



School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

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 to the best of their knowledge. *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 grades Pre-K-12.
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 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. The Department of Defense Education Activity(DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
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 Green Ribbon Schools 2015-2018

X Public Charter Title I Magnet Private Independent Rural

Name of Principal: Dr. Erin Russo

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

Official School Name: Centreville Elementary

(As it should appear on an award)

Official School Name Mailing Address: 14330 Green Trails Blvd.

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

County: Fairfax State School Code Number *: 433

Telephone: 703-502-3500 Fax: 703-502-3587

Web site/URL: http://www2.fcps.edu/CentrevilleES/ E-mail: mjsettlemyre@fcps.edu

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

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

I have reviewed the information in this application and

(Principal's Signature)

Date: January 27, 2017

(Principal's Signature)

Name of Superintendent: Steven A. Lockard, Ph.D.



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

District Name: Fairfax County Public Schools

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

(Superintendent's Signature)

Date: January 27, 2017

(Superintendent's Signature)

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 to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
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: Virginia Department of Education

Name of Nominating Authority: Dr. Steven Staples

(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.

Date: January 27, 2017

(Nominating Authority's Signature)

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Then, include concrete examples for work in every Pillar and Element. Only schools that document progress in every Pillar and Element can be considered for this award.

SUBMISSION

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: March 31, 2018

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.

Summary Narrative/Abstract:

Centreville Elementary School (CES), Fairfax County Public Schools (FCPS), is part of the 10th largest school district in the nation by enrollment with over 220 facilities, including 198 schools and centers, with a total area larger than four Pentagons. Our school has approximately 900 students, Pre K- 6th grade. We have 25% of our students receiving free and reduced lunch. CES is ethnically diverse, with over 55 languages spoken by our students both at home and at school. We have worked hard to create an environmental program that empowers our students to make choices, share their passion about the environment, while giving them hands on experience with nature, sustainability, environmental literacy, and service learning. We use the environment as the vehicle for student learning, giving them multiple experiences that have them solving real world problems, using creativity, collaboration, communication, and critical thinking.

Reducing environmental impact and costs:

Reducing/Eliminated Greenhouse Emission

Centreville ES got a new chiller this past spring which provides the school with a much more efficient delivery of A/C to the building. The new chiller puts less strain and stress on the system and the pumps don't need to run as hard or for as long to keep the building comfortable, thus saving money because the system doesn't need to work as hard as an older worn out and less efficient chiller.

The school has condensing boilers, which allow the building to run more efficiently than traditional boilers. Condensing boilers allow the outside air sensors to make adjustments to the heat of the water being delivered throughout the building to keep it warm. It can keep the water "loop" temperature at a lower setting and still provide enough heat to keep the classrooms at their heating "set point", which is 68 degrees.

Quick numbers....Program savings to date \$ 29, 801 over the past two years. \$ 10,459 of this has occurred over the past 6 months, in which the new chiller has been installed. Making a difference! Centreville's saving percentage over the last year has been 9.54%, but has increased to 16.02% over the past 6 months. This is due to the installment of the new chiller and staff's energy conscience behaviors changing over time.

The overall energy savings have been due to our Principal's overall support of the program, a school wide effort of keeping the lights off when classrooms and buildings are unoccupied, a conscience effort to conserve water, the custodians minimizing the use of overrides, the principal and staff understanding that keeping the operating schedule as close to occupancy as possible saves money. The students are learning about being green and are good stewards of the energy program. This is due to the team effort of the teachers and staff at Centreville.

Centreville ES implements the NWF Cool School Challenge, annually, by sending teams of students, in each grade level, to all public areas of the building to do audits with kill-a-watt meters, lumens meters, and temperature gauges. Action plans are developed, for each classroom, based on the results of these audits and executed with constant data analysis as part of the work the students are doing. The Challenge estimates both the reduction in CO2 emissions and Kwh the school is producing so students see their impact firsthand.



Centreville ES		July 2015 - June 2016	
kBTU		Metric Ton CO2e	
Usage: 3,771,966 kBTU		Usage: 413 Metric Tons	
Avoided: 524,693 kBTU		Avoided: 51 Metric Tons	

Centreville ES has participated in various local, state, and national programs related to environmental impact reduction, staff/student health and wellness, and environmental and sustainable education. We are currently getting ready to compete in the EPA Battle of the Buildings reduce our energy consumption.

EcoSchool: Of the 90 FCPS schools registered as Eco-Schools, Twelve schools have achieved Green Flag status and Centreville ES is one of three that have earned double Green Flags. A Green Flag is the highest achievement a school can earn through Eco-Schools. FCPS has more Green Flags than any other school district in the country, making up more than 20% of the national total with only 52 other schools nationwide achieving Green Flag status. All Green Flag Eco-Schools must work on the reduction of energy use and at least two other environmental topic areas. On top of the work our Facilities Management engineers are doing (6% reduction in carbon emissions from 2014 to 2015), these student teams are making a measureable reduction in our carbon footprint.

CES: One of the Top 10 Green Schools in the Nation: Being named one of the Top 10 Green Schools, according to the National Wildlife Federation, is a huge honor for us. We have worked hard over the last 10 years, working on the environment (inside and outside the school), including it in our curriculum, as well as incorporating STEAM into our school. We currently have 3 outdoor classrooms, a short walking trail, gardens for each grade level (see map), including: 2 produce raised bed gardens, a butterfly garden, a scale to size garden of VA with plants native to each region and topographically correct, a peach garden, 2 hydroponic tower gardens, & a green house. Our school also initiates a green hour, where students go outside a minimum of 1-2 hours weekly for outdoor education, as well as working in the garden.

Earth Day Award: In May 2016, our school was given an award by the EPA, for our participation in an Earth Day Competition. Students from around the country were asked to monitor their energy/recycling efforts for 3 weeks. Once observations were over, they had to synthesize their data, make observations & connections, as well as be able to come up with solutions to problems. Our entire school participated, grades K-6.

Governor's Environmental PBL Challenge: In the Spring of 2016 our entire school participated in the Virginia Governor's Environmental PBL Challenge. Each class per grade level either created an environmental PBL, or used one outlined by the governor's office. Our school was recognized by the Governor for this honor.

Energy Star School: In 2015, Centreville ES was named as one of 146 schools that earned ENERGY STAR certification, the most of any school district in the nation. This accomplishment played a key role in Washington D.C. achieving the EPA's #1 city for ENERGY STAR certified buildings... ahead of San Francisco and Los Angeles. FCPS anticipates 154 schools to be certified in 2016 when the final results come out in November.

Eco Rise school:

(<https://www.dcstemnetwork.org/event/ecorise-youth-innovations/>)

This gives us access to Environmental Lesson plans that integrate the environment throughout the curriculum and grant money to implement student projects. As well as support for environmental projects based on our audits.

George Mason Partnership: to enhance our environmental learning & STEAM. Currently they send us Sustainability interns to help us lead environmental efforts in our school. We are partnering with Dr. Andrew Gilbert, on a Global STEAM initiative with Costa Rica, where our students do Problem Based Learning Units, STEAM, through google classroom. We are also partnering with Dr. Laurence Bray, from the Bioengineering Department. We are working with her students to create curriculum for our STEAM class, based on science & health standards for VA, that teaches the students about the medical advancements the field of Bio-Engineering has created, while teaching them about the body systems, healthy nutrition, electricity & magnetism, coding, programming and more, preparing them for 21st Century Jobs.

In FCPS, we have an Energy Management Team who works closely with each school. Eric Johnson comes to our school on a regular basis to help us look for

ways to continue our efforts in saving energy. He also meets with our students to discuss ways they can save water, electricity, and more.

All of the environmental work that we do at Centreville ES is directly tied to the Virginia Standards of Learning (statewide common curriculum standards). Careful planning and collaboration takes place on each team, ensuring that while we are learning about environmental topics, that it is directly correlated to the curriculum at hand. Some examples include: In second grade, students are required to learn about the butterfly life cycle, as well as adaptations of animals. The 2nd grade garden is a butterfly garden, which is also a Monarch Station. Students are able to use the garden for practical application of the life cycle, learning about what plants attract butterflies, and those that the butterflies need to eat for survival. After raising butterflies in their classroom, they release them into their garden spaces.

Centreville ES has served as a model school for our school district, and other counties. We have visitors on a regular basis who come to tour our gardens, observe our students outside, and to meet with our Environmental Specialist to learn about lesson design using the environment. We have at least 2-3 schools a month coming to view our program and ask for ideas for theirs.

Each year, Centreville Elementary School Participates in the NoVA Outside Environmental Action Showcase hosted at George Mason University. Students participate in sharing their environment based projects, 6, 6th grade teams will participate in The KidWind Competitions (wind power), and students grades 3-6 will participate in the recycling/upcycling Eco Art challenges. They also get to meet with different environmental groups from around Northern VA. Getting to learn about Sustainability, Stewardship, Upcycling, from experts.

In an effort to give students more information, we just started working with POW. They brought extreme skier Brody Leven (from Salt Lake City Utah) to our school to talk with our students about how our changing climate is affecting

our winters. He did a great job of explaining it and making it “Cool”. The students were very excited and were very interested in this program.

Waste & Recycling at CES is an evolving program. This year our cafeteria switched from Styrofoam trays and bowls, to paper. Now virtually everything (except food) is recyclable from lunches. To deal with the food, we are starting a school wide composting program, run by student members of the Green Team, The students will be in charge of building composters, researching FCPS composting regulations, how to run a composter effectively, as well as training the students in our school to determine what is compostable. They will also be in charge of rotating the bins, and harvesting the new soil as it is ready. This will support all of our gardening efforts at CES.

With the help of the custodial staff we keep track of our lunchroom recycling. We track how many bags of trash and how many bags of recycling go out of our cafeteria daily. Last year, 2015-2016, we averaged 6 bags of trash, and 9 bags of recycling. We fill our recycling container to the brim each week. Unfortunately we are unable to get another one.

In an effort to reduce the amount of waste being produced, we are putting in water bottle filling stations. We have one that will be installed in the next month. The Green Team will educate the students on what happens to water bottles when they are finished with them and why it is a good idea to use reusable bottles. The water bottle filling station will help keep the number of water bottles we send to the landfill at a minimum. In support of this our school is holding a CES waterbottle sale, to promote school pride and reusing!

Our students (grade 3-6) take environmental audits in 9 of the 10 pathways outlined by the National Wildlife Federation. Students do audits for Energy, Water, Consumption & Waste, Biodiversity, Healthy Living, Schoolyard Habitats, Sustainable Food, & Transportation. The students create action plans based on the outcomes for these audits. They perform public service

announcements, create kid Ted Talks on the environment, teach/inform classes across the grade levels, instill new processes, work on outdoor education lessons to share with teachers, meet with custodians, principal, head cafeteria manager to gather information and get approval for initiatives, contact political officials about legislation and more. The students are in charge of the action plans that drive our school, with strong support of staff and administration, for example: students, in grades 3-6, have researched composting techniques for our school. They wrote letters to our Principal to convince him to purchase the composters. The students during each lunch time will be responsible for making sure the compostable items from lunches in each class will be utilized correctly.

The Principal ordered the composters for the cafeteria, supporting the students ideas and making sure our waste is useful and not going to a landfill because the students identified it as a need.

Our students , grade K-6, will be participating in Green Ted Talks. We believe that our students need to have an outlet for their passion about the environment. Students are being trained on how to learn about who is in their audience, what they want their audience to do, planning what they should say, how to have a story plan, how to tailor their words for each particular topic and audience, as well as how to make changes to create a stronger argument.

The district's recycling rate in 2015 was 20.68% and rising due to initiatives such as food sharing, composting, and the replacement of polystyrene cafeteria trays with recyclable cardboard trays in fall 2016. Recycled material by weight has increased by 1.8 million pounds annually, a 37% increase since 2012.

Improved Water Quality, Efficiency, and Conservation

Our school district, FCPS, uses EnergyCAP software to track water consumption. Quarterly detailed consumption data are recorded and

consumption is monitored by water meter for any out-of-trend consumption activity. Unusual consumption patterns are immediately investigated, enabling FCPS to quickly find and fix water leaks and user caused increases. Teachers and administrative staff are provided with Energy Savings Checklists of steps taken to assure water is off and water leaks reported. FCPS reduced water consumption by over 3.2 million gallons in 2015 compared to 2014, which is a 4.4% reduction.

Being a Green School, water conservation is very important to us. Our greatest struggle has been how to care for our gardens, yet use the water purposefully. We have installed 5 rain barrels to support our gardens which has helped. In order to use all 5 barrels, the students, in grades 5&6, have designed an irrigation system for their use. They are in charge of testing water for quality, and all classrooms are responsible for maintaining the gardens, so their training is a big part of our gardening program. We have also painted our rain barrels, with interdisciplinary science curriculum, from across our grade levels.

FCPS has and continues to implement Nutrient Management Plans for acres where nutrients are applied in order to reduce pollution. During the 12 months ending June 30, 2016, 82% of elementary school, 73% of middle school, and 23% of high school identified acres were being managed under the program. The total area managed is being increased each year.

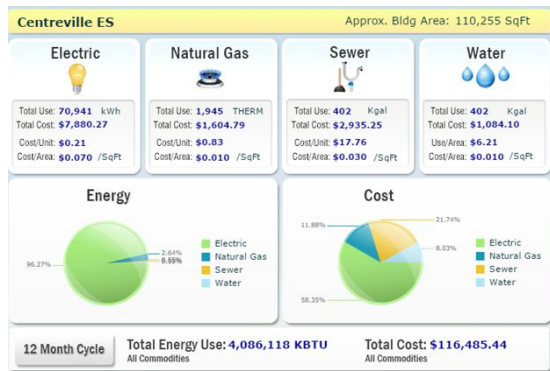
Safe drinking water for students and employees is a priority for FCPS. The water source for all schools is municipal water, which is tested by the municipalities. As a precaution, FCPS maintains its own testing schedule at all schools. There were no elevated levels of lead or other contaminants detected since the 1990s, with one exception. About 50 water coolers installed in schools and offices were immediately replaced upon discovery of slightly elevated lead levels from solder joints.

To limit the environmental impacts of the large quantity of paper used in schools, our school, in accordance with FCPS, began purchasing Natural Choice recycled copy paper with 46% recycled fibers in January 2016. The 10 paper is certified sustainable by the Sustainable Forestry Initiative and the Programme for the Endorsement of Forest Certification. It is also chlorine-free.

We are very proud that we have been able to cut our water consumption at Centreville ES. This has been a school wide effort. Our students, grades 4-6, have been educating students, in all grade levels, on ways to conserve water in our school (checking faucets, sinks, toilets, etc.... And to reporting any that are leaky to their teacher. Once reported, a work order is prepared for their repair. Our students have created Public Service Announcements & Green Ted Talks, on how to reduce using water in an elementary school, we have also worked with staff, to ensure all leaks are reported immediately and water sources turned off.

Our school system, Fairfax County Public Schools, is very “Green” conscious. We have an energy management group who works with schools to cut their use of energy, water, and emission of greenhouse gasses. Their reports help schools make decisions on how they need to maintain or reduce their usages. This information is shared in a simpler form with students, on the Get2Green Dashboard/website <http://Get2Green.fcps.edu>, so that they may be stewards of the environment, empowering them to facilitate changes in their world. This dashboard reports on recycling, energy, and greenhouse gas for each school in our district, on every level. This allows our students to make comparisons between like schools and to contact them to determine what they have done to cut their usage.

This is for Centreville ES December 2015



Centreville ES Totals for Recycling
Improving the health and wellness of students and staff.

Integrated School and Environmental Health Program

Centreville ES follows the district wide procedures for its Environmental Health program. All pest control services are supplied by licensed certified pest control personnel. Integrated pest management practices set forth by the EPA are used. Work is coordinated with the principal and all parents that want to be notified when pesticides are used will be contacted. Our Safety and Security Office coordinates with school staff any indoor environmental monitoring and the resolution of any issues. They do regular inspections of all buildings and train employees to handle chemicals safely and are in charge of all water testing. The water at Centreville ES will be testing within the year for lead levels as part of a district wide effort to test all schools.

Sustainable landscaping in FCPS is enhanced by our partnership with the US Fish and Wildlife Service on the FCPS Urban Wildlife Habitat Program. This program engages students in planning, constructing, utilizing, and maintaining wildlife habitat on their school grounds to increase biodiversity, conserve water, minimize mowing, and serve as an outdoor classroom. An example at CES is our Virginia Garden. Students were in charge of creating a scale to size garden in the shape of the State of VA. It had to be topographically correct, with plants native to each region. Students were in charge from the planning stage through

the construction phase. It is now a learning tool for our 4th grade classes, as they study VA history.

There are currently native wildlife habitats at 84 schools, and 40 additional schools are interested in establishing a native wildlife habitat. An example of this is at CES, is our two outdoor classrooms, the trail we put in on school grounds, as well as boulders for students to play on. Bringing nature to our school, so that those who don't get out into nature get to experience it!

Our school works in conjunction with the Virginia Bluebird Society in maintaining a bluebird trail on our grounds. We currently have 7 houses. Students go around, weekly, to check the boxes for nests, invasive species, etc... cleaning out the boxes as necessary. It is so exciting when they find an egg or nest different from what they have seen before, creating an appreciation for nature.

When Centreville ES was renovated over 10 years ago, it was built to reduce ambient noise, optimize classroom acoustics, maximize natural lighting and maintain good air quality. Our programmable thermostats in portable classrooms are set with the fan position to "on" in order to ventilate odors and contaminants from classrooms.

Over the last 10 years our school grounds have transformed from a barren area, to a bountiful schoolyard habitat. We have created 3 outdoor classrooms, put in a greenhouse, composting bin, multiple raised beds, Virginia Native gardens, installed rain barrels (which we have decorated to match curriculum objectives), have designed and installed a scale to size garden of the State of VA that is topographically correct, with plants indigenous to the regions of VA.

Centreville ES has trained staff to deal with students with asthma, individual student health care plans are reviewed regularly with the school nurse. Student's inhalers and medication are available at all times and available to substitute teachers and transportation personnel. After any incident, follow up is done to locate the allergen triggers.

All chemicals and cleaning products in the school are under the surveillance of the building supervisor. We are in the process of phasing in Green Cleaning products (check with Rosa on where you are with this...) We have large mats at every entrance to reduce dust. The building supervisor and custodians are also trained to monitor the school for any signs of moisture damage that may cause mold or mildew growth. An online work order system alerts Facilities and Maintenance of any building item that needs repair.

Nutrition and Fitness:

Centreville ES, one of the 198 schools and centers in FCPS, has earned awards through the USDA's HealthierUS School Challenge. This achievement perfectly complements FCPS's health and wellness curriculum, and the vision of preparing all students to actively and effectively achieve and promote lifelong wellness. It also connects to work some schools do on the Healthy Living Eco-Schools pathway to focus on increasing the amount of physical activity and time outdoors students receive.

As more school gardens are established in FCPS, the success of our nutritional education programs continues to grow. There are currently vegetable gardens at 78 FCPS schools, including CES, with 48 additional schools interested in starting a vegetable garden on their school grounds. Schools implement their gardens into the curriculum by weighing what they grow, doing cost/benefit analyses, studying the growth cycle of plants, and creating informational signs. The produce grown in CES's garden is used at our Farmer's Market, for salad parties, or donated to local food pantries or low-income families at the school.

We have taking our produce gardens to a whole new level, by having a farmer's market right at our school, during dismissal, one day per week. The goal is to make eating healthy, cutting your carbon footprint, supporting local farmers, and sustainability EASY! We have partnered with a local organic farmer, Piney Meadow Farms, Midland, VA, who supports us with advice, selling us organic

produce at a reduced rate to fill our tables when we are not producing as much (ex. Fall). We are doing this as a green STEAM activity. Students from grades 3-6 run the store, plan the gardens, take care of the gardens from planting to harvesting, have been learning how to order, take inventory, and will be working with our head Administrative Assistant, to learn how to do the books. We are in the process of purchasing a cash register, and scale so we can give them real life job experience.

Our school promotes healthy eating and fitness by participating in the PTA's Boosterthon Fundraiser. This is our only fundraiser, where the students run laps to earn money for our school. The students always make at least 30 laps. During this event students have health lessons along with the fundraiser looking at healthy lifestyles.

Currently at CES we have a Green Hour minimum per week that students are outside learning. This can be for any subject area and/or gardening. Students may be weeding, following our bluebird trail to learn about birds, reading, etc...Most classes are outside for learning way beyond that minimum, while the weather holds. Each day, Students also receive a 30 minute recess, as well as Physical Education 2 times per week (40 min. per session).

CES participates in Jump Rope for the Heart- this is another fitness based activity that students do in PE. They are working to see how many times they can jump rope without stopping.

Our school supports the Girls on the Run club. This club supports positive images in our young girls, while empowering them to feel good about themselves. We have 4 club sessions, 2 in the fall, and 2 in the spring. Teachers lead the event, and parents/family members/ friends, sign up to buddy run with their child. This club has the girls work up to running in a 2.5K race.

We are always promoting healthy eating with our gardens. Our students love to have lettuce parties. Parents are always surprised by this as they say they won't eat it at home. Growing your own food is always a huge motivator in eating it. Our county also has a Health/Nutrition component to our curriculum. It covers eating healthy, and the health of the body and mind. This occurs in grades K-6 at our school.

CES also looks out for the health and welfare of its staff. We participate in the Appalachian Trail Hike. This is a virtual hike where teachers work in teams to walk, in a given time period, as much as it would take for them to walk the Appalachian trail. We had approximately 80% participation in previous years. We will also be initiating Healthy Eating Competitions, where each team gets a bag with fresh, organic produce, and they have to cook a healthy meal with it to share with everyone.

Transportation: In order to combat growing regional congestion, FCPS has long embraced alternative methods of transportation to schools including walking or bicycle routes for students living within a set proximity from the school as well as sponsoring bus pass programs for use on public transit. According to Fairfax County government data, the Free Student Bus Pass Pilot Program saw more than 100,000 student trips on commuter transit between September 2015 and April 2016. This is in addition to the more than 130,000 students transported on over 1,600 FCPS school buses each day

At Centreville ES, we work hard to keep our Kiss and Ride (where parents drop off their students for school) lines moving, so that a minimum of idling takes place. We also encourage walking or biking to school, hosting 2 or more walk/bike to school days throughout the school year. The local police ride their bikes around the school and talk with the students as they are on their way to school, we have parents who walk with their children, safety patrols who give our awards as they see kids walking, and more. It is a community event.

Providing Effective Environmental and Sustainability Education Incorporating Sound Science and Civic Skill

Shared Responsibility for Environmental Learning: In 2009, FCPS decided to invest in an Instructional Services position to promote the School Board goal for environmental stewardship. That position has grown from a half time position for the first two school years to a full time Program Manager for Environmental Stewardship in the Instructional Services Department with a dotted line reporting to Facilities Management for the past three school years. A part-time Program Assistant for Environmental Stewardship was also hired by Facilities to aid in the development of environmental and outdoor education for students.

Our Principal, Dwayne Young, searches to find teachers with an Environmental Education background when hiring. He makes sure that questions are asked about what they have done to teach environmental education, has our STEAM/Outdoor Specialist sit in on the interviews, and makes sure they get the proper training as needed. He is very upfront with our expectations at our school, letting them know that we have outdoor education, and environmental education as the spearhead for our programs at CES.

At Centreville Elementary School, STEAM is used as a vehicle for teaching environmental literacy, using the school yard to teach students about Science, Technology, Engineering, Art, and Math. STEAM is also used to promote 21st century skills that make students good communicators, collaborators, creative and critical thinkers, global and ethical citizens, and goal-directed and resilient individuals. This occurs both in the classroom and the STEAM lab. In our first grade classroom's, students used upcycled items (yarn, yogurt cups, straws, etc...) to build bird nests after learning about them in class.

A district decision was made early on to not develop or adopt a specific curriculum for environmental education. Instead, FCPS works to integrate the environment as a concept across existing content areas. Examples of this

include a first grade science unit focusing on the cardinal and other birds as students design bird habitat, a second grade science and social studies unit on the Monarch butterfly that asks students to build butterfly habitat, and a fourth grade science unit integrated with social studies on Virginia ecosystems that hosts lessons outside on school grounds and focuses on human impacts on the environment. In total, FCPS has over 100 elementary science lessons that ask teachers to take students outside for investigations.

With lots of schools to work with and few resources, the importance of outside partnerships was clear from the beginning. FCPS partnered with the NWF Eco-Schools USA program and has used that program as a format for schools to engage in stewardship work. Eco-Schools asks schools to set up student-driven eco-teams with staff and community support, have students audit the school and community around a number of environment-related pathways to gain baseline data, develop an action plan, measure the action plan's success with data, and continue an iterative process of improvement.

This process fits perfectly with our work, district and Centreville ES, in project based learning, STEAM, and inquiry learning in science and other subjects. All of the work students are doing to be successful in Eco-Schools leads them to gain many, if not all, of the Portrait of a Graduate skills. FCPS has 90 registered Eco Schools, of which 33 have received an Eco-Schools award. We collaborate with Eco-Schools in audit development and professional development programs to promote Eco-Schools.

FCPS STEAM (STEM + the arts) vision statement is as follows: To inspire and engage all students through rigorous project-based inquiry, interdisciplinary learning, and research- and field-based experiences. It will foster school-based cross-curricular collaboration and facilitate relationships with higher education institutions, the public and private sectors, professionals, and parents, providing authentic hands-on experiences. To that end, FCPS uses both the indoor and outdoor environments as a context for STEM education. Integration of STEM concepts are evident in the planning, design, and delivery of instruction.

Specifically, teacher-developed STEAM curricula that address renewable energy and environmental stewardship are available to all FCPS teachers through an internal resource repository. An example of available resources is a sixth-grade STEAM Unit that addresses science, math, and technology standards via project-based learning. Students design wind blades and turbines that will generate enough energy to power an electronic device. Through the unit, students discover their carbon footprint, find the energy consumption of basic household products, and analyze the sustainability of both renewable and nonrenewable energy sources.

Transportation: In order to combat growing regional congestion, FCPS has long embraced alternative methods of transportation to schools including walking or bicycle routes for students living within a set proximity from the school as well as sponsoring bus pass programs for use on public transit. This in addition to the more than 130,000 students transported on over 1,600 FCPS school buses each day

At Centreville ES, we work hard to keep our Kiss and Ride lines moving, so that a minimum of idling takes place. We also encourage walking or biking to school, hosting 2 or more walk/bike to school days throughout the school year.

Trout in the Classroom Program: We work as a school to raise trout for release in native VA habitats. We currently have 4 tanks, which are in grades 1, 4, 6, & the STEAM lab. The trout are used as a connection to science content across the grade levels, looking at systems, life cycles, comparing & contrasting, as well as the environmental issues that plague our streams, rivers, and the Chesapeake Bay. Students care for the trout throughout the year. They chart their growth, test their water, and are responsible for their feeding and care. Once they are big enough (Fry) to be let go, we take our students to the designated stream for release (it has been Wild Cat Hollow in Markham, VA), where the students do water testing, micro-invertebrate tables to test for stream health, release the trout, and participate in native bug, bird and plant scavenger hunts. For many of our students this is truly a growth experience as they have

not ever been in a stream or interacted with nature on this level. This year we will be adding a scientist journal with the help of our art teacher, teaching the students how scientists make observation in nature.

Green Team: We have a very active student body and staff. While the entire school is active with environmental issues, we have 70 students & 17 staff members who come in before school starts to work on environmental issues at our school. We work on 9 of the 10 pathways, as stated by the National Wildlife Federation, having audits done and action plans created by the students. Students create public service announcements, do recycling training, create posters, write grants, promote healthy eating, contact local politicians for support, review current policies, and more. Their action plans drive our green team. Our Green Team leader will be teaching other FCPS staff how to start up a Green Team in a district wide course that will be run in 2017.

Green STEAM: Students work on a variety engineering topics, including: solving oil spills (either on land, in the water, or for the animals) with new and creative ways/filters, figuring out how to decrease the human impact on the environment, while still allowing our economy to grow, student researched building techniques, roadway design, current legislation and laws about the environment and building both in the US and abroad, to create apps to detect animals, roadways that have animal bridges, and even floating apartment buildings that are kept in place by electro magnets.

An example of this is when my 6th graders were studying the oceans, I challenged them to create a new way to clean up water after an oil spill. They researched the main types of oil spills, what the current method of clean up were, and then design new filters or ways to get the oil out of the water, off animals, or off the coastlines, that would not harm the environment. The amazing thing was their level of engagement. Students worked on these projects at home, without them being assigned, they came up with new projects based on the results of what they created, and worked on those on their own