitudes and healthy, sustainable lifestyles.

The DMS garden was started five years ago with the vision of our principal, Jody Perry and the support of Cindy Griffin, Curriculum Specialist. We at Driftwood Middle are thankful for the numerous community resources, donations, volunteer time as well as grants awarded to the instructor, Joyce Vickers, that continue to make this project possible. The garden has been a perfect complement to our magnet theme of health and wellness. It is a pleasure to sow the seeds of knowledge, cultivate minds, engage the students, then stand back and watch the children bloom.



Driftwood Middle School students harvesting cucumbers (L-R) Alexis, Zena, Melissa, Brendalee, Jalesa

### WINNERS OF THE ENVIRONMENTILE CONTEST

The winners of Broward County's EnvironmenTile Contest are now available online. This year's theme was how you can personally reduce your carbon footprint using an illustration and a brief explanation. To see the winners' illustrations and explanations, go to: <http://www.broward.org/kids/aqi02118.htm>

**Middle School Winners:**

- First Place: Laura Arturo, Lyons Creek Middle
- Second Place: Jacqueline Adreoni, Pioneer Middle
- Third Place: Jake Dudas, Sunrise Middle

**High School Winners:**

- First Place: Jonna Lyn Lerio, South Plantation High
- Second Place: Emily Gordon, Pompano Beach High
- Third Place: Lauren Gmur, Pompano Beach High



First Place winner Jonna Lyn Lerio's artwork is shown on left

DO YOU HAVE AN ENVIRONMENTALLY RELATED CAMPUS STORY OR EVENT LIKE THIS ONE FROM DRIFTWOOD MIDDLE THAT YOU WOULD LIKE TO SHARE WITH EVERYONE? SEND IT TO US AT [jpkeener@browardschools.com](mailto:jpkeener@browardschools.com)

## THE GREEN SQUAD, ECO-TASK FORCE AND TREE HUGGERS FROM LYONS CREEK MIDDLE

By Amy Shumrak



TREE HUGGERS CLUB MEMBERS  
WORK ON THEIR BUTTERFLY  
GARDEN AT LYONS CREEK  
MIDDLE

Lyons Creek Middle School (LCMS) has many environmental initiatives. We have the "Green Squad," sponsored by Larry Bello. Members of the Green Squad go around the school daily emptying the blue recycle basket in our classrooms. This year they have added the recycling of the soda cans and bottles.

Another initiative started this year was our own Eco-Task Force, sponsored by Mrs. Hughes. The task force's goals are to plan, initiate and carry out events that educate our community in ways they can change their daily lives, reducing their carbon footprint and the stress we put on our planet. This group is working in conjunction with GLIDES, learning through the use of technology. Some ideas they are planning is a day in which all car riders living within 1.5 miles of the school meet at check points and walk to school. They plan to coordinate a beach cleanup and form a watchdog group to monitor energy wasters.

LCMS has an afterschool environmental club called the "Tree Huggers." Over the last two years, club members have planted and maintained our Butterfly Garden, spearheaded by Dr. Alisa Feldman.

The Tree Huggers Club consists of 30 members from grades 6th, 7<sup>th</sup>, and 8<sup>th</sup>. Bimonthly meetings are held on campus, with guest speakers invited to present information on topics important to the conservation of our environment, both here at school and in our daily lives. We also incorporate education of the general population on how they too can reduce their own carbon footprint to help save our Earth.

We have worked closely with the City of Coconut Creek's Environmental Specialist, Mr. Todd DeJesus, to be educated on the design and implementation of several butterfly gardens at LCMS. The City of Coconut Creek certified these gardens.

## SILVER LAKES MIDDLE STUDENTS STUDY THE EVERGLADES



Jeromine, Neichie, Jonathan, Antonique and Alyson, slogging in the sawgrass prairie

On January 13, 2009, Renette Pierre-Louis' selected group of seventh and eighth graders from Silver Lakes Middle experienced the Everglades first hand. The Everglades is the only ecosystem of its kind on the planet and Florida's unique national treasure.

Through the Science Eye Everglades Experience Field Studies, Pierre-Louis' students went to the Everglades Holiday Park in western Ft. Lauderdale to participate in this hands-on, interdisciplinary field study. Students were actively involved in studies of water, plants, and animal populations. They rode an airboat through the *pahayokee* or river of grass to collect data, trekked across a sawgrass prairie (see picture on left), and analyzed collected speci-

mens (pictured below).



Jason (left) and Franceline (right) sifting through the collected specimen. Rachel (center) waits her turn to assist.

Students studied principles of succession, adaptations, plant communities, wetland soils, exotic intrusion, the aquifer, and history of the Native Americans.

According to Pierre-Louis, "I wholeheartedly enjoyed this experience and learned a wealth of information from it. The kids are still talking about their experience and enjoyed all aspects of it."

## BROWARD SCHOOLS ARE TURNING IT OFF!

Are you one of the District schools that participate in the Energy Tools for Schools program? This pilot program, by Florida Power & Light, was launched last year to encourage energy savings in schools and place control of energy usage and the resulting financial savings, into the hands of each of the District's 250 school principals.

In a February 1, 2009 *Miami Herald* article on the District's efforts to save energy, three participating schools were highlighted: Panther Run Elementary, Driftwood Middle, and South Plantation High. The students in these schools are doing their part in conserving energy by turning off unnecessary lights, computers, and

printers that are not in use, shutting off televisions and projectors, and checking faucets for leaks. If you think that these small acts do not make a difference, you would be surprised. So far the Energy Tools for Schools program has contributed to a nearly 8 percent reduction in energy consumption! To read the *Miami Herald* article, go to:

<http://www.miamiherald.com/467/story/883550.html>.

For further information on how your school can participate in the Energy Tools for Schools program, contact Rob Jindracek at the Energy Conservation Management, Physical Plant Operations Division, at 754-321-4756 or email him at [robert.jindracek@browardschools.com](mailto:robert.jindracek@browardschools.com).

## PANTHER RUN ELEMENTARY IN THE NEWS!



Tania Cendoya and her third grade class in a Channel 4 news video clip.

Watch Tania Cendoya's third grade class from Panther Run Elementary in a news video from Channel 4 aired on January 27, 2009. These students, called "energizers," are shown saving energy through the Energy Tools for Schools program (see article above for more information on the program). To view the video, go to: <http://cbs4.com/video/?id=70073@wfor.d> [wfor.com](http://wfor.com).

## GOING GREEN AT MCARTHUR HIGH

Students at McArthur High are doing their parts to conserve energy by recycling. As Ryan Westberry, a science teacher, recently wrote for the South Area update newsletter, "Going 'Green' is not a temporary trend here at McArthur High School. We have a fully established program and are pushing our recycling efforts to full capacity. Students are heading the effort through awareness and reminding fellow classmates, even teachers, of the need to recycle what we may normally waste to preserve our resources and have a cleaner, waste free future."

Westberry's students, who are part of the Ecology Club, also participate in Broward County's beach clean-up, Sea Oat Planting through Kids Ecology Corps, and cataloguing Burrowing Owls in the county. So far there are confirmed 50 owls in Broward but McArthur's Ecology Club needs your help.

If you have any Burrowing Owls on your property, contact Ryan Westberry at [ryan.westberry@browardschools.com](mailto:ryan.westberry@browardschools.com).

NEED SUGGESTIONS ON  
HOW TO REDUCE ENERGY  
CONSUMPTION IN YOUR  
SCHOOL? GO TO  
[HTTP://WWW.BROWARDSCHOOL  
LSCON  
SERVE.COM/UTILITIES.HTML](http://www.browardschools.com/utilities.html)



PICTURE OF A BURROWING  
OWL. PARTICIPATE IN  
MCARTHUR HIGH'S  
BURROWING OWL  
CATALOGUING EFFORTS!

## BROWARD ENVIROTHON

*Continued from page 1*



Snapdragons team members from Stranahan High School (l-r): Jessica, Chilandie, Edloune

The original Envirothon started in Pennsylvania in 1979 as a local competition called the Environmental Olympics. By 1988 the name was changed to Envirothon and has since expanded to 44 states and 7 Canadian Provinces. The overall goal of the Envirothon competition is to cultivate a desire to learn more about our state's natural environment.

The Broward Envirothon is open to all Broward County high school students. There were 12 high school teams that competed in this year's competition: Atlantic Technical's Tech Tigers, Everglades High's Gator Apes, Fort Lauderdale High's Flying L's I and II, Monarch High's Knights, Plantation High's PHS Green Team, Pompano Beach High's Green Teams I and II, South Plantation Magnet Team, South Plantation Hort

Team, Stoneman Douglas High's Environmental Eagles, and Stranahan High's Snapdragons.

Snapdragons team members from Stranahan High (pictured on left), thought that the competition was a great learning experience. But Jessica and Chilandie, both first time Envirothon participants, said that they needed to "study more." Edloune also said you have to think fast due to time constraints. When asked if they would compete in another Envirothon competition, they all said, "Yes."

For further information on the Envirothon program and annual competition, go to <http://www.browardscience.com> or contact: Pat Crawley, at 754-321-1880 or via email to: [patricia.crawley@browardschools.com](mailto:patricia.crawley@browardschools.com) or contact Secondary Education at 754-321-1874.

IT'S NEVER TOO EARLY  
TO START THINKING OF  
NEXT YEAR'S  
ENVIROTHON  
COMPETITION!



A snapshot of the recycling video from RecycleBank

### TEACHING RESOURCE: VIDEO ON RECYCLING

Jacqueline R. Sanchez, a Micro Computer Tech Specialist from Griffin Elementary, came across a great video on recycling that she showed the entire staff at her school to enforce their recycling efforts. To view the video, go to: <http://www.recyclebank.com/recycling#/intro/>

The animated video shows, in simple terms, the recycling process. It is from RecycleBank, an online resource to help people recycle and to clear up any questions regarding the outcome of recycled items such as cans, newspapers, egg cartons, and junk mail. If you have any great environmentally related resources out there that you use for your class or staff, share it with others by sending us the information. Email it to: JP Keener, Secondary Science Curriculum Specialist, at [jpkeneer@browardschools.com](mailto:jpkeneer@browardschools.com).

### TEACHING RESOURCE: WATER MATTERS DAY AND LITERARY COMPETITION

On Saturday, March 14, 2009, Broward County will be celebrating its seventh annual Broward Water Matters Day event at Tree Tops Park in Davie. This is a community-wide event designed to provide Broward County residents with water conservation education, information about local water management, and a better understanding of their role in protecting the quality and quantity of our water resources.

This year all 11<sup>th</sup> grade students are invited to participate in the Water Matters Day Literary Competition. This year's theme is "Learn to Conserve," which recognizes that we must all be better stewards of our environment. See attached letter at the end of this issue from Broward County Water Resources Division for details.

### TEACHING RESOURCE: EVERGLADES WORKSHOP

Florida Atlantic University's Center for Environmental Studies, sponsored by the South Florida Water Management District, will facilitate an Everglades workshop for secondary teachers on Saturday, April 4, 2009 and Saturday, May 2, 2009 from 9 a.m. - 4 p.m. at the Loxahatchee Wildlife Refuge.

The workshop, entitled "The Everglades: An American Treasure," will teach educa-

tors about the greater Everglades Restoration Project using interactive classroom activities. Participating teachers will receive numerous resources provided by the South Florida Water Management District and enjoy a hike at Loxahatchee.

For more information and to register for the class, go to:

<http://www.ces.fau.edu/teachers/eat.php>

### BROWARD COUNTY PUBLIC SCHOOLS

SBBC SCIENCE EDUCATION  
DEPARTMENT OF CORE CURRICULUM  
600 SE THIRD AVENUE  
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[WWW.BROWARDSCHOOLS.COM](http://WWW.BROWARDSCHOOLS.COM)



### TEACHING RESOURCE: POSTER CONTEST FOR K-12

The Broward County Air Quality Program is having a poster contest for students in grades K-12. This year's theme is "Green Footprints" and will focus on methods and meanings for lessening our impacts on the environment and our natural resources. All entries must be received by April 3, 2009. For more information, go to: <http://www.broward.org/kids/kidsclubcontest.htm>.

### BROWARD ENVIROTHON WINNERS

The winners of the 2009 Envirothon Competition held on January 28, 2009 at Hugh Taylor Birch State Park in Fort Lauderdale, are as follows:

#### Overall:

- First Place: Gator Apes (Everglades High) - will represent Broward County at the State Envirothon Competition
- Second Place: Environmental Eagles (Stoneman Douglas High)
- Third Place: South Plantation Hort

#### Aquatics:

- First Place: South Plantation Hort
- Second Place: South Plantation Magnet
- Third Place: Gator Apes (Everglades High)

#### Current Issues:

- First Place: Environmental Eagles (Stoneman Douglas High)
- Second Place: Gator Apes (Everglades High)
- Third Place: South Plantation Magnet

#### Forestry:

- First Place: South Plantation Hort
- Second Place: Environmental Eagles (Stoneman Douglas High)
- Third Place: Gator Apes (Everglades High)

#### Soil:

- First Place: Flying L's (Fort Lauderdale High)
- Second Place: South Plantation Hort
- Third Place: Environmental Eagles (Stoneman Douglas High)

#### Wildlife:

- First Place: Gator Apes (Everglades High)
- Second Place: Environmental Eagles (Stoneman Douglas High)
- Third Place: Green Team II (Pompano Beach High)



Stranahan and Plantation High team members at the Aquatics portion of the Envirothon Competition at Hugh Taylor Birch State Park

**THE SCHOOL BOARD OF BROWARD COUNTY**  
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January 26, 2009

**RE: High School Student Literary Competition-Water Matters Day**

Dear Educator,

On Saturday, March 14, 2009, Broward County will be celebrating its seventh annual *Broward Water Matters Day* event at Tree Tops Park in Davie. This is a community-wide event designed to provide Broward County residents with water conservation education, information about local water management, and a better understanding of their role in protecting the quality and quantity of our water resources. With the support of the School Board of Broward County, and as in previous years, we are holding a **Water Matters Day Literary Competition**.

This year we would like to invite all 11<sup>th</sup> grade students to participate in the competition. The 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place winners will be presented with prizes and recognized at the Water Matters Day event. We hope you will encourage your students to participate in this project as either an in-class or extra credit assignment.

This year's theme is "Learn to Conserve" which recognizes that we must all be better stewards of our environment. With that in mind, we have chosen the following topic for this year's literary contest:

**Florida is facing many environmental challenges which affect people, plants, and animals. Discuss some of these and how our individual actions can make a positive difference.**

Entries should be typed in a minimum of 12 point font and limited to 3 pages, with the name of the student, teacher, and school. Research is encouraged and students are urged to visit [www.broward.org/waterresources](http://www.broward.org/waterresources) for help getting started. Students should submit a hard copy. Each school should select the top five entries, and forward only these entries to the attention of Victor Suarez, Broward County Water Resources Policy & Planning Program, Environmental Protection Department, 1 North University Drive, Suite 201, Plantation, Florida 33324. These entries must be received by Tuesday, March 3, 2009.

First, second, and third place entries will be displayed at the Water Matters Day event, with students and their teachers to be recognized by Commissioner Kristin Jacobs and in publicity surrounding the event.

Please contact Victor Suarez of the Water Policy & Planning Section at 954-519-1239, or by e-mail at [vsuarez@broward.org](mailto:vsuarez@broward.org) for further information about the literary contest or volunteer opportunities.

Thank you in advance for helping us to promote the message that in Broward **Water Matters!**

Yours truly,

A handwritten signature in cursive script, appearing to read "Jennifer L. Jurado".

Dr. Jennifer Jurado, Director  
Water Resources Division