



**FLORIDA**  
GREEN SCHOOL NETWORK

**U.S. Department of Education**

***Green Ribbon Schools***

**TECHNICAL REVIEW**

<b>Nominee</b>	<b>Driftwood Middle School Academy of Health and Wellness, 2751 N. 70<sup>th</sup> Terrace, Hollywood, FL 33024, Broward County School District</b>	
<b>Evaluation Issues</b>	<b>Approvable</b>	<b>Special Notes</b>
<p>Florida Department of Environment Protection:</p> <p>Checked all records available regarding environmental violations for this school.</p> <p>Reviewer Name and Title: <b><i>Greg Ira, Director DEP-OE, Robin Barrack, Public Information Officer, Florida Department of Environmental Protection/Southeast District</i></b></p>	<p>Yes <input checked="" type="checkbox"/> X</p> <p>No <input type="checkbox"/> ____</p>	
<p>U.S. Department of Labor: Occupational Safety &amp; Health Administration (OSHA)</p> <p>Checked referred database for compliance with OSHA regulations at Federal and state levels.</p> <p><a href="http://www.osha.gov/pls/imis/establishment.html">http://www.osha.gov/pls/imis/establishment.html</a></p> <p>Information received: <b><i>Duty Officer for OSHA Fort Lauderdale Office</i></b></p> <p>Reviewer Name and Title: <b><i>Romina Sola, Coordinator Florida Green School Network</i></b></p>	<p>Yes <input checked="" type="checkbox"/> X</p> <p>No <input type="checkbox"/> ____</p>	
<p>Florida Department of Agriculture and Consumer Services:</p> <p>Checked compliance with regulations related to National School Lunch Program</p> <p>Reviewer Name and Title: <b><i>Lisa Church, Supervisor of Implementation, NSLP, SSO, SMP, Division of Food, Nutrition and Wellness, Florida Department of Agriculture and Consumer Services</i></b></p>	<p>Yes <input checked="" type="checkbox"/> X</p> <p>No <input type="checkbox"/> ____</p>	
<p>Florida Department of Education:</p> <p>Checked compliance with USDOE Individuals with Disabilities Education Act (IDEA)</p> <p>Reviewer Name and Title: <b><i>Patricia Howell, Program Director of Monitoring and Compliance, Bureau of Exceptional Education &amp; Student Services</i></b></p>	<p>Yes <input checked="" type="checkbox"/> X</p> <p>No <input type="checkbox"/> ____</p>	



## 2012-2013 Nominee Presentation Form

### **PART I - ELIGIBILITY CERTIFICATION**

#### **School and District's Certifications**

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school has been evaluated and selected from among schools 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 and sustainability education.
3. Neither the nominated public school nor its public school district is refusing 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.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole 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.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. 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 public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school 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  
**GreenRibbonSchools**

U.S. Department of Education Green Ribbon Schools 2013

For Public Schools only: ☐ Charter ☐ Title I ☒ Magnet ☐ Choice

Name of Principal Mr. Steven J. Williams

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name Driftwood Middle School

(As it should appear in the official records)

School

Mailing Address 2751 N. 70th Terrace

(If address is P.O. Box, also include street address.)

Hollywood

Florida

33024

City

State

Zip

County Broward

State School Code Number\*

0861

Telephone (754) 323-3100

Fax (754) 323-3185

Web site/URL http://driftwoodmid.broward

E-mail steven.j.williams@

schools.com

browardschools.com

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

Steven J. Williams  
(Principal's Signature)

Date 1/14/13

Name of Superintendent\* Mr. Robert W. Runcie

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

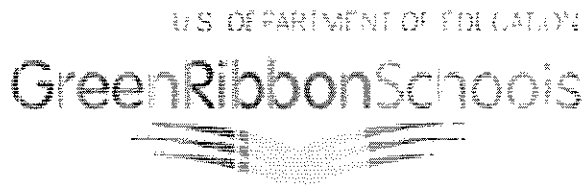
District Name\* School Board of Broward County Tel. (754) 321-0000

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.

Robert W. Runcie  
(Superintendent's Signature)

Date 1/14/2013

\*Private Schools: If the information requested is not applicable, write N/A in the space.



## **PART II – SUMMARY OF ACHIEVEMENTS**

### **Instructions to School Principal**

Provide a concise and coherent "snapshot" that describes how your school 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 school worthy of the title U.S. Department of Education Green Ribbon School.

## **PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE**

### **Instructions to Nominating Authority**

The Nominating Authority must document schools' high achievement in each of the three ED-GRS Pillars and nine Elements. For each school nominated, 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 school's eligibility and compliance with the following requirements is true and correct.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school 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 and sustainability education.
3. The school 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

Dr. Tony Bennett

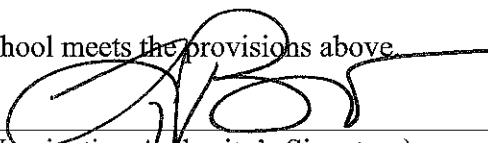
Authority

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the



school meets the provisions above.

  
(Nominating Authority's Signature)

Date 1/31/13

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](mailto: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](mailto: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.

## **Driftwood Middle School Academy of Health and Wellness Summary Narrative**

### **❖ Reducing environmental impact/costs**

Driftwood Middle (DMS) started the Green Team in November 2008. The team consisted of three teachers and three students. Our energy reduction project was “*How Low Can We Go?*” challenge. The intention of this project was conservation and to turn off anything not being used. Our Green Team would go from room to room looking for classrooms that had their lights left on. If a teacher left the lights on the students would leave a painted paw print on the door saying “*You’ve been Chilled!*” to remind them to turn off the lights in their classroom when they left for the day. The total drop in Green Gas emission has been 23% since June 2008. Driftwood continues to strive to reduce our environmental impact on the earth. In 2011-2012, DMS Green Gas emissions dropped 6.51%. Our water reduction has dropped 38% since 2008. Seventy percent of the campus is regionally appropriate and water-efficient receiving only natural rainfall. We have rain driven plants such as Live Oak, Gumbo Limbo, Slash Pine, Dahoon Hollies, Coonties, and many other native plants. Mulch in landscaping areas also reduces the need for irrigation. In Nov. 2008, we started our paper recycling program. Every Thursday the teachers are asked to send recyclable paper to recycle zone leaders. Every Friday our Dumpster Diving Team picks up paper goods from the 9 Zones that we have throughout the school. Almost **100%** of our teachers/faculty recycles to a zone area. In the last year we have added bottles/cans to the recycled products. Forty-five percent of the campus generated waste is recycled. Our SVE (Special Needs) class participates and picks up all the bottles/cans to be recycled. We also collect ink cartridges, potato chip bags and can tabs for charity. Driftwood involves all teams, clubs, and activities at our school in recycling. Driftwood’s Drama Club is also participating in a project called “Sole 4 Souls.” They collect shoes and raise money for impoverished children from other countries. The drama club won the Broward County Public Broadcasting Announcement Video Contest with its “Recycle, Reduce, and Reuse PBA video (2011-2012).

### **❖ Improving student/staff health**

Health and wellness are infused into all curriculum areas of the school. The Wellness Healthier Generations Committee meets bi-weekly. Farm-to-School program/ USDA's Healthier US School Challenge has resulted in 80% increase in use of fresh fruits and vegetables in the cafeteria in 2011-2012. We now have a healthy vending machine for teachers/students in the cafeteria. Students grow and harvest food from the garden and hydroponics area, eat it in class, and donate fresh food to the community.

Driftwood is a Polar Heart Monitor Showcase School due to our use of the technology in the classroom. We use Pedometers, the Tri-Fit computerized testing, and HeartMath Technology (biofeedback) as assessment tools for our students and staff. We offer a

Faculty Fitness class every Tuesday. Different wellness/fitness components are offered weekly including pedometer contests, dance classes, team sports, nutrition lectures etc.

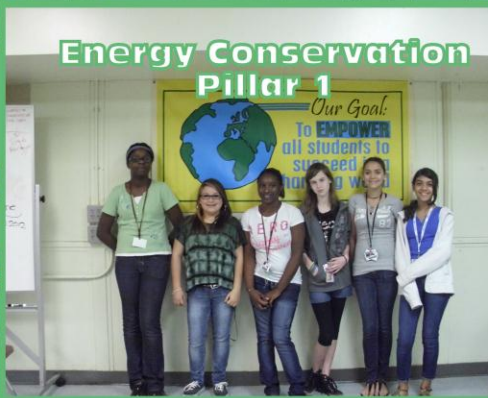
#### ❖ **Providing effective environmental/sustainability education**

Forty percent of our campus is devoted to ecologically beneficial uses. Outer portions of campus are used for artificial burrows for protected owls. Driftwood was the **1st school** to do artificial burrows for Owls funded by *Project Perch, Audubon and National Fly-Aways Coalition*. We recently installed a professional Live Web Cam on Burrowing owls through a unique partnership with Birding Adventures (*International*) and Project Perch. Driftwood was awarded, Most Outstanding Butterfly Garden in Broward Jan, 2010. Butterfly Garden and hammock areas are used for environmental education and native species habitats. Driftwood is certified by Broward County Naturescape, National Wildlife, and the North American Butterfly Association. DMS has a nationally recognized bird watcher on staff that documented 46 bird species on campus.

- Highest Science scores for all Broward Title 1 Schools, 6th highest scores of 47 middle schools.
- 50% of our students scored level 3 or above on Science FCAT.
- 2 students with perfect score of 500.
- DMS doubled the percentage of students at district and state to score level 4 and 5.
- Sent 10 projects to District Science Fair. 60% of those students placed 1st, 2nd, 3rd or 4th at District Fair with 1st place and highest score in district and 3rd place at state for project on comparing glucose levels in native plants attracting butterflies.
- 2nd place district winner on Monarch Butterfly chrysalis development.

In 2009, Driftwood hosted a Naturescape event with over 600 people including vendors, music, children's activities, and student project displays. This brought parents/community together for Environmental education and kicked off many of these initiatives and partnerships. Students from our environmental club were provided the opportunity to teach students, teachers, and parents about the environment. It has continued to involve the DMS community. Our school participates in Earth Week activities each year to raise environmental awareness.



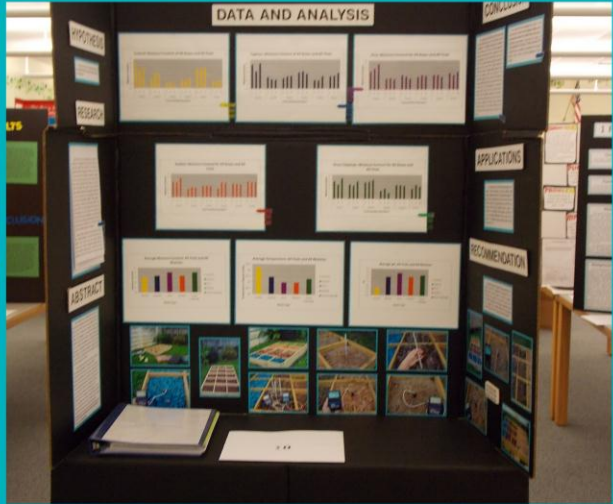








## Environmental Literacy Pillar 3



# Florida Green Ribbon Schools Application 2012-2013

Response ID: Data

## 2. Applicant Information

### 1. Principal Name:

Steven J. Williams

### 2. Phone Number:

754-323-3100

### 3. Principal Email Address:

steven.j.williams@browardschools.com

### 4. City:

Hollywood

### 5. Street Address:

2751 N. 70th terr

### 6. Zip:

33024

### 8. Lead Applicant Name (if different):

Linda Gancitano

### 9. Website:

<http://driftwoodmid.browardschools.com/>

### 10. State:

Florida

### 11. School Name:

Driftwood Middle School Academy of Health and Wellness

### 12. Lead Applicant Email:

[linda.gancitano@browardschools.com](mailto:linda.gancitano@browardschools.com)

### 13. Phone Number:

954-394-8073

### 14. District name:

Broward

### 15. School Type:

Public

### 16. How would you describe your school?

Urban

### 17. Level:

Middle (6-8 or 9)

**18. Does your school serve 40% or more students from disadvantaged households?**

Yes

**19. Graduation Rate:**

99% promotion rate to high school

**20. Attendance Rate:**

avg. daily absences 100

**21. Total Enrolled:**

1618

**22. Percent of students receiving Free or Reduced Price Lunch:**

73%

### 3. General Green School Information

**23. Summary Narrative: Provide an 800 word maximum narrative describing your school's efforts in the following areas: Reducing environmental impact and costs, improving student and staff health, and providing effective environmental and sustainability education. Focus on unique and innovative practices and partnerships. (16 Points)**

Driftwood Middle School started the Green Team in Nov.2008. The team consisted of three teachers and three students. Our energy reduction project was called "How Low Can We Go Challenge?" The intention of this project was to raise awareness and to turn off anything that wasn't being used. We have a unique way of reminding teachers to turn off the lights in their classroom when they leave for the day. Our Green Team would go from room to room looking for the classroom that had their lights on. If the teacher was caught with the lights left on the students would leave a painted paw print on the door saying You've been Chilled! The total drop in Green Gas emission has been 23% since June 2008. Driftwood continues to strive to reduce our environmental impact on the earth. In the last year we drop 6.51% of Green Gas emissions. Our water reduction has dropped 38% since 2008. 70% of the campus is regionally appropriate and water-efficient receiving only natural rainfall. We have rain driven plants such as Live oak, Gumbo Limbo, Slash Pine, Dahoon Hollies, Coonties, and many other native plants. Mulch in landscaping areas also reduces the need for irrigation. Also in Nov. 2008 we started our paper recycling program. The team was called the Dumpster Diving team. Every Thursday the teachers are asked to send their recyclable paper to the closest zone. Every Friday our Dumpster Diving Team picks up the paper goods from the 8 Zones that we have staggered throughout the school. Almost 100% of our teachers/faculty recycles to a zone area. In the last year we have added bottle and cans to the recycled products. 45% of the campus generated waste is recycled. Our SVE class participates and picks up all the bottles/cans to be recycled. They also collect and bind all Capri Suns for the Terra cycle program. We also collect, ink cartridges, potato chip bags and can tabs for charity. Driftwood tends to involve everyone at our school when it comes to recycling. Driftwood's drama club is also participating in a project called "Sole 4 Souls." They collect and raise money to give shoes to children from other countries that are in need. The drama club won the Broward County Award winning Public Broadcasting Announcement Video Contest "Recycle, Reduce, and Reuse PBA video( 2011-2012). Wellness Healthier Generations Committee meets weekly. \*Farm-to-School program/ USDA's Healthier US School Challenge has resulted in 80% increase in use of fresh fruits and vegetables in the cafeteria in the last year. We now have a healthy vending machine for teachers and students in the cafeteria. Students grow and harvest food from garden and eat it in class and donate s to the community. Driftwood is a Polar Showcase School because of our use of the technology in the classroom. We use Pedometers, the Tri-Fit computerized and ,HeartMath Technology as assessment tools for our students and staff. We offer a Faculty Fitness class every Tuesday. A different wellness/fitness component is offered weekly from pedometer contest, dance classes, team sports, nutrition lectures etc. Environmental 40% of our campus is devoted to ecologically beneficial uses. Outer portions of campus are being used for artificial burrows (protected owls). Driftwood was the 1st school to do artificial burrow for Owls (Audubon and National Fly Away Coalition). We are installing a Live Web Camcorder of our Burrowing owls called Project Perch. Driftwood was voted the Most Outstanding Butterfly Garden in Broward Jan.2010. Our butterfly Garden and hammock areas are used for environmental education and habitats for native species. Driftwood is a certified Broward County Naturescape school and National Wildlife certified. One of our teachers is a nationally recognized bird watcher and has documented 46 bird species on campus. \*Highest Science scores for all Title 1 Schools in Broward \*Ranked 6th highest Science scores out of 47 middle schools \*50% of our students score a level 3 or above on the Science FCAT. \* 2 students with a perfect score of 500. \*Doubled the % of our students at the district and state level to score a level 4 and 5. \* Sent 10 projects to the District Science Fair. \* 60% of our students placed 1st, 2nd, 3rd or



4th at the District Science Fair. \*1st place highest score in the district/state finalist. \*2nd place district winner Monarch Butterfly/development of crystallites. Driftwood hosted an event from Naturescape that brought parents and community together for Environmental education. This provides the students from our environmental club the opportunity to teach other students, teachers, and parents about our environment. We had vendors, music, children's activities, and student project displays. Our school participates in Earth Week activities each year to raise environmental awareness. During the designated week, each day has a theme related to the Earth.

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**24. Is your school participating in a local, state or national school program which asks you to benchmark progress in some fashion in any or all of the Pillars? (4 Points)**

Yes

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**25. Program(s) and Level(s) achieved:**

District acknowledgement and award recognition plus Driftwood was given \$1500.00 for being the number one school in the county for dropping KWH usage and lower CO2 Oct.2012. Last year we were also acknowledged for being one of the top schools that conserve energy. We were also awarded \$1500.00 bonus check.

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**26. Has your school, staff or student body received any awards for facilities, health or environment? (0 Points)**

Yes

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**27. Award(s) and year(s)**

\*Florida Green School Award for Middle Schools - 2012

Press Release:

<http://www.floridagreenschoolnetwork.org/>

<http://content.govdelivery.com/bulletins/gd/FLDEP-5819ba>

\*Acknowledged for School of Excellence for the National Green Ribbon Award (2011-2012)

\* Broward County Award winning Public Broadcasting Announcement Video Contest " Recycle , Reduce, and Reuse PBA video( 2011-2012)

\*Finalist in the Environmental Steward Award for the county

\*Award from the Department of Health for our garden,

\*Go Green ETS Training Team won a new printer for being one of the top Green schools in Broward County Nov.2009

\*North American Butterfly Association EPA Grant and Department of Energy

\*Garden Grant Broward Farm Bureau for implementing organic gardening. (8 years)

\*Grow Healthy Grant from Dep. of Health: Sep 22, 2011

\*Awarded a \$1500.00 check for lowering our Greenhouse Gas Emissions by 23% since June 2008

\*Most Outstanding Butterfly Garden in Broward Jan.2010 (Broward schools event and Newsletter)

\*Certified Broward County Naturescape Certification

\*National Wildlife Certification

\*Eco- School

\*1st school to do artificial burrow for Owls (Audubon and National Fly Way Coalition)

\*Project Perch –Live Web Camcorder of our Burrowing owls

FAITC-FloridaAg in the Classroom in 2005, 2006, 2009 and 2011

Whet Students' Appetites for Gardening-Hydroponics & Traditional- Phase II

Whet Students' Appetites with Hydroponics

\*FAU, "Fishing for Answers" For students to do research about aquaculture. ,

\* Health and Wellness Magnet School of Distinction

\* Awarded Magnet Schools of America, 2001, 2004, 2005, 2006 & 2007

\* Since 2001 Driftwood has been an A+ school for 12 years including last year.

#### 4. Pillar I: Reduced Environmental Impact and Costs

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**28. Can your school demonstrate a reduction in Greenhouse Gas emissions? (2 Points)**

Yes

**29. Percentage reduction:**

23.51%

**30. Over (mm/yyyy - mm/yyyy):**

June 2008-July 2012

**31. Initial GHG emissions rate (MT eCO<sub>2</sub>/person):**

June 2008=2817

**32. Final GHG emissions rate (MT eCO<sub>2</sub>/person):**

July/2012 =1.5209

**33. Offsets:**

Automatic sensors to shut off classroom lights in 2 multi-story buildings. Use of Solar Energy for some Science Labs,

**34. How did you calculate the reduction?**

EPA Website

G H G Equivalents

Calculator

**35. Has your school received EPA ENERGY STAR certification or does it meet the requirements for ENERGY STAR certification? (2 Points)**

No

**36. Has your school reduced its total non-transportation energy use from an initial baseline? (2 Points)**

Yes

**37. Current energy usage (kBtu/student/year):**

7,537.53

**38. Current energy usage (kBtu/sq. ft./year):**

57.68

**39. Percentage reduction:**

21% 74.749 baseline/ 61.964 July 2011-2012

**40. over (mm/yyyy - mm/yyyy):**

June/2008- July/2012

**41. How did you document this reduction?**

Schooldude.com/District Report

**42. On-site renewable energy generation:**

rechargeable batteries for teacher and staff laptops (120), rechargeable batteries for student laptop use (300), rechargeable batteries on electric golf carts used by maintenance

**43. Type:**

rechargeable batteries for electronics and golf carts

**44. Purchased renewable energy:**

none

**45. Type:**

none

**46. Participation in USDA Fuel for Schools, DOE Wind for Schools or other federal or state school energy program:**

Florida Green School Network's ,Eco - School

**5. Pillar I: Reduced Environmental Impact and Costs**

**47. What year was your school originally constructed?**

1961-buildings 2,5,7,10,11.

**48. What is the total building area of your school?**

211,671square feet

**49. Has your school constructed or renovated building(s) in the past ten years? (2 Points)**

Yes

**50. Percentage building area that meets green building standards:**

20% (lights with sensors, window area reduction, multilevel and breezeway/overhangs insulate and reduce air conditioning costs)

**51. Certification and level:**

unable to obtain

**52. Total constructed area:**

1961- buildings 2,5,7,10,11.....1972-building 4...1994-building 12....1997-building1,3,6,9...2002-buildin 85,86,87,88

**53. Percentage of the building area that meets green building standards:**

20% window area reduction

**54. Certification and level:**

unable to obtain

**55. Total renovated area:**

1972-building 4..1994-building 12..1997-building 1,3,9...2002-building 85,86,87,88

**6. Pillar I: Reduced Environmental Impact and Costs**

**56. Can you demonstrate a reduction in your school's total water consumption from an initial baseline? (2 Points)**

Yes

**57. What is the Average Baseline water use (gallons per occupant):**

1,211

**58. Current water use (gallons per occupant):**

1,138



**59. Percentage reduction in domestic water use:**

38% from June/2008-July 2012(this year 6.04)

**60. Percentage reduction in irrigation water use:**

Unable to determine since irrigation is through same meter as school. Included in item 59 above.

**61. Time period measured (mm/yyyy - mm/yyyy):**

June 2008-July 2012..this year 6.04%

**62. How did you document this reduction (i.e., ENERGY STAR Portfolio Manager, utility bills, school district reports)?:**

School District Reports/Analyst

**63. Does your school use a Florida friendly landscape maintenance certified professional? (2 Points)**

Yes

**64. What percentage of your landscaping is considered water-efficient and/or regionally appropriate? List the type of plants used and location: (2 Points)**

70% of the campus is regionally appropriate and water-efficient receiving only natural rainfall. 30% of the campus is watered once per week. This is 50% less than the recommendation from the South Florida Water Management District. We have rain driven plants such as Live oak, Gumbo Limbo, Slash Pine, Dahoon Hollies, Coonties, Beauty Berry, Scarlet Bush, Casias, Porterweed, Wild Lime, Simpson's Stoppers, Paradise Tree, Wild Coffee, Dune Sunflowers, Wild Lantana, Spanish Nettles, and other native plants. Mulch in landscaping areas also reduces the need for irrigation. Driftwood has a butterfly garden and an additional Hammock restoration project that houses a variety of native plants and trees.

**65. Describe alternate water sources used for irrigation. (50 words max) (2 Points)**

Rain water diverter system for buildings and walkways, underground irrigation system for the garden. Hydroponic urban fruit and vegetable garden. Underground Drip Irrigation System used to reduce water loss through evaporation.

**66. Describe any efforts used to reduce storm water runoff and/or reduce impermeable surfaces. (50 words max) (2 Points)**

Landscaping around buildings is mulched to reduce water runoff. Butterfly garden beds were designed around an existing storm drain to utilize existing drainage which prevents storm water runoff. 125 hedges were planted in mulched beds as perimeter buffers as part of the butterfly garden to reduce runoff and prevent flooding.

**67. Our school's drinking water comes from: (0 Points)**

Municipal water source

**68. Describe how the water source is protected from potential contaminants. (50 words max) (2 Points)**

School gardens do not use pesticides or fertilizers that would leach into the groundwater. The school does not produce any substances that would contaminate the water supply.

**69. Describe the program you have in place to control lead in drinking water. (50 words max) (2 Points)**

Municipal water source used. All old water pipes have been replaced. Students have tested school water for presence of lead for science projects (results were negative).

**70. What percentage of the school grounds are devoted to ecologically beneficial uses? (50 words max) (2 Points)**

40% of campus is devoted to ecologically beneficial uses. Outer portions of campus have been used for artificial burrows (protected owls), Butterfly Garden and hammock areas are used for environmental education and habitats for native species. Additional areas exist for outdoor instruction. 46 bird species have been documented on campus.

**7. Pillar I: Reduced Environmental Impact and Costs**

**71. What percentage of solid waste is diverted from land filling or incinerating due to reduction, recycling and/or**

**composting? (2 Points)**

87.5% reduction of cafeteria waste from SOMAT and 45% of campus generated waste

**72. A - Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected):**

51.2 cubic yards per month = 2 dumpsters (8 cubic yards) x 4 times per month x 80% full

**73. B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected):**

64 cubic yards per month = 2 dumpsters per week (8 cubic yards each) x 4 collections per month x 100% full (to top)

**74. C - Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected):**

15 cubic yards per month = 1 dumpster (2 cubic yards) x 10 times per month (SOMAT) @ 75% (25% from adjacent elementary school) x 100% full

**75. Recycling Rate = ((B + C) ÷ (A + B + C) x 100):**

60.7% = 79 cubic yards/130.2 = 0.606759 x 100 = 60.7%

**76. Monthly waste generated per person = (A/number of students and staff):**

0.029 cubic yards = 51.2 cubic yards/1750 students and staff

**77. What percentage of your school's total office/classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free? (2 Points)**

100%...I called Office Depot who supplies our school with the paper and gave them the vin number on the paper cases.

**78. Corrosive liquids**

We are not generating any corrosive liquids.

**79. Flammable liquids**

We are not generating any flammable liquids.

**80. Mercury**

We are not generating any mercury.

**81. Other**

We are not generating any hazardous waste that we are aware of.

**82. Toxics**

We are not generating any toxins.

**83. How is this Measured?**

Monitored by Risk Management and Safety Department.

**84. How is hazardous waste disposal tracked?**

Hazardous waste disposal for science through Risk Management and Safety. We have not had any since a chemical storage clean-up many years ago.

**85. Describe other measures taken to reduce solid waste and eliminate hazardous waste.**

87.5% reduction in solid waste from cafeteria from using SOMAT system for breakfast and lunch daily for over 1750 students and staff (data from SOMAT Waste Reduction Technology). 45% campus generated waste recycled. Science department only orders preapproved chemicals in small quantities and follows strict guidelines for disposal of chemicals.

**86. Which green cleaning custodial-standard is used?**

All-In-One-H2O2 Cleaner(Green Seal Certified)

**87. What percentage of all products is certified?**

30% done by Green Standards

**88. What specific third party certified green cleaning product standard does your school use?**

H2O2 Johnson Diversity- 7in One product(Green Seal Certified)

**8. Pillar I: Reduced Environmental Impact and Costs**

**89. What percentage of your students walk, bike, bus, or carpool (2 + student in the car) to/from school? (Indicate if your school does not use school buses)**

Bus students-39%

Walkers-22%

Bikers-5%

Carpool(2+)-9%

Car(1 student)-24%

**90. How is this data calculated? (50 words max) (4 Points)**

76% of our students travel to school in a Green Way.We sent a survey to 75 teachers and requested the teachers gather the data for this question. The Green Team then collected the data from each teacher. The Green Team tallied all the results.

Carpool(2+),Car(1 person),biking, walking, bused.

**91. Our school has implemented: (Please select one or more options) (4 Points)**

Vehicle loading/unloading areas that are at least 25 feet from buildings, air intakes, doors, and windows.

Safe Pedestrian Routes to school or Safe Routes to school.

A well-publicized no idling policy that applies to all vehicles (including school buses).

**92. Describe activities in your safe routes program: (50 words max)**

Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows.

Our school has established Safe Pedestrian Routes to school which are distributed to parents and posted in our office. Our school participates in a "Safe Routes to School program.

**93. Describe how your school transportation use is efficient and has reduced its environmental impact. (50 words max) (4 Points)**

Vehicle loading/unloading areas are 20+ yards from building air intakes, doors, and windows. Parents will not be allowed to wait on campus until after school. The parents won't be idling close to school. That will support our Clean Air Act. The parents are informed to the effects of carbon monoxide.

**94. Describe any other efforts toward reducing environmental impact. Focus on innovative or unique practices and partnerships. (100 words max) (4 Points)**

Our new superintendent is all about conserving and making a difference. Our school hours have changed due to conserving energy. We are only using one bus to transport elementary students first and then our middle school. The change is reducing the number of routes per day which is then reducing the CO2 and pollution impact from exhaust.

**9. Pillar 2: Improve the Health and Wellness of Students and Staff**

**95. What is the volume of your annual pesticide use (gal/student/year)? Describe efforts to reduce use: (10 Points)**

In protecting the endangered Atala butterflies and other species we strongly encourage avoiding all pesticides on campus.

Pesticides are used on an as needed basis per district policy.

**96. How do you solve pest problems at your school? (4 Points)**

Butterfly garden- no pesticides! Students hand pick identified pests (white beetles) and dispose of them. Geiger tortoise beetle

larva have been controlled with spraying a dilute saline solution (through student investigation and experimentation). Vegetable garden pests are sprayed with Neem oil (organic). Mechanical removal of wasps nests as needed. Our school has an integrated pest management plan in place to reduce and/or eliminate pesticides.

Copies of pesticide labels, copies of notices, MSDS and annual summaries of pesticide applications are all available and in an accessible location. Our school prohibits children from entering a treated area for at least 8 hours after the treatment or longer if required by the pesticide label. Outside company comes in for ants/termites

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**97. How do you decide when to use pesticides? (4 Points)**

In protecting the endangered Atala butterflies and other species we strongly encourage avoiding all pesticides on campus.

Pesticides are used on an as needed basis per district policy. Staff members are not allowed to use independently purchased products.

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**98. Do you have an Integrated Pest Management contact at your school? (2 Points)**

Yes

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**99. If yes, please provide the names and job title of the contact person.**

Elizabeth Fedderer -head custodian

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**100. Which of the following practices does your school employ to minimize exposure to hazardous contaminants? (20 Points)**

Our school enforces a policy that prohibits all tobacco use by students, staff and visitors on all school owned property and at school sponsored events.

Our school enforces a policy that prohibits smoking by students, staff and visitors on all school owned property and at school sponsored events.

Our school has identified and properly removed sources of elemental mercury and prohibits its purchase and use in the school.

Our school does not have any fuel burning combustion appliances

Our school has identified any wood playground or other structures that contain chromate copper arsenate and has taken steps to eliminate exposure.

Our school uses fuel burning appliances and has taken steps to protect occupants from carbon monoxide (CO)

Our school has tested all frequently occupied rooms at or below ground level for radon gas and has fixed and retested all rooms with levels that tested at or above 4 pCi/L OR our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L.

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**101. Describe how your school controls and manages chemicals routinely used in the school to minimize student and staff exposure. (100 words max) (4 Points)**

The science department purchases district approved chemicals for laboratory experiments through a board approved vendor. Chemicals are stored in locked, restricted access, organic or inorganic storage areas. Flammables are stored in a cabinet for flammables and there is an acid cabinet for storage of acids (also restricted access). Our school has disposed of any unwanted mercury/laboratory chemicals, thermometers and other devices in accordance with federal, state, and local environmental regulations. Custodial controls and manages all district approved cleaning supplies.

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**102. Describe actions your school takes to prevent exposure to asthma triggers in and around the school. (100 words max) (4 Points)**

Driftwood's comprehensive air quality management program is consistent with Indoor Air Quality (IAQ) Tools for Schools/meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality).

Driftwood installed energy recovery ventilation systems bringing in fresh air while recovering the heating/cooling from conditioned air.

Driftwood's asthma management program is consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools guidelines. In Physical Education, asthmatic students wear a Polar Heart Monitor measuring their heart rate. If their heart rate goes above 155 beats per minute they are instructed to slow their pace bringing their heart rate to 155 resulting in self correcting.

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**103. Describe actions your school takes to control moisture from leaks, condensation, and excess humidity and promptly cleanup mold or removes moldy materials when it is found. (100 words max) (4 Points)**

Our school visually inspects all structures on a monthly basis to ensure they are free of mold, moisture and water leakage.  
Our school's indoor relative humidity is maintained below 60%.  
Our school has moisture resistant materials/protective systems installed (i.e., flooring, tub/shower, backing, and piping).

**104. Our school has installed local exhaust systems for major airborne contaminant sources. (2 Points)**

Yes

**105. Describe your school's practices for inspecting and maintaining the building's ventilation system and all unit ventilators to ensure they are clean and operating properly. (100 words max) (8 Points)**

Our school has a comprehensive indoor air quality management program that is consistent with Indoor Air Quality (IAQ) Tools for Schools.  
Our school meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality).  
Our school has installed one or more energy recovery ventilation systems to bring in fresh air while recovering the heating or cooling from the conditioned air.  
Our school disposes of any unwanted mercury laboratory chemicals, thermometers and other devices in accordance with federal, state, and local environmental regulations.

**106. Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, that are consistent with state or local codes, or national ventilation standards. (100 words max) (8 Points)**

Driftwood's comprehensive air quality management program is consistent with Indoor Air Quality (IAQ) Tools for Schools/meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality).  
Driftwood installed energy recovery ventilation systems bringing in fresh air while recovering the heating/cooling from conditioned air.  
Driftwood's asthma management program is consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools guidelines.

**107. Describe other steps your school takes to protect indoor environmental quality such as implementing EPA IAQ Tools for Schools and/or conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues. (200 words max) (8 Points)**

Yearly safety inspections for the entire campus.(Bobby Glenn)  
Driftwood's comprehensive air quality management program is consistent with Indoor Air Quality (IAQ) Tools for Schools/meets ASHRAE Standard 62.1-2010 (Ventilation for acceptable indoor air quality).  
Driftwood installed energy recovery ventilation systems bringing in fresh air while recovering the heating/cooling from conditioned air.  
Driftwood's asthma management program is consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools guidelines.

**10. Pillar 2: Improve the Health and Wellness of Students and Staff**

**108. Which practices does your school employ to promote nutrition, physical activity and overall school health? (20 Points)**

Our school participates in the Alliance for a Healthier Generation's Healthy School Program.  
Our school participates in a Farm-to-School program to use local, fresh food.  
Our school has an on-site food garden.  
Our school garden supplies food for our students in the cafeteria, a cooking or garden class or to the community.  
At least 50% of our students' annual physical education takes place outdoors.  
Health measures are integrated into assessments.  
Our students spent at least 120 minutes per week over the past year in school supervised physical education.  
At least 50% of our students have participated in the EPA's Sunwise (or equivalent program).  
Our school participates in the USDA's Healthier US School Challenge.

**109. Provide specific examples of actions taken for each checked practice. If involved in USDA programs indicate level and years. Focus on innovative or unique practices and partnerships. (100 words max)**

\*Healthier Generations Committee meets weekly \*Farm-to-School program/ USDA's Healthier US School Challenge has

resulted in 80% increase in use of fresh fruits/ vegetables in the cafeteria. We added a healthy choice vending machine.

\*Students grow /harvest food from the garden and eat it in class. We also donate food to the community \*150 + minutes weekly of Physical Education/ Health/Nutrition/Wellness \*75% of the physical activity takes place outdoors. \*Polar Heart Monitors, Pedometers , Tri-Fit technology, HeartMath Technology, are measurement/assessment tools we use in our classes. \*Sun Wise education in taught in 6thhealth, 7th and 8th grade Physical Education and environmental wellness

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**110. Food purchased by our school is certified as "environmentally preferable"(6 Points)**

Yes

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**111. Percentage:**

80% increase in use of fresh fruits and vegetables in the cafeteria in the last year

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**112. Type:**

fresh fruits and vegetables

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**113. Does your school implement the coordinated school health model? (2 Points)**

Yes

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**114. Does your school have a healthy school team? (4 Points)**

Yes

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**115. If so, describe the team make up, meeting frequency, and successes. (200 word max)**

We are a Health and Wellness Magnet School. We meet bi-weekly as a part of our department. We have involved our faculty and students in many different types of health and fitness since Sept.20006.The magnet department consist of 7 teachers. We involve our students/faculty in intramural sports before school and running activities such as a Turkey Trot and Jingle Bell Jog for the holidays. We are committed to having the children engaged in activity to help brain function and development. The staff meets for faculty Fitness every Tuesday.

We also have a new Healthy Generation Team. The team consists of a variety of staff members from P.E/ health, an administrator, cafeteria manager, as well as a clerical representative. Due to the recent creation of this group, our successes are few. We hope to continue to enhance the health, education and well-being of our students, staff, and community. On top of the already existing school successes, opportunities and changes (i.e. faculty fitness, before school sports, holiday runs, healthy choice vending machine for faculty, etc.),activities such as a 5k involving the school and the community as well as being a member of the Fuel Up To Play 60.

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**116. Describe the type of outdoor education, exercise and recreation available. (100 words max) (4 Points)**

Driftwood Middle School Academy of Health and Wellness offers outdoor exercise opportunities and nature-based recreation. The Environmental Wellness class maintains a fruit/vegetable garden where students learn different methods of planting/ harvesting crops. We have a National Wildlife Certified Habitat butterfly garden where students monitor the necessary food/water sources available. Our campus has state-protected habitats for burrowing owls. A cam recording system allows students to learn about endangered species. Our physical education/fitness classes utilize large softball, soccer, football; lacrosse fields. The students learn the fundamentals of all team sports. Students discover team building and leadership as part of the R.O.P.E.S curriculum .

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**117. Describe any other efforts to improve nutrition and fitness. Highlight innovative or unique practices and partnerships. (100 words max) (6 Points)**

Nutrition/Health course for 18 weeks for 6th and 8th grade

Environmental Wellness class-teaches organic nutrition

Fitness Center/Aerobics Room- cardiovascular and strength training machines

Hop sports machine – projection on large screen for large group activities and demonstrations(yoga ,kick boxing, ladder drills, proper sports skills and techniques)

Polar Heat Monitors (We are a Polar Showcase school)

Heart Math Technology (stress management)-

R.O.P.E.S Course/ Climbing Wall

Intramural Sports

Extracurricular sports



Faculty Fitness days/Team Building-staff development on fitness, nutrition, stress management,  
Faculty vs. students in several team sports  
Pedometers for faculty challenges and contest

## 11. Pillar 3: Effective Environmental and Sustainability Education

### 118. Which practices does your school employ to help ensure effective environmental and sustainability education? (Check all that apply) (14 Points)

Environmental and sustainability concepts are integrated throughout the curriculum .  
Environmental and sustainability concepts are integrated into assessments.  
Evidence of high levels of proficiency on these assessments.  
Professional development in environmental and sustainability education is provided to all teachers.

### 119. Environmental and sustainability concepts are integrated throughout the curriculum. (200 words max)

Environmental Wellness practices sustainable organic agriculture in our extensive raised beds and hydroponic gardens. Students learn about effective environmental policies for Florida waterways and ecosystems, also worldwide renewable and nonrenewable resources.

8th Grade Science/Nutrition/ Health/Reading/Language Arts - The 8th grade focuses more on reading about environmental topics and concerns of the world and then they practice their writing skills to get ready for the Florida Writes test. Through our Social Studies classes the students learn the art of a good debate. The teachers told me the best debates are about the environment, global warming and other environmental concerns. 8th grade math students have their Pythagorean Theorem lab outside measuring shadows.

In Language Arts the students build robots to support the writing process. It starts from the planning stage, they use recycled materials, expository writing and persuasive ads.

### 120. Environmental and sustainability concepts are integrated into assessments. (200 words max)

8th grade in addition to chapter and unit assessments using teacher made and textbook assessments also is tested through a statewide science assessment program incorporating questions related to biomes, ecosystems, renewable /reusable resources, recycling, food chains, food webs, populations, communities, energy, conservation, ecology and other areas. The "Scientific Thinking" portions of the test may use environmentally related examples of real-world situations for students to analyze and answer questions in addition to questions related to the unique South Florida ecosystem such as land-use simulation, population surveys and on-site field studies. Through the Glides district initiative, students in grades 6, 7 and 8 conducted group action research projects in the butterfly garden and the projects were assessed by the completion of multi-media presentations. An event was held in the evening where parents and staff members were able to view the multi-media presentation presented by the students. Project Learning Tree, Project Wild, Project Wet and other national curriculums are used in developing applied learning activities reinforcing environmental and sustainability concepts. An annual science fair experimental based project is a required assessment for all advanced and gifted students and all regular students must participate in a class group experiment.

### 121. Evidence in high levels of proficiency in these assessments. (100 words max)

Driftwood Science

- \*Highest science FCAT scores for all Title 1 School in Broward
- \*Ranked 6th highest of 47 middle schools
- \*50% of students score a level 3 or above on the Science FCAT.
- \* 2 students with a perfect score of 500.
- \*Doubled the % the district/ state to score a level 4 and 5.
- \* Sent 10 projects to the District Science Fair.
- \* 60% of our students placed 1st, 2nd, 3rd or 4th.
- \*1st place highest score in the district/state finalist. Topic: Glucose in the nectar of flowering plants
- \*2nd place district winner Monarch Butterfly/development of crystallites.

### 122. Professional development in environmental and sustainability education is provided to all teachers. (200 words max)



Habitat Steward training available to all interested staff members (National Wildlife Foundation and Naturescape collaboration). Numerous staff developments available to all staff members related to the South Florida ecosystems and environment (National Parks, Broward County Schools, Broward County Government, Broward County Parks Department, South Florida Water Management District, and other agencies). Educational Technology Curriculum materials received from Services Paperless training for all staff members

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**123. Does your school serve grades 9-12? (14 Points. High school only)**

No

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**124. How does your school use sustainability and the environment as a context for learning science, technology, engineering and mathematical (STEM) thinking skills and content knowledge? (200 words max) (14 Points)**

The "Scientific Thinking" portions of the science curriculum use environmentally related examples of real-world situations for students to analyze and answer questions incorporating questions related to biomes, ecosystems, renewable/reusable resources, recycling, food chains, food webs, populations, communities, energy, conservation, ecology and other areas. 6th and 7th grade science curriculum focuses on many aspects related to the environment. Science Inquiry, Demonstrations and Labs are a significant part of unit plans where environmental concepts are developed and directly applied in a hands-on experiences that when assessed show gains in understanding. Science staff strives to have at least two labs, activities or demonstrations per unit. The Scientific Method, measurement and the metric system are taught each year broadening the understanding and application of this critical knowledge of STEM. Driftwoods commitment to the priority of STEM education has resulted in the significant improvement incoming 6th graders scored where 22% scored a Level 3 or above on FCAT Science after 3 years of Driftwoods science education 50% scored a Level 3 (28% improvement) or above.

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**125. How does your school use sustainability and the environment as a context for learning green technologies and career pathways? (200 words max) (14 Points)**

The 7th grade Environmental Wellness researches careers related to plant and animal conservation as well as food production and nutrition. We look into Environmental Horticulture, Wildlife Conservationists, Ecologist, Biologist, Botanist, Entomologist, Landscape Architects, Foresters, Agricultural Scientists, Geoscientists, Urban Planners, Nature Photographers, veterinarians, Animal Care Services, Apiarists.

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). The students are also exposed to different green technologies and career paths, such as becoming a Researchers, Scientist, or work for Parks and Recreation. We have a Solar Architect come to speak to our Science classes and Green team. The 6th grade offers many different career paths such as Meteorologist.

The 6th grade students study numerous fields of science, famous scientist in those fields and careers associated with the science. Students use their creative mind to develop their own inventions in the Invention Convention many using green technology and develop benefits and marketing for their project.

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**126. Describe students' civic/community engagement projects integrating environment and sustainability topics. (200 words max) (14 Points)**

The Green Team is responsible for the recycling program and energy conservation initiatives. The "DMS Chillers" (energy team) are responsible for The How Low Can We Go Challenge initiative. Since 2008, Driftwood Middle has dropped our CO2 emissions by 23%. The Team also recycles all paper, bottles, cans and ink cartridges. 45% of the campus generated waste is recycled.

4H Club- Dig It Club is all about the environment, plants, and animals. The Diggers benefit from hands on agricultural practice and outdoor activities such as hiking, photographing nature, and kayaking. Activities include coastal cleanups, fundraising for wildlife rehabilitation centers, restoring butterfly gardens. They provide various service activities for the community such as food drives and helping younger children.

Earthsavers- Developed a community environmental fair that included: tree giveaway, campus nature tours, nature crafts, trash to treasure, green rap song contest, environmental displays. Develop a campus trail booklet identifying plants on campus and including natural history.

Junior Bird Detectives learn how to identify native birds, use binoculars, field guides and plant native plants to attract birds to our campus. Over 46 species have been identified with Burrowing Owls nesting. Our Science teacher has 30 years experience as a Naturalist and ran nature centers.

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**127. Describe students' meaningful outdoor learning experiences at every grade level. (200 words max) (14 Points)**

#### 6th grade

- Measurement-use of lab equipment, planets-astronomical unit, measuring your world
- Radiation, Convection and Conduction-solar bag, effect of radiation on temperatures
- Water Cycle-water cycle relay, transpiration lab
- Cloud identification and weather factors-wind speed, humidity, temperature
- Weather Scavenger Hunt-evidence of weather factors
- Weather Report –Data Collection of current conditions
- Weathering /erosion- data station field studies
- Soil Type and erosion data-soil sampling, level of erosion lab based on soil type
- Geology Rock Cycle Fun
- Rock and fossil hunt
- Animal Olympics-based on species features

#### 7th grade

- \*Metro Zoo
- \*Gardening
- \*Hydroponics
- \*Plant Identification
- \*Composting
- \*Plant maintenance
- \*Plant and harvesting
- \*Project Wild
- \*Angles Scavenger Hunt
- \*R.O.P.E.S Course- Team building and Leadership, trust, communication, problem solving
- \*Sunwise Frisbee demonstration/activity

#### 8th grade

- \*Everglades-hiking and exploring
- \*Boat Trip-Pennecamp Coral Reef
- \*Glides- Action research
- \*Newton's Law –Force and Motion
- \*Chemical Reactions
- \*Solar Energy Power Car
- \*UV Beads
- \*Solar Graphics-Solar Film
- \*Solar Oven-cooking

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### **128. Describe how outdoor learning is used to teach an array of subjects in contexts, engage the broader community, and develop civic skills. (200 words max) (14 Points)**

Environmental studies, weather, bird watching, ecosystems, conservation, water cycle, plant reproduction, solar energy, and more in science. Seating areas around campus are used by language arts classes for writing activities ranging from environmental poetry to essays. Mathematics activities are related to measurements. We have a R.O.P.E.S Course (Outdoor Education Class) on campus that we develop leaders and team work. We bring the Character Traits into the course. Where responsibility and citizenship are emphasized and nurtured.

In the Environmental course the students are responsible for our agricultural gardens, which means getting down and dirty in our organic vegetable garden and hydroponic garden, known for its strawberries and vegetables. When harvest time comes, we provide enough veggies to feed students and staff, and the extra produce benefits a local food pantry, giving a dose of health and wellness to families who otherwise might not get a chance to eat such healthy, locally produced food. We are currently growing: okra, collards, peppers, lettuce, broccoli, cauliflower, spinach, carrots, sunflowers, beets, radishes, squash, cilantro, dill, basil, and of course, strawberries. Students benefit from diverse expert guest speakers, such as Sea Turtle Scientists, Shark Experts, and Bee Keepers, plus many more..

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**129. Describe your partnerships to help your school and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships. (200 words max) (14 Points)**

- \*Museum of Science brings speakers into the classroom to study the body /organism and presented Green Ideas workshop to the teachers.
- \*Bonnet House Museum & Gardens.
- \* Driftwood was sponsored by NatureScape for a community environmental fair.
- \*The North American Butterfly Association EPA Grant /Department of Energy funded our award winning butterfly garden.
- \*The Audubon /National Fly Way Coalition assisted the development of our school building the first three artificial burrows for Owls. A Live camcorder is being installed for Burrowing Owls by Project Perch.
- \*Florida AG in the Classroom.
- \*Whet Students Appetite supports our vegetable/ fruit hydroponics system.
- \* FAU- local university partnered with us to encourage research on aquaculture.(Fishing for Answers).
- \*Starbucks donates hundreds of pounds of coffee grounds to be used in composting the gardens.
- \* The Broward Farm Bureau supported the development of expanding our vegetable.
- \*Hydrotaste Farms donates strawberry plants and expert knowledge for the hydroponic garden.
- \*All Florida Maintenance donates free delivery of soil.
- \* North South Institute/ Battens Farms gives seeds and expert agricultural advice.
- \*Broward Farm Bureau gives mini-grants to sustain our garden.
- \*The Garden Stick company donates plants.
- \*Wildlife Center sends presenters/ provides pick up of injured wildlife/releases native wildlife on campus.

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**130. Describe any other ways that your school integrates core environment, sustainability, STEM, green technology and civics into curricula to provide effective environmental and sustainability education, highlighting on innovative or unique practices and partnerships.(200 words max) (14 Points)**

In 8th grade part of the curriculum is related to energy, energy transformation, energy conservation and the impact that people have on the planet regarding using resources, waste products, recycling, and new energy sources. Students study how solar energy drives activity on earth through photosynthesis and is stored as chemical potential energy in plants, absorption of vitamin D through our skin, using ultraviolet beads to demonstrate hazards to the skin through sun exposure, creating art projects using solar film and cooking with student made solar ovens as an example of practices used in many third world countries. The students also experiment with solar panels to run motors and solar cars. The experiment with alternative energy in the form of student designed hydrogen fuel cell cars, boats and windmills for science