



U.S. Department of Education
Green Ribbon Schools

2013-14 DISTRICT TECHNICAL REVIEW

Nominee	Broward County Public School District, 600 SE Third Avenue, Ft. Lauderdale, FL 33301 32940		
Evaluation Issues	Approvable	Special Notes	
<p>Florida Department of Environment Protection: Checked all records available regarding environmental violations for this school district office.</p> <p>Reviewer Name and Title: Greg Ira, Director DEP-OE, Robin Barrack, Public Information Officer, Florida Department of Environmental Protection/Southeast District, Karen Kantor, Environmental Manager, Southeast District Office, DEP</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p>	<p>The Southeast District Hazardous Waste regulatory program does not have any open enforcement cases with the Broward County School District or any identified individual school, nor do any identified Broward County public schools appear in our database reporting as having open or unresolved Areas of Concern or Violations.</p>	
<p>Florida Department of Agriculture and Consumer Services: Checked compliance with regulations related to National School Lunch Program</p> <p>Reviewer Name and Title: Lisa Church, Supervisor of Implementation, NSLP, SSO, SMP, Division of Food, Nutrition and Wellness, Florida Department of Agriculture and Consumer Services</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p>	<p>Six cent certified and continues to receive the additional funding for meal pattern compliance</p>	
<p>Florida Department of Education: Checked compliance with USDOE Individuals with Disabilities Education Act (IDEA)</p> <p>Reviewer Name and Title: Patricia Howell, Program Director of Monitoring and Compliance, Bureau of Exceptional Education & Student Services</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p>	<p>Broward has state complaints, but the number has decreased recently and the district has taken several proactive steps to improve its services in this area.</p>	



2013-2014 District Nominee Presentation Form

PART I - ELIGIBILITY CERTIFICATION

District's Certifications

The signatures of the district superintendent on the next page certify that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the superintendent's knowledge.

1. The district has been evaluated and selected from among districts within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
2. The district is providing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
3. OCR has not issued a violation letter of findings to the school district concluding that the nominated school district has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
4. The U.S. Department of Justice does not have a pending suit alleging that the school district has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
5. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school district in question; or if there are such findings, the state or school district has corrected, or agreed to correct, the findings.
6. The district meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

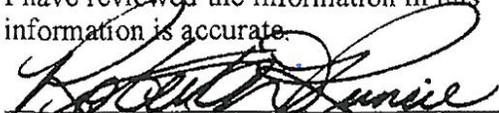


U.S. Department of Education Green Ribbon Schools 2013 – District Sustainability Award

Name of Superintendent* Mr. Robert Runcie
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* Broward County Public Schools Tel. (754) 321-2600
(As it should appear on an award)

I have reviewed the information in this information is accurate.


(Superintendent's Signature)

Date Jan. 15, 2014

PART II – SUMMARY OF ACHIEVEMENTS

Instructions to District Superintendent

Provide a concise and coherent "snapshot" that describes how your district is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your district worthy of the U.S. Department of Education Green Ribbon School District Sustainability Award.

PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE

Instructions to Nominating Authority

The Nominating Authority must document the district's high achievement in each of the three ED-GRS Pillars and nine Elements. Please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The district is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental education.
2. The district meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is



willing to undergo EPA on-site verification.

Name of Nominating

Agency: Florida Department of Education

Name of Nominating

Authority: Commissioner Pam Stewart

I have reviewed the information in this application and certify to the best of my knowledge that the district meets the provisions above.

A handwritten signature in black ink that reads "Pam Stewart".

Date 1/30/14

(Nominating Authority's Signature)

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: February 28, 2015

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

Broward County Public Schools Green Ribbon Summary

Broward County Public Schools (BCPS) is the fifth largest school district in the country with more than 260,000 students and staff, and won the Florida Green Schools District Award for the second time in four years. BCPS is driven by its commitment to environmental stewardship, including the Environmental Stewardship Policy 7014, which spans the entire hierarchy of the district (<http://www.broward.k12.fl.us/sbbcpolicies/docs/P7014.000.pdf>). Included in the Environmental Stewardship policy is the Superintendent's Environmental Technical Advisory Committee. With our sizable numbers, small changes district-wide can make substantial environmental improvements.

BCPS has environmental initiatives at the district level which encompass different departments, such as Transportation, Facilities and Construction, Environmental Conservation/Utility Management, Information and Technology, Food and Nutrition Services, STEM and Instructional Resources. Within our 307 schools, we have edible gardens, wildlife habitats, energy initiatives, classroom recycling and integrated environmental curriculum. Using energy savings techniques, BCPS reduced energy costs of more than \$34 million (\$34,133,308) and recently saved more than \$11 million (\$11,000,889) in energy cost savings. From 2010-2013, BCPS has saved 219,649,498 gallons of water through outdoor irrigation evaluations and during 2013 school year, BCPS saved \$323,132 in reduced potable water and energy.

The Broward recycling program collected 1,000 tons of recyclables diverted from landfills with a cost savings of \$1,200,000. This success is a true testament to teamwork throughout the county. BCPS capitalized on existing partnerships with Broward County Natural Resources Planning and Management Division and the countywide Environmental Education Council, an organization of primarily informal environmental educators, to reward the initiatives across the district through the P3 Eco-Challenge Awards.

The P3 Eco-Challenge awards recognized students, teachers, volunteers, administrators and schools for "Preserving our Planet for Posterity." BCPS was the first school district in the nation to receive this award based on number of schools that are National Wildlife Federation (NWF) certified schoolyard habitats (149 schools).

Environmental initiatives at our schools are summarized on an interactive map at <http://stem.browardschools.com/stem-programs/>, including 54 butterfly gardens and 38 edible schoolyards. These numbers are increasing, with an additional 220 teachers participating in professional development from Florida Agriculture in the Classroom and an additional 70 teachers participating in professional development in NatureScape and NWF Habitat Stewardship (May - June 2013). The BCPS Go Green website is available at <http://www.browardschoolsgogreen.com/>.

Environmental stewardship continues to grow in the district with new initiatives such as Engineering Projects in Community Service, Project Learning Tree, and Project Global Learning and Observations to Benefit the Environment, Learning in Florida Environments, community gardens, and the continuation of the P3 Eco-Challenge. BCPS was awarded an \$11.9 million federal grant to create and expand six elementary magnet schools that specialize in STEM district-wide environmental initiatives.

Schooldude.com facilities conservation management that tracks facility water, energy usage and conservation ~ Tools for Schools indoor air quality monitoring ~ NWF District-wide Certification – First district in the country, 149 NWF certified school yards ~ Great American Cleanup – 21 schools, 3,845 participants, 1,982 pounds of litter collected spring 2013 ~ Earth Day and Green Apple Day of Service across the county ~ Recycle Bowl- National Recycle Competition ~ Participation in waterway/beach cleanups ~Planting native wildflower gardens to restore habitats ~ Project Perch – webcam interaction with burrowing owls ~ Indoor and outdoor water audit program, in partnership with Broward County Natural Resources Planning and Management Division and the Environmental Education Council of Broward County

BCPS held the first annual Broward P3 Eco-Challenge Awards in 2012-13. Schools, teachers, students, administrators and volunteers were recognized for their efforts to learn about and implement environmentally

sustainable measures and green initiatives. The challenge entailed implementation of different sustainability metrics based on a rubric composed of six comprehensive categories. (<http://stem.browardschools.com/P3>)

1. School Grounds Enhancement
2. School Sustainability
3. Curriculum Integration
4. Community Involvement
5. Administrative Support
6. Innovation

The metrics for the individual awards focused on raising awareness, professional development, instructional soundness, creativity and skill building. All of these programs lend to sustainability of our programs and reproducibility of these initiatives by other schools and districts.

District-Wide Physical Education/Health initiatives:

- Wellness Committee and Wellness Policy
<http://www.broward.k12.fl.us/sbbcpolicies/docs/P5314.000%20.pdf>
- New Master Plan for Physical Education
- Florida Agriculture in the Classroom
- Garden Delights - Healthy Schools
- Healthier Generations -115 schools
- Growing Healthy Kids with Holy Cross Hospital
- Fuel Up Play 60 - schools participating 128
- Jump Rope for Heart
- Farm to School
- 4-H Clubs and Y-FIT-YMCA
- Project Bridge Anti-Bullying Program and Policy
- Federally funded Child Care Food Program, which provides healthy meals and snacks; Food and Nutrition Services participates in the "National School Lunch and Breakfast Program and Universal-Free Breakfast Program for students
- Food and Nutrition Services Earned a 2013 Best Practice Award from the Department of Agriculture in the category of "Increasing Consumption of Fruits and Vegetables
- Eliminating the Schoolhouse to Jailhouse Pipeline initiative, a historic new collaborative agreement on school discipline

Florida Green Ribbon School District Application (2013-2014)

<p><u>District Name:</u> Broward County Public School District <u>Street Address:</u> 600 SE 3rd Ave., Fort Lauderdale, Florida, 33301 <u>Website:</u> www.browardschoolsgogreen.com <u>Facebook page:</u> http://www.facebook.com/browardschools <u>Superintendent Name:</u> Mr. Robert Runcie <u>Phone Number:</u> 754-321-2600 <u>Superintendent Email Address:</u> supt_runcie@browardschools.com <u>Lead Applicant Name (if different):</u> Linda Gancitano <u>Lead Applicant Email:</u> linda.gancitano@browardschools.com</p>	<p><u>Phone Number:</u> 954-394-8073 <u>Number of Elementary Schools:</u> 140 <u>Number of Middle Schools:</u> 40 <u>Number of High Schools:</u> 32 <u>Number of K-12 Schools:</u> 3 <u>Number of Other Schools:</u> 95 <u>Total Sq. Ft.:</u> 37,778,000 <u>Total Students Served:</u> 262,563 <u>How would you describe your district?</u> Urban</p>
---	--

Does your district serve 40 percent or more students from disadvantaged households as measured by percent receiving FRPL? Yes Percent FRPL: 64%

Cross-Cutting Question: Participation in green school programs

If your district is participating in a local, state, or national program, such as Florida Green School Awards, EPA ENERGY STAR Portfolio Manager, EcoShools, Project Learning Tree or others, which asks you to benchmark progress in some fashion in any or all of the pillars, then indicate the program(s), level(s) achieved, and year(s): P3 Eco-Challenge, Florida Green Schools Network 2009 and 2013, National Wildlife Federation, Project GLOBE, LIFE, EPA Energy STAR Portfolio Manager, EPA Tools for Schools, Keep America Beautiful Great American Clean-Up, 5 Emerald Awards (Emerald Award Environmental Excellence Program) US Department of Agriculture Best Practice Award 2013, the category of "Increasing Consumption of Fruits and Vegetables, Florida Healthy School District Assessment, and now the National Green Ribbon District Award 2013,

If your district received any awards for facilities, health or environment, list the award(s) and year(s) below: Florida Green Schools District Award 2009 and 2013, BCPS was awarded the first ever District National Wildlife (NWF) Habitat Certification 2012-2013, BCPS Food and Nutrition Services Earns Best Practice Award 2013, five Broward Schools were Awarded the Emerald Award (Emerald Award Environmental Excellence Program) School Level-Driftwood Middle School won the National Green Ribbon Award 2013 and Florida Green School Award 2013, FPL Awards 5 -5 KW and 4- 10KW PV (photovoltaic) solar stations for education, Lauderdale Lakes Middle awarded Solar Panel from Florida Solar Energy Center Funds Grants Secured 2012-2013, Division of Forestry/National Football League \$4,000, SFWMD – Trees to Schools \$7,000, Tree Trust Fund (installation of trees at schools) \$10,000, Community Foundation of Broward – funded a field trip for MS Students, Whole Kids Tropical Fruit Gardens \$4,000, P3 Eco-Challenge Sponsorships, \$25,000 Energy Efficiency Conservation Block Grants \$97,400.

Pillar I: Reduced Environmental Impact and Cost

Describe how your district is reducing environmental impact and costs by reducing or eliminating greenhouse gas emissions. Examples may include energy conservation program, 3R program, non-idling policy, reduced bus idling minutes, purchase of renewal energy credits, alternative transportation, green purchasing, etc. *Energy Tools for Schools* - The main objective of Energy Tools for Schools is to actively involve all schools in the process of reducing electrical usage at their facility. This program requires each school to select a staff member to be an Energy Coordinator. The Energy Coordinator works with the District's Energy Conservation and Utility Management department (<http://www.BrowardSchoolsConserve.com>) to implement a plan to conserve energy at their school. The plan requires a team oriented process with direct involvement of staff and students. In its inaugural year, fiscal year 2008/2009, Energy Tools for Schools contributed a reduction from the previous year of 42,216,261 Kilowatt hours (kWh). This equates to an overall reduction of over seven percent, resulting in a cost avoidance of \$4.5 million dollars! Using energy savings baseline data from 2007 - 2013, BCPS reduced the cost of over thirty- four million dollars (\$ 34,133,308). BCPS saved over eleven million dollars (\$ 11,000,889) in energy cost savings in recent years. *Schooldude "UtilityDirect"* - Is the district's online, web-based utility tracking software. This software allows each school to have direct access to their monthly electrical usage. By tracking electrical savings, schools can actually measure the progress and success of their efforts to conserve electricity. Student Energy/ Green Teams are able to access the data for their evaluations and energy audits at their schools. The students are able to make energy evaluations and find ways to reduce energy usage at the individual schools. Schooldude "UtilityDirect" provides powerful reporting tools to allow staff of the Energy Conservation and Utility Management department a better way to analyze, track, and audit utility data. These reports allow district staff to identify utility waste, cost, meter problems, and billing errors. Being able to identify these problems has allowed our district to reduce utility consumption and cost (<http://utilitydirect.schooldude.com>.) Florida Power & Light to Donate Five Photovoltaic Systems to BCPS: <http://www.browardschoolsconserve.com/news/photovoltaic.html> <http://www.browardschoolsconserve.com/index.htm>.

Anti-idling Policy: When school buses idle, they emit a greater amount of air pollutants. These pollutants can enter the indoor environment through open doors, windows, and fresh air intakes. The district has implemented an Anti-

idling Policy prohibiting school bus driver from idling buses for more than five minutes. Idle-reduction saves money by conserving fuel, reducing wear and tear on engines, and decreasing the indoor and outdoor air pollution. The Anti-Idling Policy also states that it is imperative that all bus operators make every effort to obtain the most mileage per-gallon out of each bus. C:\Users\P00038016\AppData\Local\Temp\fcctemp\Vehicle Idling policy.pdf

LEED Standards: We are in the process of designing our first two buildings to meet and achieve United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certification (Media Center at Atlantic Technical and Stranahan High School Phased Replacement Project.) All new construction for BCPS is LEED compliant. Since 2010, facilities and construction management work with consultants to GREEN our construction criteria and specifications.

Metal Recycling: The district's Physical Plant Operation (PPO) division expanded the recycling program for ferrous and nonferrous metals, and it is beginning to pay off. As a large organization, the district frequently has equipment that wears-out or breaks-down and is beyond its normal, useful life. That equipment, however, may still contain valuable metals. With the cooperation of all PPO field employees, the support of management, PPO has collected over \$50,000 to date. As a result of this program, 251,203 pounds (more than 125 tons) of metals have been recycled. If these items had been placed in dumpsters, the disposal cost would have been approximately \$37,000. Items are constantly being reviewed and analyzed, and if cost effective, added to the recycling program. Through continuous improvement and the involvement of all stakeholders, the recycling program continues to be a success. <http://www.browardschoolsconserve.com/news/metalrecyclingsuccess.htm>

Amount of kWh saved: (baseline data from up to three years prior): 7,368,801

Total value of the savings (in US\$): (baseline data from up to three years prior): 4,617,169

	BASE YEAR						
	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	
KWh	591,173,911	\$554,295,339	\$533,419,957	\$546,283,991	\$535,866,648	\$526,051,150	
Cost	\$58,750,090	\$59,263,122	\$52,366,370	\$50,712,789	\$49,525,660	\$47,749,201	
Cost Savings*		\$ (513,032)	\$6,383,720	\$8,037,301	\$9,224,430	\$11,000,889	\$34,133,308
*Cost savings for each year are based on base year (\$58,750,090) comparison							
This document was produced by the Environmental Conservation/Utility Management department www.browardschoolsconserve.com							

Total value of savings adjusted per student (e.g. calculated by COFTE) :(baseline data from up to three years prior): 21

BCPS-COFTE Report

Using Baseline data from 2008/2009 **-\$59,263,122**

<u>Years</u>	<u>Savings</u>	<u>FTE</u>	<u>KWH</u>	<u>COFTE</u>
2009/10	\$6,383,720	228,984	533,419,957	28
2010/2011	\$8,037,301	225,950	546,283,991	36
2011/2012	\$9,224,430	221,340	535,866,648	42
2012/2013	\$11,000,889	219,834	526,051,150	50

Using baseline data from 2009/2010-**\$52,366,370**

<u>Years</u>	<u>Savings</u>	<u>FTE</u>	<u>KWH</u>	<u>COFTE</u>
2009/10	\$28,984	533,419,957		

2010/2011	\$1,653,581	225,950	546,283,991	7
2011/2012	\$2,840,710	221,340	535,866,648	13
2012/2013	\$4,617,169	219,834	526,051,150	21

Describe how your district is improving water quality, efficiency and conservation. Examples may include decrease in domestic water use, irrigation water use, reduction of storm water run-off, native landscaping, rain water cisterns and/or rain barrels.

<http://www.browardschoolsconserve.com/links.htm> Through the Environmental Partnership between Broward School District and Broward County, a number of initiatives are undertaken to improve water quality, efficiency and conservation. These include; evaluations of indoor and outdoor water usage, the development of school campus “native landscape” learning gardens; and teacher/ staff, and student training programs/lessons on storm water run-off, native landscaping, natural resources and environmental stewardship. The 12th Annual Water Matters Day "is the County’s educational program that helps homeowners, policymakers, schools, local businesses and property managers understand their role in water management and water conservation

<http://www.broward.org/watermatters/Pages/Default.aspx>

A total of 219,649,498 gallons of water has been saved through outdoor irrigation evaluations from 2010-2013. The total cost savings for this period time is \$ 323,132,498 in reduced potable water and energy cost. To date, more than 30,000 students and 600 staff have received indoor/outdoor lessons and trainings and over 250 irrigation evaluations have been conducted at 125 schools with recommendations for improving irrigation efficiency provided to District administration. Training of new and existing SBBC staff is conducted regularly in proper irrigation maintenance. Detailed indoor water audits are now being conducted at schools using standards provided by the South Florida Water Management District. Additionally, the installation and maintenance of learning gardens at Broward middle schools serves as a “hands on” tool at each school facility which allows for students to have a greater appreciation of their environment and the interaction between plants and wildlife.

- Environmental Education Council of Broward County - partnerships with their membership of informal educators and local nature centers, including SFWMD.
- Partners with South Florida Water Management District, Guy Harvey Foundation and Nutrients for Life and Florida Ag in the Classroom to provide curriculum resources directly to schools.

Here are a few alternate water sources used for irrigation throughout the county. Rain water diverter system for buildings and walkways, underground irrigation system for the garden, Hydroponic urban fruit and vegetable gardens, Underground Drip Irrigation System are also used to reduce water loss through evaporation.

<u>Year</u>	<u>Gallon Savings</u>	<u>Cost Savings</u>
2009	26,760,477	\$11,091.07
2010	61,311,364	\$143,718.46
2011	67,952,652	\$ 98,212.35
2012	25,477,036	\$ 40,057.16
2013	38,147,969	\$ 30,053.36
Average % reduction per site		Year
22		2009

12	2010
21	2011
19	2012
18	2013

Amount of gallons saved: (baseline data from up to three years prior): 219,649,498

Total value of cost savings: (baseline data from up to three years prior): \$323,132.40 annual savings

Describe how your district is reducing waste production. Examples may include green purchasing, using post-consumer material office paper; reusable lunch trays; hands-free dryers; composting; 3R programs; reduced number of garbage dumpster, green cleaning products, e-newsletter, ecologically beneficial uses of grounds; and methods of disposal for solid and hazardous wastes.

- ETS’ (Education Technology Services) ongoing commitment to environmental stewardship is driven by an initiative that focuses on these tenets:

Generate environmental awareness; reduce, reuse and recycle to eliminate waste; encourage energy conservation efforts; encourage employee participation; network devices to consolidate resources; evaluate equipment and processes to reduce our carbon footprint; recognize employees, schools and departments supporting environmental efforts.

ETS pledges to continually look for new and innovative ways to reduce our carbon footprint while supporting Broward County Public Schools <http://www.broward.k12.fl.us/green/Docs/ETSGreenPolicy.pdf>

Reduced Waste diverted from landfills

- Broward Recycling program collected 1000 tons of recyclables and diverted from landfills with cost savings of \$1,200,000 dollars. BCPS also collected over \$50,000 dollars to date and more than 125 tons of recycled metal. The cost saved was approximately \$37,000 dollars.
<http://www.browardschoolsconserve.com/news/metalrecyclingsuccess.htm>
- Most of BCPS use the SOMAT Technology; it reduces 87.5 % of all waste thrown away in our cafeterias

Paper Products <http://www.broward.k12.fl.us/green/> Information & Technology (IT) developed the Go Green Program for Output Reduction to help schools and departments implement environmentally friendly programs. The Go Green Program’s goal is to help reduce the consumption of paper and supplies for printers, copiers, fax machines and other output devices.

The Program has proven successful since the pilot phase in 2008-09. IT conducted three promotional campaigns to encourage schools to create Green Teams and implement their own Go Green Plan. Since its inception, 78 schools participated and reported savings of almost \$520,000 in their operating budgets. Their savings included a 12% reduction in paper, 31% reduction in toner, 21% reduction in equipment costs and 36% reduction in copier invoices.

E-Newsletter-The recycling e-report card goes to public schools and SBBC staff three times a year and details recycling program guidelines, updates, contests, and school’s environmental achievement. Implements e-earth patrol

Green Cleaning Products- Florida climate friendly preferred products: Custodial Standard - H2O2 Johnson Diversity-7in One product (Green Seal Certified)

http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/state_contracts_agreements_and_price_lists/florida_climate_friendly_preferred_products_list

BCPS 3R’S Initiatives-

<ul style="list-style-type: none"> NBC 6 Design a Greener Future recycling bin decoration contest 	<ul style="list-style-type: none"> Ninety school and facility recycling program site assessments.
<ul style="list-style-type: none"> America Recycles Day. 	<ul style="list-style-type: none"> Program training for 1,610 employees& students
<ul style="list-style-type: none"> Great American Cleanup – twenty-one schools, 3,845 participants, 1,982 pounds of litter collected spring 2013 	<ul style="list-style-type: none"> Methods for reducing Hazardous Waste-
<ul style="list-style-type: none"> More than ten miles of river, coastline and roadways cleared through litter removal initiatives 	<ul style="list-style-type: none"> Collection of fluorescent lights and ink cartridges
<ul style="list-style-type: none"> The Recycle Revolution Video Contest which inspired many middle and high school students to promote their school’s All-In-One Recycling program by creating a short video clip. 	<ul style="list-style-type: none"> Hazardous waste disposal for science through Risk Management and Safety
<ul style="list-style-type: none"> The school’s kitchen recycling targeting the collection of commingled materials particularly cardboard, bottles, and cans. Program includes; training of kitchen staff, delivery of recycling containers, bags, monitoring of recycling dumpsters. 	<ul style="list-style-type: none"> Science only orders preapproved chemicals in small quantities and follows strict guidelines for disposal of chemicals.
<ul style="list-style-type: none"> Delivery of 5,800+ recycling bins for classrooms, offices, common areas. 	

Amount of waste production saved (calculated in cubic yards): (baseline data from up to three years prior):
307,235

Total value of cost savings: (baseline data from up to three years prior): 2,904,105

Amount of recycling (percentage):(baseline data from up to three years prior)
35 % (Does not included fluorescent lights, ink cartridges and metal recycling)

<u>School Year</u>	<u>Recyclables Tons</u>	<u>Avoided Disposal Savings</u>	<u>Revenues</u>	<u>GHG/CO2 Emissions Reduction</u>
2009-10	2,003	\$1,002,820	\$117,116	1,538
2010-11	2,152	\$968,868	\$122,240	2,153
2011-12	2,088	\$932,417	\$121,213	1,608
3-Year Totals:	6,243	\$2,904,105	\$360,569	5,299

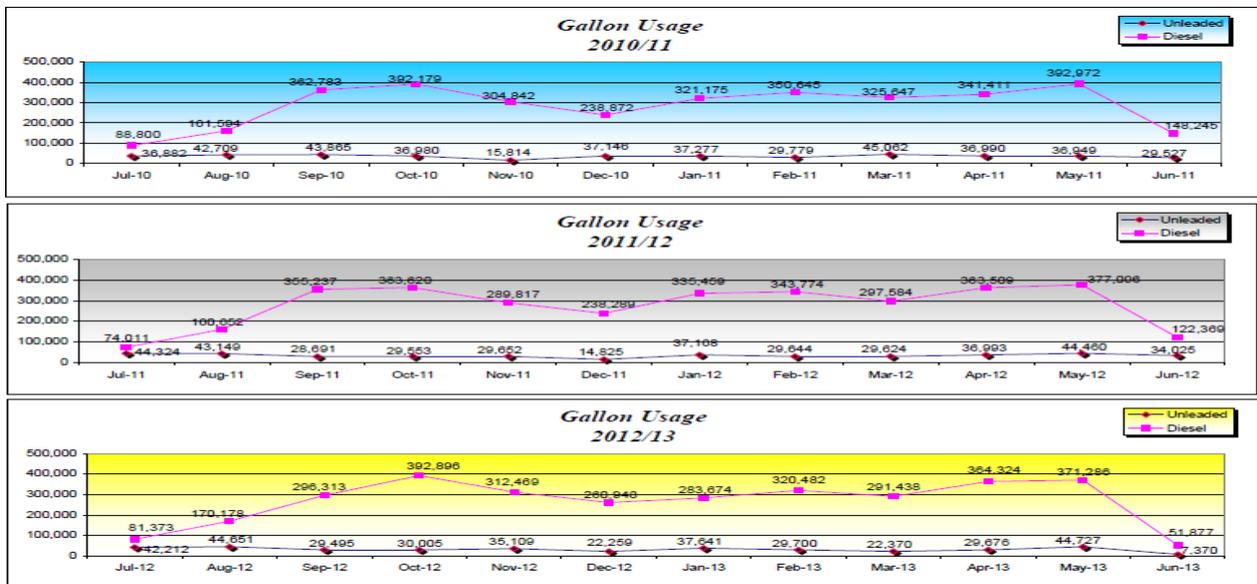
Describe how your district is using alternative transportation. Examples may include compact natural gas busses, hybrid vehicles, carpool program, parking designated for fuel efficient vehicles, percentage of student and staff walk/bike to and from school.

BCPS Transportation had a cost savings of \$635,646 dollars in just the last two years. This savings included gasoline, oil and diesel fuel for all schools busses in Broward County. Transportation has implemented a” No Idling” policy. This measure will drastically reduce school bus emissions by prohibiting school buses from idling in school loading zones and reduce fuel consumption by restricting engine idling. BCPS Transportation also upgraded routing systems for energy savings and efficiency. The systems are generated by computer models (GPS)

to save fuel. Also, GPS is used to locate and track individual buses to ensure student bus safety and accuracy as far as routing.

<ul style="list-style-type: none"> Broward County Schools Transportation has purchased sixteen+ hybrid SUV vehicles in the District fleet. 	<ul style="list-style-type: none"> Vehicle Maintenance has installed 50 head shields on district school buses to reduce fuel consumption.
<ul style="list-style-type: none"> Converted the school bus fleet to use ultra-sulfur diesel fuel. 	<ul style="list-style-type: none"> Converted the school bus fleet to use ultra-sulfur diesel fuel.
<ul style="list-style-type: none"> The district replaced surplus district vehicles with hybrid vehicles. 	<ul style="list-style-type: none"> Bike, Walk and Carpool to School Poster Contest encourages community participation
<ul style="list-style-type: none"> Vehicle Maintenance utilizes “recycled” water to wash buses and uses biodegradable products to absorb fuel spills in the garage areas. 	<ul style="list-style-type: none"> The number of bus routes has been reduced and fewer buses are used daily.

Reduction of fuel cost (percentage): (baseline data from up to three years prior): 6.4%



District School Board of Broward County, Schedule of Selected Sub object Expenditures For the Fiscal Year Ended June 30, 2012

	Sub-Object	General Fund 100	Special Revenue Food Services 410	Special Revenue Other Federal Programs 420	Special Revenue Federal Economic Stimulus Programs 430	Total
ENERGY EXPENDITURES:						
Natural Gas	411	140,369.80	7,748.53			148,118.33
Bottled Gas	421	456,791.52	18,085.54			474,877.06
Electricity	430	47,835,226.53	2,075,426.78			49,910,653.31
Heating Oil	440	691.50				691.50
Total		48,433,079.35	2,101,260.85	0.00	0.00	50,534,340.20
ENERGY EXPENDITURES FOR PUPIL TRANSPORTATION:						
Compressed Natural Gas	412					0.00
Liquefied Petroleum Gas	422					0.00
Gasoline	450	135,095.99		1,450.00		136,545.99
Diesel Fuel	460	11,741,881.28				11,741,881.28
Oil & Grease	540	0.00				0.00
Total		11,876,977.27		1,450.00	0.00	11,878,427.27

District School Board of Broward County, Schedule of Selected Sub object Expenditures
For the Fiscal Year Ended June 30, 2012

	Sub-Object	General Fund 100	Special Revenue Food Services 410	Special Revenue Other Federal Programs 420	Special Revenue Federal Economic Stimulus Programs 430	Total
ENERGY EXPENDITURES:						
Natural Gas	411	155,830.33	6,563.82	0.00	0.00	162,394.15
Bottled Gas	421	384,975.53	14,942.63	0.00	0.00	399,918.16
Electricity	430	46,136,207.88	2,005,690.87	0.00	0.00	48,141,898.75
Heating Oil	440	0.00	0.00	0.00	0.00	0.00
Total		46,677,013.74	2,027,197.32	0.00	0.00	48,704,211.06
ENERGY EXPENDITURES FOR STUDENT TRANSPORTATION:						
Compressed Natural Gas	412	0.00		0.00	0.00	0.00
Liquefied Petroleum Gas	422	0.00		0.00	0.00	0.00
Gasoline	450	233,867.70		0.00	0.00	233,867.70
Diesel Fuel	460	11,008,913.10		0.00	0.00	11,008,913.10
Oil and Grease	540	0.00		0.00	0.00	0.00
Total		11,242,780.80		0.00	0.00	11,242,780.80

Pillar II: Improve the Health and Wellness of Students and Staff

Describe how your district improves the health and wellness of students and staff by implementing a school environmental health program. Include integrated pest management, contaminant controls and ventilation, asthma controls, indoor air quality, moisture control, and chemical management. There are 115 active Healthier Generation Alliance schools. Each school has a Healthy Generation Team that consists of a variety of staff members from the faculty, administration, clerical staff and the cafeteria manager. Many of the school teams meet bi-weekly to implement and promote health and wellness activities. The Healthy Schools Program encourages schools to follow the Six Steps to a Healthier School and implement seven different wellness categories to create a framework that sets specifications to make your school healthier. Schools come together throughout the school year to discuss challenges and successes. When schools repeat the cycle each year, it becomes embedded in the culture of the school and efforts to become a healthy school are sustained. There are 128 Fuel Up to Play 60 schools in Broward County. This is another program that supports the Healthier Generation program with healthy eating and physical education. This program has a strong emphasis on eating breakfast and exercise. The US Department of Agriculture Best Practice Award 2013 just went to BCPS for the category of “Increasing Consumption of Fruits and Vegetables.” With our core mission – to educate children – in the balance, the district has made *indoor air quality (IAQ)* a priority. To enhance our efforts as a district, we partnered with the EPA in 2003 to implement Tools for Schools, a unified systematic approach to dealing with IAQ concerns at each participating location. From there, we adopted EPA recommended practices for all IAQ efforts and all locations. With solutions ranging from moisture and mold control to effective cleaning and maintenance techniques, our IAQ program is truly a collaborative endeavor. Many departments work together to achieve optimal results. Good IAQ involves maintaining healthy indoor environments through preventive, proactive and responsive solutions. *BCPSs asthma management program* is consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools guidelines. Our District meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality). BCPS disposes of any unwanted mercury laboratory chemicals, thermometers and other devices in accordance with federal, state and local environmental regulations. Our district enforces a policy that prohibits all tobacco use by students, staff and visitors on all school owned property and at school sponsored events. Our district is committed to “going green” by developing and following ecologically- and environmentally-friendly programs and processes. Many of our “green” strategies are directly related to indoor air quality.

Clean Air Quality Initiative:

- National Bike to School Day is May 8, 2013. The Broward County Air Quality Program and South Florida
- Commuter Services recommend walking, biking and carpooling to school for both a healthy lifestyle and a healthy environment
- The Conservation and Climate Change (C3) Challenge and public speaking competition for high school students, both held in conjunction with Broward County’s Pollution Prevention, Remediation and Air Quality Division

Materials Selection: We purchase and use “green” custodial cleaning products. H202 (hydrogen peroxide) is our approved all-purpose, Green Seal-certified cleaner. It is cost-effective and greatly decreases the spread of germs.

We use water-based paints instead of oil-based. These paints emit less volatile organic compounds (VOCs), which may be toxic and odorous. We discontinued using petroleum-based paint thinners on our interiors. The result is cleaner air and a decrease in costs for waste disposal.

Anti-idling Program and Policy: C:\Users\P00038016\AppData\Local\Temp\fcctemp\BCPS-#29 and 40-Vehicle Idling policy.pdf. When school buses idle (meaning their engines are kept running at low speeds even when the buses have stopped) they emit a greater amount of air pollutants. These pollutants can enter the indoor environment through open doors, windows and fresh air intakes. The district has implemented an Anti-idling Program prohibiting school bus drivers from idling buses for more than five minutes. Idle-reduction saves money by conserving fuel, reducing wear and tear on engines, and decreasing the indoor and outdoor air pollution.

LEED Standards: We designed our first two buildings to meet and achieve United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certification: the Media Center at Atlantic Technical and Stranahan High School Phased Replacement Project. All new construction for BCPS is LEED compliant. Since 2010, facilities and construction management work with consultants to GREEN our construction criteria and specifications. Several District Environmental Pilot Projects are listed below:

<ul style="list-style-type: none">• Solar roof panels	<ul style="list-style-type: none">• Porous concrete exterior courtyard
<ul style="list-style-type: none">• Solar powered flashers at various schools	<ul style="list-style-type: none">• High efficiency electrical transformers
<ul style="list-style-type: none">• Waterless urinals and water conserving fixtures	<ul style="list-style-type: none">• Energy efficient lighting installations
<ul style="list-style-type: none">• Irrigation water conservation projects at 25 schools	<ul style="list-style-type: none">• Habitat restorations in several schools
<ul style="list-style-type: none">• Hybrid vehicles	

Integrated Pest Management in Broward County Public Schools: Pest may sometimes pose a threat to indoor air quality, but so do pesticides. Our district has spent many years developing alternative strategies and techniques to address this issue, beginning with a plan adopted in 1997. You’ll read about our environmentally-friendly approach in this section. Integrated Pest Management (IPM) is part of the district’s Indoor Air Quality plan. The complete plan is available at <http://www.broward.k12.fl.us/rmt/PDF%20IAQ%20Manual.pdf>, pages 42-54 of this document. The district employs Certified Pest Control Operators that are skilled in IPM methods. Prior to pest control, custodial staff is trained in sanitation and maintenance as a first level pest control strategy. Routine inspection and monitoring is a cornerstone of the successful IPM program.

Radon Testing in Broward County Public Schools: The School Board of Broward County, Florida conducts testing on all new and existing schools, as well as any additions constructed. Radon gas levels can build up and create an unhealthy environment for our students and staff; therefore, it is important to test schools for radon. Florida Department of Health (FDOH) requires that all frequently occupied rooms (such as classrooms and offices) at ground level be tested. (Florida Statute Chapter 404, Section 404.056) State law requires all public schools have

an initial test and a five-year follow-up test. (Florida Administrative Code 64E-5 Parts X and XII) Radon testing allows schools to identify and remediate problems, thus protecting students and staff from exposure to unusually high concentrations of radon. Further information on the radon testing program is found here: <http://www.broward.k12.fl.us/rmt/MSDS%20Book%20Index/Radon/Radon%20FAQ.pdf>.

The results of this testing for each facility is posted here: <http://www.broward.k12.fl.us/rmt/Radon.html>.

Describe policies, practices and procedures your district has in place to support the Coordinated School Health approach. Examples may include completed Florida Healthy School District Assessment and/or recognition, innovative district Wellness, physical education, and bullying prevention policies.

To support the Coordinated School Health approach, BCPS has a Wellness Committee, Wellness Policy, and new Master Plan for Physical Education in place to support healthy school environments. The Wellness Committee meets, determines and monitors all wellness initiatives of the School Board of Broward County including obesity prevention. The Wellness Committee meets every other month to identify the health needs of students and staff in order to remove barriers to learning and maximize district resources. The Broward County Wellness Policy <http://www.broward.k12.fl.us/sbbcpolicies/docs/P5314.000%20.pdf>

The School Board of Broward County promotes healthy schools by supporting wellness, good nutrition and regular physical activity as part of the learning environment. The district supports a healthy environment where children learn and participate in positive dietary and lifestyle practices. By facilitating learning through the support of good nutrition, healthy food choices available at school, physical activity and health practices. Schools also contribute to the basic health status of children. With the new Master Plan for Physical Education, all professional learning will be focused on district priorities, strengthening individual performance, individual, department goals and the organization as a whole. The intent for any professional development or credentialing/ qualifications aligned to the District Priorities and the Strategic plan.

1. Food and Nutrition Services

<ul style="list-style-type: none"> BCPS participates in the federally funded Child Care Food Program and refers to the Department of Health Supper Program which we have implemented in 22 schools. 	<ul style="list-style-type: none"> Healthy vending machines in the cafeterias- In thirty-one high schools and eleven middle schools
<ul style="list-style-type: none"> Participates in the "National School Lunch and Breakfast Program" 	<ul style="list-style-type: none"> Broward County Dietetic Association- Sponsors an art contest during National Nutrition Month
<ul style="list-style-type: none"> Implemented monthly fresh fruit and vegetable tastings for all elementary schools to introduce students to a variety of fresh fruit and vegetables which are not on the menu. Activities are emailed to the school for teacher participation. 	<ul style="list-style-type: none"> Junior League of Greater Fort Lauderdale and Food/ Nutrition Services- Provides literacy based nutrition education to second graders.
<ul style="list-style-type: none"> Universal-Free Breakfast Program for students attending 80% district schools 	<ul style="list-style-type: none"> Healthy Recipe Contest

2. Physical Education/ Outdoor Learning

Healthier Generations- 115 active schools- Each team consist of a variety of staff members: teachers, administrators, cafeteria managers and clerical staff to meet bi-weekly

<ul style="list-style-type: none"> Fuel up to Play 60 -128 Schools –Dairy Council of Florida-Provides nutrition education which focuses on nutrition and exercise 	<ul style="list-style-type: none"> Outdoor Education
<ul style="list-style-type: none"> Jump Rope& Hoops for Heart- American Heart Association 	<ul style="list-style-type: none"> 149 NWF certified school yards
<ul style="list-style-type: none"> CPR for students 	<ul style="list-style-type: none"> Fifty-four butterfly gardens
<ul style="list-style-type: none"> Fitness Gram Test-40 schools 	<ul style="list-style-type: none"> Garden Delights-Eighty plus garden beds

<ul style="list-style-type: none"> • Commit to Be Fit 	<ul style="list-style-type: none"> • 95,000 students participate in outdoor learning including NatureScape which engaged 7000 students
<ul style="list-style-type: none"> • Pilates Youth program 5th-6th grade 	<ul style="list-style-type: none"> • PE Staff Development- CPR Training for coaches/ PE teachers, Wellness Fairs, FAHPERD State Conference, Tri County Conference, Common Core Training for PE Teachers

2. Health Education

<ul style="list-style-type: none"> • Growing Healthy Kids in the Classroom- is a child obesity prevention program. The community wellness specialist is Agriculture in the Classroom facilitator and provides training for teachers to implement school gardens. 	<ul style="list-style-type: none"> • Garden Delights-80+ gardens
<ul style="list-style-type: none"> • Florida Agriculture in the Classroom- 1518 students trained 	<ul style="list-style-type: none"> • Health Rocks Program
<ul style="list-style-type: none"> • Gardening for Grades– Ten schools/ five teachers trained per school, core curriculum approved 	<ul style="list-style-type: none"> • Broward Extension/ University of Florida- Implemented the Organ Wise nutrition education program in elementary.

4. Health Services Provides First Aid, CPR/ AED emergency care training for staff and health personnel

5. Health Promotion /Monthly Wellness Initiatives-

<ul style="list-style-type: none"> • Breast Cancer Awareness- Unique opportunity for “Survivor Stories” to be written and videotaped. Each survivor will share how it affected their families and how they coped and overcame. 	<ul style="list-style-type: none"> • Go Red for Women
<ul style="list-style-type: none"> • Vaccination Campaign 	<ul style="list-style-type: none"> • Healthy Eating Month- Nutritionist for 1:1 appointments, Food Demos
<ul style="list-style-type: none"> • ADA Diabetes Walk 	<ul style="list-style-type: none"> • Stress Management Seminars
<ul style="list-style-type: none"> • Healthy for the Holidays Campaign- Maintain Don’t Gain Demo / Weight/ BMI Measurement Testing 	<ul style="list-style-type: none"> • Asthma/ Allergy Month • Men’s Health- Man Van, Fitness Expert
<ul style="list-style-type: none"> • New Year, New You Campaign- Launch of W Online Fitness program 	

6. Counseling, Psychological and Social Services

***Project Bridge- District-wide Anti-bullying Policy and Dating Violence Policy** – District Anti-Bullying Workshop includes three hours of training, videos and open discussion. All teachers had to submit a completion form and each teacher received a certificate. The video was shown across the county to the students. An annual customer survey prompt “I Feel Safe At School” indicated that students in all schools felt safer. Anti-Bullying Policy: <http://www.broward.k12.fl.us/sbbcpolicies/index.asp>

- Choose Peace Stop Violence/ Project BRAIN initiatives

7. BCPS Student Services- Six services

<ul style="list-style-type: none"> • Homeless Education High School Graduation Initiatives 	<ul style="list-style-type: none"> • Child Abuse
---	---

<ul style="list-style-type: none"> • Dependency, Delinquency 	<ul style="list-style-type: none"> • Social Work
<ul style="list-style-type: none"> • Family Counseling 	<ul style="list-style-type: none"> • Attendance

8. Parent and Community involvement

- Nutrition Committee- Involves families and community organizations to address nutrition issues, recommend nutrition policy/ programs, ensure school meals are culturally diverse and meets special dietary needs

9. Awards/ Recognition

<ul style="list-style-type: none"> • BCPS Food and Nutrition Services Earns Best Practice Award -Food and Nutrition Services Department earned national recognition for its efforts to get students excited about eating healthy 	<ul style="list-style-type: none"> • US Department of Agriculture Best Practice Award 2013- The category of “Increasing Consumption of Fruits and Vegetables
---	---

Pillar III: Effective Environmental and Sustainability Education

Provide examples of interdisciplinary learning about the relationships between dynamic environmental, energy and human systems. Examples may include innovative environmental and sustainability curriculum (instruction and assessment); district environmental education programs and opportunities; professional development for faculty; career pathways and staff and extra-curricular activities.

Professional Learning opportunities are continuously provided to teachers to improve content knowledge so that teachers are better able to instruct students to:

<ul style="list-style-type: none"> • Comprehend concepts related to health promotion and disease prevention to enhance health including recognizing ways to enhance safety such as following rules for water, pedestrian and bicycle safety. 	<ul style="list-style-type: none"> • Evaluate how environment and personal health are related
<ul style="list-style-type: none"> • Evaluate the impact of biotechnology on the individual, society and the environment, including medical and ethical issues. 	<ul style="list-style-type: none"> • Evaluate the costs and benefits of renewable and nonrenewable resources, such as water, energy, fossil fuels, wildlife, and forests.
<ul style="list-style-type: none"> • Analyze how population size is determined by births, deaths, immigration, emigration and limiting factors (biotic and abiotic) that determine carrying capacity. 	<ul style="list-style-type: none"> • Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.
<ul style="list-style-type: none"> • Discuss the special properties of water that contribute to Earth's suitability as an environment for life: cohesive behavior, ability to moderate temperature, expansion upon freezing and versatility as a solvent. 	

BCPS teachers are required to take 120 CEU credits (roughly 80 hours) of Professional Development (PD) training every 5 years to meet the teacher re-certification requirements. In Science, the PD training offered always has an environmental component in support of the Board Policy on Environmental Stewardship. STEM training for teachers is required and facilitated through the district. **Over 1,000 teachers** were trained for the 2012-13 school year in the following environmental PD that incorporates interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems. These specialized PD were provided to BCPS

teachers through partnerships with various expert organizations or programs such as the Cousteau Foundation, Science Eye, NatureScape Broward, IGFA Fishing Hall of Fame and Museum, DuPuis Preservation, Florida Department of Agriculture, University of Florida Agricultural Extension, The Diversity & Ecology Institute – FCR-STEM/BioScopes, Purdue University, Florida Atlantic University, Nova Southeastern University, Broward Education Foundation, Florida Phosphate Mining Foundation, and the Florida Department of Environmental Protection.

• Everglades Adventure	• Florida Ag in the Classroom
• Beach / Dune Ecosystems	• NatureScape Training
• Master Gardener and Naturalist Certifications	• Habitat Steward
• Marine Ecosystems	• Coral Reef Ecology with Snorkeling field experience
• Forestry Maintenance & Wild Fires Everglades: The American Adventure	• Garden Delights
• Everglades Restoration and the Kissimmee River	• Gardening for Grades
• Plant A Fish Marine Restoration	• Great Water Odyssey
• Wet in the City	• Bioscopes: The Diversity & Ecology Institute
• Ocean Ecosystems	• EPICS - Community Service Learning Project
• Protecting Our Fisheries	• Project GLOBE
• Phosphate Science	• LIFE (Learning in Florida's Environment)
• Protecting Our Fisheries	• NASA supported Climate Change Curriculum
• Marine Ecology	• Tropical Connections

Additional PD teacher trainings are scheduled this year, including NWF Habitat Steward Trainings and Teacher in Service. In addition, there are custodial trainings provided to assist in the implementation of environmental initiatives. The teacher PD is not a one-time workshop but fully embedded into the curriculum when the teacher returns to the classroom. The implementation is supported and monitored through the use of an online collaborative learning system (<http://edmodo.com>) for interaction with fellow participating teachers and with district support staff. Through the use of technology we are able to continue to meet as a Professional Learning Community in this online forum. In an effort to encourage kids to eat more fresh vegetables, the Broward Education Foundation has started their second year "Garden Delights-Team Up for Healthy Choices" with more than \$50,000 in donations from the Health Foundation of South Florida, Wells Fargo and Flamingo Road Gardens Nursery. The goal of the program, according to Jorene Jameson, the president and CEO of the Broward Education Foundation is to "improve students' attitudes about nutrition, encourage them to eat more fresh vegetables and fruit and engage parents as well in the switch to healthier food choices at home." Ten low-income Broward schools are participating in this program by designing, installing, maintaining and harvesting vegetable gardens. Garden Delights includes lessons for students about gardening and healthy eating. They will learn skills that incorporate math, science, reading and writing. Parents also are involved in this integrated curriculum-based program. Partnerships are in place with Marando Farms, the Florida Department of Agricultural and Consumer Services, STEM and Instructional Services, as well as other departments throughout the School Board of Broward County. These professional learning experiences truly focus on human impact on the environment and strategies teachers can immediately implement in their classroom to teach students at all grade levels how they can be environmental stewards and how environmental stewardship impacts their community and their personal health and wellness.

Environmental Career Paths Explored in the classroom Environmental Wellness Class researches careers related to plant and animal conservation as well as food production and nutrition. Students look into Environmental

Horticulture, Wildlife Conservationists, Ecologist, Biologist, Botanist, Entomologist, Landscape Architects, Foresters, Agricultural Scientists, Geoscientists, Urban Planners, Nature Photographers, veterinarians, Animal Care Services. The 8th Grade Science studies energy, energy transformations and alternate fuel sources with solar and hydrogen fuel cell cars and windmills. The classes explore ways to conserve energy through tree planting, insulation, energy conservation and waste heat with different types of light bulbs (incandescent, fluorescent, and LEDs). Students are exposed to different green technologies and career paths, such as becoming a Researchers, Scientist or work for Parks and Recreation

Demonstrate how your district uses the environment and sustainability as a context for learning science, technology, engineering and mathematics content, knowledge and thinking skills.

Over 60 percent of BCPS schools use their outdoor learning space to teach students STEM content, knowledge and thinking skills. There are over 50 schools that have transformed their schoolyard into outdoor learning environments with edible gardens, over 130 NatureScape Certified schools, and over 150 schools that are designated Wildlife Habitats to promote healthy eating, environmental impact, school-home relationship and interdisciplinary approach to learning. In partnership with Broward County NatureScape program, there are over 34,000 students exposed to environmental education and sustainability. There are also community service-learning events in which students participate: Water Matters Days, Tree Giveaways, Beach Cleanup and Habitat Restoration (eg. reef ball building and deployment, air potato removal, sea oats and mangrove planting).

Over the past few years, over 93,000 students are trained annually in various environmental and energy related locations. Students experience the diverse habitats in our community that stretches from the coastal shoreline to the Everglades wetlands, gaining a first-hand love of nature through various field experiences at:

<ul style="list-style-type: none"> • Central Broward Water Control 	<ul style="list-style-type: none"> • Butterfly World
<ul style="list-style-type: none"> • Flamingo Gardens 	<ul style="list-style-type: none"> • Broward County Air Quality Division
<ul style="list-style-type: none"> • Kids Ecology Corps 	<ul style="list-style-type: none"> • Hugh Taylor Birch, John U. Lloyd and John Pennycamp State Parks
<ul style="list-style-type: none"> • NatureScape Broward 	<ul style="list-style-type: none"> • Everglades National Park
<ul style="list-style-type: none"> • Extension Education 4-H, Master Gardeners 	<ul style="list-style-type: none"> • Biscayne National Park
<ul style="list-style-type: none"> • Sawgrass Nature Center 	<ul style="list-style-type: none"> • Big Cypress National Wildlife Preserve
<ul style="list-style-type: none"> • Fern Forest Nature Center 	<ul style="list-style-type: none"> • Loxahatchee National Wildlife Preserve
<ul style="list-style-type: none"> • South Florida Water Management 	

Students have applied STEM skills and knowledge to create habitats for local flora and fauna: designing and building garden space and nest boxes for various migrating and native birds. The use of the environment provides authentic STEM problem-solving for students K-12. Recent units published by the STEM & Instructional Resources Department for K-5 students have kindergartners designing a sustainable edible garden: first graders building a butterfly garden optimized for diversity; third graders using their habitat to design solutions for survival in the wild and fourth graders becoming stakeholders investigating and defending their position regarding the hypothetical building of a train through the Everglades. Additionally, all fourth graders learn about the historical issues involved in Florida's treatment of the environment with a unit using the story of the bird feather industry and its decimation of the native bird population as depicted in *The Last Egret* by Harvey Oyer. Many BCPS bring green architecture and engineering into the many of the environmental initiatives. Over 60percent of BCPS schools use their outdoor learning space to teach students STEM content, knowledge and thinking skills. There are over 50 schools that have transformed their schoolyard into outdoor learning environments with edible gardens, over 130 NatureScape Certified schools, and over 150 schools that are designated Wildlife Habitats to promote healthy eating, environmental impact, school-home relationship and interdisciplinary approach to learning. Students work closely with the municipality they are located in to better the local the environment, for example the City of Coral Springs partnered with the "Save What's Left" club at Coral Springs High School to restore and create a public accessible nature preserve (Tall Cypress Park). Florida Power& Light provide solar stations to schools for

education use, grants to schools for alternative energy education, to provide competition support for robotics, competition design and management for alternative energy generator build in STEM Olympiad. The “Scientific Thinking” portions of the science curriculum use environmental related examples of real-world situations for students to analyze, answer questions incorporating questions related to biomes, ecosystems, renewable/reusable resources, recycling, food chains, food webs, populations, communities, energy, conservation and ecology. Science Inquiry, Demonstrations, Labs are a significant part of unit plans where environmental concepts are developed and directly applied in a hands-on experiences.

Describe how your district promotes civic/community engagement projects integrating environmental and sustainability topics (green technologies, career pathways, civic skills, community partnerships).

Almost every school in Broward County is participating in some type of schoolyard and natural area clean-up effort. Clean-ups are done at the beach, local parks, streets and roadways, and school campus. We all realize that garbage looks bad; it is also a hazard to the natural cycles in sensitive environments. Clean-ups also involve the removal of exotic plants and animals that may also be doing great harm to the environment.

Greater than 113 schools have participated in clean-up activities such as the Great American Clean-up, Beach Clean-Ups and Waterway Clean-Ups around Broward County, including elementary school students are participating in after school litter picks ups; middle school students head out to the beach on weekends to pick up garbage and participate in the Broward County Waterway cleanup; and high school students are cleaning up our plants by removing exotics and planting natives at the Fern Forest Volunteer Days. Every BCPS has some type of environmental club/organization. Clubs allow students to interact with friends and peers while performing vital tasks that protect our environment. From common clubs like the Green Team and Environmental Club to more unique clubs like the Recycling Rangers, DMS Chillers and the Butterfly Club. Broward students get involved, starting in kindergarten through high school’s student-led “Save What’s Left” clubs. Broward Schools celebrate success by hosting and participating in unique community events around the County. Broward students participate in Green Day, Green Apple Day of Service, Arbor Day, Broward Water Matters Day, NatureScape Broward, Environmental Open House, Go Wild in the Park Environmental Festival and Art in the Park. Some schools created their own environmentally inspired events like Recycled Prom, Waste-Free Lunch Days, Walking School Bus, Walk to School Days and the Eco FunFest! Broward Students get out in the field! Students at over 100 schools have gone to the Everglades Experience Field Studies to learn about the Everglades through a hands-on interdisciplinary approach, the Miami Seaquarium to learn about the aquatic world, canoed in the Loxahatchee River, snorkeled in Key Largo and went air-boating in the Everglades! They’ve gone to nature parks to learn about the plants/animals of Florida. Getting out learning about nature is essential in understanding the complex relationships of the natural world. Providing natural areas for insects and animals to live is essential to protecting our sensitive areas. Delicate food webs are established when new areas are created. BCPS work to provide natural areas with food, water and shelter for the native species of South Florida. Some areas have been constructed to support migratory species that visit our location once a year; purple martin houses attract the migratory birds so students can observe their behavior. One school adopted threatened tortoises and made a school habitat for them to live in. Students have planted sea oats and sea grapes at the beach to provide a shelter for sea turtle hatchlings from the lights of Port Everglades. In all cases, these natural habitats are an important cornerstone for the environmental programs at our schools.

Partnerships: Natural Resources Department/Air Quality Department; BCPS work closely with the municipality they are located in, for example the City of Coral Springs "Save What's Left" club at Coral Springs HS to restore a public nature preserve; NWF /Broward County Natural Resources and Planning Department; Project Learning Tree; Environmental Education Council of Broward County; SFWMD, Guy Harvey Foundation, Nutrients for Life, Florida Ag in the Classroom- provides curriculum resources to schools; Higher education institutions to develop curriculum and mentorship -FAU, BCC, NSU, UF, FIU, & UM; FPL provides solar stations to schools; North American Butterfly Association; Audubon.