



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 early learning to 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 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. 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.
8. The school or its district has in place and is willing to provide a link to or a copy of a non-discrimination policy, upon request. The U.S. Department of Education reserves the right to disqualify a nomination and/or rescind an award if unlawful discrimination is later discovered.

U.S. Department of Education Green Ribbon Schools

Name of Principal:

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

Official School Name:

(As it should appear on an award)

**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.


Jennifer Hoffower (Feb 26, 2024 12:24 EST)

Date:

(Principal's Signature)

Name of Superintendent:

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



District Name: Prince William County Public Schools

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

LaTanya D. McDade
LaTanya D. McDade (Feb 26, 2024 14:27 EST)

Date: Feb 26, 2024

(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: Anne Petersen

(Specify: Ms., 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.

Anne Petersen

Digitally signed by Anne Petersen
Date: 2024.02.24 08:48:21 -05'00'

Date:

(Nominating Authority's Signature)

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: October 31, 2026

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 of Achievement

Green Ribbon Narrative: George P. Mullen Elementary School

Mullen Elementary School is a Title I school in Manassas, Virginia, serving approximately 679 students annually. More than half, or 56%, of the school families are economically disadvantaged, and 100% of the school students receive free breakfast and lunch, which for many will provide their total nutrition for the day. In addition, Mullen Elementary has an 87.4% total minority enrollment with 58% of Mullen students being Hispanic, 15.7% Black, 8.9% Asian, and 4.8% Native Hawaiian or Multiple Races. 49.3% of the students are English Language Learners and 13.7% receive special education services.

Mullen's school vision and mission are as follows: Mullen provides an inquiry-based learning environment that promotes active citizenship, integrity, curiosity, and respect for the global community. At Mullen, children and learning come first, children are nurtured physically, emotionally, and intellectually to become balanced students. Self-confidence is fostered and encourages the belief that all students can achieve success and empowers students to take ownership of their role in the global community through ideas and actions.

For the last four years, Mullen has been an International Baccalaureate School (IB). In an IB school, action is both an application of learning and an opportunity for students to engage in a form of contribution or service. Action allows students to make a significant contribution to their local and global communities. It is a core component of IB and offers learners the ability to see that they can not only make a meaningful contribution to the world around them but also be change-makers. This has developed into a sense of environmental stewardship and ecological responsibility in the school building between staff and students.

Mullen's commitment to sustainability models the U.S. Department of Education Green Ribbon Schools Program's three pillars: reducing environmental impact and cost, improving health and wellness, and providing effective environmental education.

In 2012, the school embraced the Prince William County Schools (PWCS) Energy Management program and Mullen has seen 41.3% cost avoidance in water and sewer costs, representing \$90,492 in 11 years. After a two-year energy efficiency renewal starting in 2017, the school has seen a cost savings of \$57,400, representing a reduction of 363,830 KBTU and an equivalent of 13 metric tons of CO₂.

Teachers and staff embrace the ability to turn on only 50% of the lighting in rooms, power down computers, smart boards, and turn off lights upon leaving the building. Mullen takes part annually in the division's Energy Challenge to reduce the school's environmental impact and costs and share sustainable activities and behaviors. Students remind teachers to turn the power off before leaving for the day and take surveys of how many rooms have lights turned off at dismissal. Nightly checks occur and staff are informed if lights or smart boards are left on.

Mullen is also committed to reducing, reusing, and recycling. To reduce the use of single-use plastic water bottles, five water bottle filling stations provide students and staff with the ability to refill reusable water bottles. Prince William County Service Authority provided Mullen with 600 reusable and refillable bottles. These bottles were provided to students in need and additional bottles are stored for use in the Physical Education classroom and the nurse's station. In a recent waste audit conducted by Mullen students, it was discovered that 100% of Mullen classrooms actively recycle along with Mullen administrative and clerical offices. Additional recycling receptacles are placed in the school break room and throughout the hallways in the building. Mullen has an active Green Team of 18 fourth and fifth-grade students who assist the custodial staff with the daily pick-up of compost and recycling from the classrooms.

Mullen students also take part in energy and waste audits. In the 2022-23 school year, students completed an all-day waste characterization, transportation survey, and energy audit. The data collected was entered into a

digital platform, Arc, that allows students to track and benchmark project performance. The waste audit was eye-opening to students as they saw the enormous amounts of wasted food, contaminated recycling, and unique items such as school and classroom supplies that had been discarded. The data showed that Mullen has a 31% diversion rate for waste due to recycling and food diversion. This was an increase from the beginning of the school year at a 14% diversion rate and before resuming food scrap separating. The students will repeat the waste audit this spring after an educational campaign to reduce total waste.

Health and wellness are a priority at Mullen. Students and staff have access to an incredible counseling team that focuses on the importance of mental health in and out of the school building. The morning announcements consist of inspirational words along with deep breathing to focus and start the day for staff and students with a positive attitude.

In conjunction with the counselors, Mullen has a social and emotional learning team made up of teachers and counselors who provide ideas and advice for staff in dealing with social and emotional wellness. The team turned the teacher's lounge into a relaxing mental health break room with comfortable furniture and blankets, a soothing water fountain, and inspirational messages painted on the wall by the art teacher. Mullen staff takes part in the PWCS Spring into Fitness and Walktober programs, fielding two teams of 10 each time. Staff participates in the county-wide staff kickball program and competes against other area schools.

In September 2020, the PWCS Energy and Sustainability Team partnered with the Prince William County Solid Waste Division on a U.S. Department of Agriculture (USDA) grant to fund food waste hauling costs for six schools in Prince William County. This pilot program grant also paid for stipends for training kitchen and custodial staff as well as school instructional staff and administrators. Mullen was one of the first schools to volunteer for the program, where the administration, teachers, and custodial and kitchen staff embraced the concept of waste reduction through food scrap separating. Before the startup in September 2021, the kitchen, custodial, and teaching staff participated in online virtual training and placed food scrap collecting bins in all the classrooms and the cafeteria. Within a month of the start of school, with the assistance of the well-organized and patient cafeteria hostesses, the students were separating their food scraps in both the cafeteria and classrooms. For the two-year grant period (2021-22 and 2022-23) over 32,000 pounds (16 tons) of food scraps have been diverted from the landfill and turned into compost.

In July 2023, PWCS decided to continue the program at six schools, and again Mullen was the first school to volunteer to continue the program. For the 2023-24 school year, Mullen continues the program and emphasizes "eat what you take" and establishing a food-sharing program in the classrooms for breakfast and the cafeteria for lunch. Only uneaten, wrapped or peelable foods provided by the kitchen can be shared.

Students across the curriculum enjoy time outdoors in a variety of ways. Students actively participate in hands-on science lessons and enjoy using the outdoor spaces for reading and writing. Mullen is currently working on a plan to revamp the courtyard into a pollinator garden and space for reflection and learning. This plan includes a way to actively involve staff, students, families, and community members, including the master gardeners, in its creation. The school has applied for a grant through Dominion Energy to assist in this process. The school is creating a path with the Virginia Bluebird Society which will allow the students to preserve and protect the birds while learning about the importance of habitats.

Most recently, Mullen was recognized as a Virginia Naturally School for both the 2021-22 and 2022-23 school years and has been an active participant in the PWCS Energy Challenge since its inception in 2015. Mullen was part of the initial six-school pilot program for the Food Scraps to Composting program started in October 2020 and has fully embraced the program. Mullen is the first elementary-level school to complete data entry for all five parameters for Arc, a digital sustainability measurement platform. Mullen has a sustainability score of 61, which has the potential to be eligible for Leadership in Energy and Environmental Design (LEED) Gold certification.

Pillar I: Reducing Environmental Impact and Cost

Element 1A: Energy Savings and Efficiency

Mullen has committed to reducing its energy usage through both student and facility actions. Starting in the 2012-13 school year, the building staff embraced the PWCS Energy Management program, and the PWCS Energy Management team noticed high electricity and natural costs for the school. In 2017, a two-year remodel of the building focusing on energy usage and interior comfort was started. The remodel included: upgrading the building automation system that controls the HVAC, replacement of the conventional boilers with a condensing boiler, replacement of the classroom unit ventilators with energy-efficient fan coil units that provide dehumidification, replacement of the rooftop units, and an upgrade of the interior and exterior lighting where 66,000 light units were replaced with LED fixtures. Since commissioning and completion, Mullen has decreased energy costs by 8% in cost avoidance in utility costs from the baseline 2011 school year, representing \$57,500 in four years. This is a reduction of 363,830 KBTU and an equivalent of 13 metric tons of CO₂.

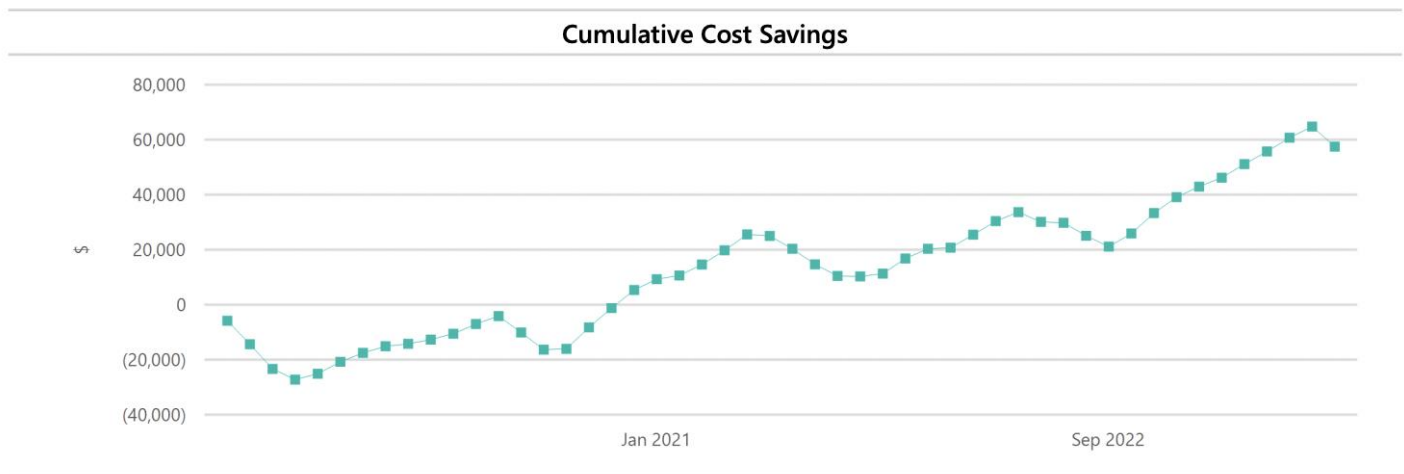


Figure 1. Cumulative Cost Savings from 2019 to 2024, Mullen Elementary School cost avoided savings totaled over \$57,000 an 8% reduction from the baseline year 2012.

Energy use at Mullen is tracked through Energy Cap and students annually review numbers through the PWCS Energy Dashboard. In addition, students annually perform energy audits checking for behavioral energy conservation measures, including powering down technology devices, turning off lights, and keeping exterior doors shut. Before school breaks, if longer than two days, school staff are reminded by the school sustainability liaison to “turn off and unplug” to let the building have an energy holiday.

The school has annually participated in the CPower Demand Response Program since 2018. The school staff and building engineer actively participate by curtailing energy usage for the performance test to show the building's ability to lower energy demand. Each year, since participating, the school has met their load shed 100%.

To reduce the heat island effect, Mullen has a white reflective membrane roof to reflect sunlight and heat away from the building. During the 2017 restoration, the roof was partially replaced, and the insulation increased to a minimum of R25 insulation, reducing energy usage for cooling and heating, and reducing air temperatures inside.

In June of 2023, Newline Interactive boards were installed in all classrooms for the delivery of instruction and collaborative learning. These boards bear the Energy Star seal and are energy efficient, replacing the outdated higher energy usage Smartboards.

Mullen students track the school's green building performance using the Arc system. The students participated in and learned about building energy audits from the PWCS Facilities team. The Facilities team then compiled the energy data and presented their findings to school staff, all the while developing an understanding of building energy usage. The Green Team students have integrated the information, and it will be compiled for use at the IB exhibition held annually in the spring.

Element 1B: Improved Water Quality, Efficiency, and Conservation

Water quality and conservation have also been a focus for the Mullen community. PWCS utilizes Energy Cap software to track water consumption. Monthly detailed consumption data are recorded, and consumption is monitored by a water meter for any changes in usage. Unusual consumption patterns are immediately investigated, allowing PWCS facilities building staff to find and fix water leaks or user-caused increases. Water-saving checklists at the school request teachers, administrators, custodians, and staff to monitor faucets for leaks and request work orders to repair leaking faucets. Since 2012, the school has reduced water and sewer consumption by 5,784 Kgal (41.3%) with a saving of \$90,492 in utility costs. The turf fields were converted to a smart irrigation system that checks water levels and precipitation, which helped the school reduce water usage by 2,244 Kgal (27.8%) with a savings of \$8,715 in utility costs.

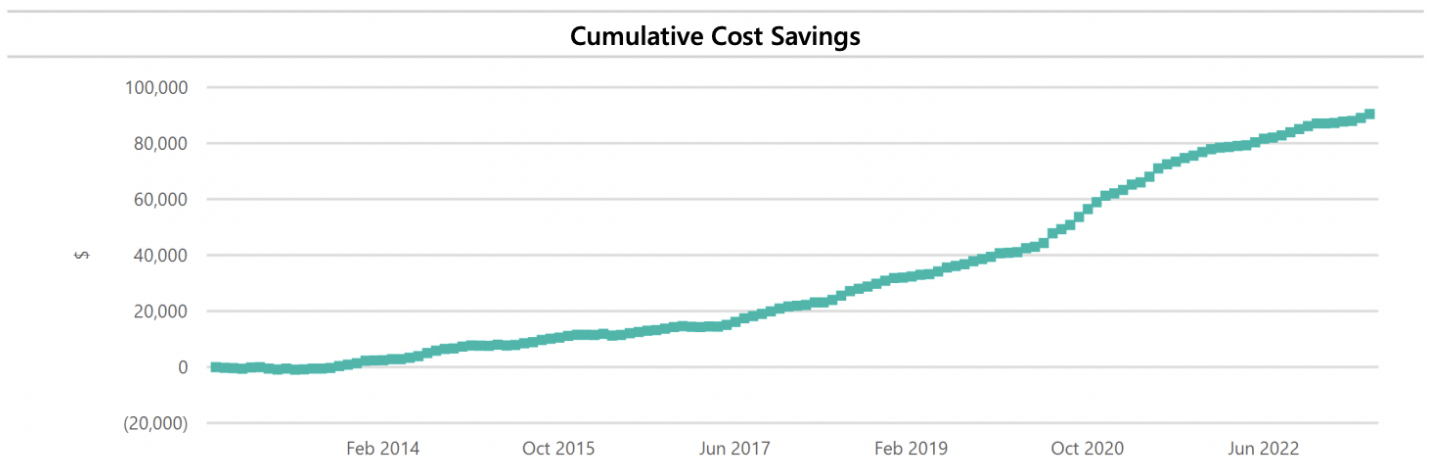


Figure 2. Cumulative Cost Savings for Water and Sewer service at Mullen Elementary School, cost avoided from 2012 totaled \$90,492 (41.3%).

All drinking water at Mullen is provided by the school’s local water retailer, Prince William County Service Authority. During the 2020-21 school year, five bottle-filling stations were installed for students and staff, supplying filtered and chilled water with built-in water purification. Since then, Mullen has saved over 52,068 water bottles and distributed over 300 reusable bottles. Bottle fillers also make drinking water consumption more convenient, promote the use of reusable containers, and reduce the use of single-use plastic water bottles.

Mullen was built using best management practices for stormwater and all stormwater from the impervious surfaces is captured in stormwater retention ponds before leaving the site. A large stormwater management pond at the eastern end of the school site is used by students for observations and water quality testing. The fence line is regularly cleaned by students for debris. On-site storm drains are labeled, to discourage dumping and to bring public awareness that all of the local water eventually drains to the Chesapeake Bay.

Element 1C: Reduced Waste Production

Mullen is committed to waste reduction and recycling. As part of the PWCS Regulation 494-3, “Recycling Program,” the school recycles metal and aluminum cans, plastic bottles, juice and milk boxes, cardboard, and

paper. Each classroom, office, and common area has labeled recycling bins, and the recyclables are collected by the student-led Green Team daily. Mullen is taking part in a pilot group that changed the receptacles used for recycling from cardboard bins fitted with plastic liners which were changed daily, to tall blue plastic bins with no liners. Mullen is working collaboratively with the custodial managers to encourage the change in behavior of teachers, staff, and custodians by not placing plastic liners in the recycling bins. Mullen's goal is to have expected savings for plastic liners of approximately 20%.

Since 2020, Mullen has been a one-to-one technology school. Students charge their devices at home and bring them to school daily. Teachers and staff are strongly encouraged to provide lessons and assessments through the Canvas Learning Management System. The devices allow the students to create and save their projects and work on platforms such as Seesaw, Wixie, and Book Creator where they can be submitted electronically. This has decreased the amount of paper copies and paper waste. Paper that is purchased bears the seal of the Sustainable Forestry Initiative, with at least 30% recycled content.

In September 2020, the PWCS Energy and Sustainability Team partnered with the Prince William County Solid Waste Division on a USDA grant to fund food waste hauling costs for six schools in Prince William County. This pilot program grant also paid for stipends for training kitchen and custodial staff, as well as school instructional staff and administrators. Mullen was one of the first schools to volunteer for the program, where the administration, teachers, and custodial and kitchen staff embraced the concept of waste reduction through food scrap separating. Before the startup in September 2021, the kitchen, custodial, and teaching staff participated in an online virtual training and placed food scrap collecting bins in all the classrooms and the cafeteria. Within a month of the start of school, with the assistance of the well-organized and patient cafeteria hostesses, the students were separating their food scraps in both the cafeteria and classrooms. For the two-year grant period (2021-22 and 2022-23 school years) over 32,000 pounds (16 tons) of food scraps have been diverted from the landfill and turned into compost. In recognition of this effort, the PWCS communications team produced a [video](#) to share the program with the community.

In July 2023, PWCS decided to continue the program at six schools, and again Mullen was the first school to volunteer to continue the program. For the 2023-24 school year, they are continuing the program and will be emphasizing “eat what you take” and establishing a food-sharing program in the classrooms for breakfast and the cafeteria for lunch. Only uneaten, wrapped or peelable foods provided by the kitchen can be shared.

Mullen’s kitchen staff also participates in waste reduction, by recycling and separating their food scraps for composting. Mullen serves over 770 meals daily including breakfast and lunch. Instead of disposable trays and utensils, the kitchen staff provides reusable trays and utensils for meals. Within the kitchen, during preparation, the food scraps are separated and placed in bins for compost pickup. The children are assisted by the cafeteria host and hostess in their recycling and composting efforts. Reusable cleaning cloths are used, washed, and reused to clean cafeteria tables and benches.

Office Depot named PWCS as one of only twenty recipients from among 1,000 applicants for its Leadership in Greener Purchasing Award. This award recognizes the school division's efforts toward environmentally conscious purchases as it considers the buying of supplies to support 100-plus schools and offices, including items such as technology, paper, printing products including ink and toners, furniture, and other supplies. Award-winners are selected for purchases made during 2021 across multiple categories of expenditures for products with "eco-attributes" such as recyclable materials, energy-efficiency, and the reduction of harsh or harmful chemicals, and items that carry eco-labels or environmental certifications.

Mullen’s custodial staff are an integral part of the waste reduction team. Custodial staff attend training courses biannually to include environmental waste reduction, recycling updates, and cleaning product training. In the spring of 2023, PWCS changed the cleaning strategy in all schools, using only five Spartan Chemical Cleaning products, a hard surface disinfectant, odor eliminator, surface cleaner, degreaser, and floor cleaner. Both the odor eliminator and classroom surface cleaner are Green Seal-certified products. When the products were

distributed, the custodial stations were equipped with a product mixing station that reduces waste, and staff were trained in the proper usage of the five products. Color-coded microfiber cloths for cleaning are used, washed, and reused to reduce paper waste. In the cafeterias, kitchens, and wherever food is eaten a food contact surface sanitizer is used. With the use of these products, we see a reduction in water and chemical usage and a cleaner environment. In addition, the school division supplies the school with exterior labeled dumpsters for food scraps, waste, and recycling, and the custodial and kitchen staff are annually trained regarding recycling and waste reduction.

Mullen has participated in the NexTrex plastic film recycling program for three years. Trex collects plastic bags and other soft plastics to be recycled into building materials. There are six collection bins in the school, and each year since COVID the weight of the materials has increased. The soft plastics are collected and weighed by the student-led Green Team and taken to local businesses for pick up. Since the 2021-22 school year, Mullen has collected over 100 pounds of soft plastics.

Element 1D: Use of Alternative Transportation

Mullen is located in a suburban part of Prince William County and daily more than 650 of the students arrive at school by walking or riding bikes. One bike rack is provided for student use. Only six students are assigned as bus riders at Mullen. In addition to the six bus riders, approximately 30 Special Education and preschool children ride separate buses. Most staff use personal vehicles for transportation with several carpooling and one walking. Mullen students participate each year in the Annual Walk to School Day. Families are encouraged to join students during encore classes to walk laps around the building as an incentive for healthy practices.

The “PWCS Transportation Services Bus Driver and Attendant Handbook” stipulates an anti-idling policy for school buses. This minimizes air pollution and saves fuel.

Pillar II: Improving Health and Wellness

Element 2A: Integrated School Environmental Health Program

Mullen takes part in environmental health initiatives to support clean and safe classrooms and grounds. To improve indoor air quality and reduce exposure to allergens, at the end of the day, all chairs are placed on desks so custodians can have access to all areas of the floor. Countertops are wiped down at the end of every day. Trash is removed daily; rooms are free of pets that may have dander, and no scented air fresheners are used in classrooms. Teachers are trained to reduce exposure to allergens by minimizing the amount of upholstered or carpeted items in the classroom and not bringing in cleaning chemicals or air fresheners from home to provide a safe classroom environment. Water leaks are reported and promptly fixed to prevent surface mold and mildew growth, and wet ceiling tiles are promptly replaced.

The HVAC air filters, which are Energy Efficient rated per ASHRAE 52.2-199 and 52.2-2012, are replaced every three months, and all tobacco use and vaping products are prohibited on campus. To control air moisture in the building, humidity levels are monitored throughout the school using a Building Automation System (BAS) and are monitored by the BAS team in the Facilities Department. In the gymnasium, cafeterias, and library, carbon dioxide levels are monitored 24 hours a day, seven days a week, and flushing occurs if the levels exceed 700 ppm above outdoor air levels.

Mullen follows the Integrated Pest Management (IPM) program for PWCS. All efforts are taken to eliminate the need for chemicals to control pests and to provide a safe, clean environment for the school. Education about what attracts pests and how to eliminate the attractants aids in keeping Mullen pest-free and free of pesticides. Mullen only uses surface disinfectants that are approved by the Environmental Protection Agency (EPA). All

teachers are supplied with vinyl gloves and disinfecting spray to help maintain a healthy and safe learning environment.

Mullen has well-maintained landscaped areas and turf fields shared with the community for recreation. The PWCS landscaping crew has a nutrient management and weed control program for all outdoor landscaped and turf areas. Soil tests are conducted for turf areas and after analysis the areas are aerated, fertilized, and overseeded to maintain the turf. Walks, curbs, gutters, perimeter of schools and buildings, flower beds, fence lines, track, and areas around utilities are treated for weed control. The program is run by certified commercial applicators using products labeled as caution, the least toxic.

In science classes, students learn about the importance of safety in the classroom. Students must sign a safety contract and must wear personal protective equipment when experimenting. In addition, science experiments are conducted through inquiry using natural materials as much as possible. The lab is equipped with safety equipment such as safety goggles, gloves, and plastic measurement tools instead of glass, and is available for checkout.

Safe drinking water for students and employees is a priority for Mullen. PWCS tests every water spigot in each school every three years for lead to ensure the drinking water quality in the school. If lead is found in the water test, the unit is shut down, filters installed, the spigot is replaced, and the unit is retested.

Element 2B: Nutrition and Fitness

Mullen is committed to providing a school environment that promotes and protects student health, well-being, and ability to learn by supporting healthy eating and physical activity. 100% of students are provided with free, nutritious meals for breakfast and lunch.

Physical education at Mullen promotes lifelong healthy habits. Students receive nutrition and fitness education in alignment with the K-5 standards. Physical Education teaches students skills and movement, personal fitness, responsible behaviors, good sportsmanship, and physically active lifestyles. 100% of Mullen students in grades 4 and 5 take part in an annual physical fitness test with 80% of students meeting healthy fitness standards.

When the weather allows, the Mullen Physical Education department teaches classes outdoors. Teachers and students use the adjoining natural turf field or other areas of the school grounds during class for student activities. Mullen has three well-equipped playground areas as well as a concrete pad for games. Sidewalks are painted with playground games and sensory paths to encourage movement. Students attend two recess periods each school day. Beyond the physical benefits, recess is important for children emotionally and cognitively. Sensory paths are also painted inside the hallways at Mullen. These benefit the physical aspect and the regulation of behavior, emotions, and attention of students.

Mullen conducts a Fun Run each year as a fundraiser. Students collect donations based on the laps they complete during the run. Families are encouraged to not only donate but to come out and take part in the activities.

During the Annual Walk to School Day, students complete laps during encore classes and invite parents and siblings to encourage fitness as a family. This activity provides cross-generational learning for Mullen families. As an IB School, Mullen encourages parents to be involved in meaningful activities to provide students with an authentic environment so they can experience how their learning can be applied in the real world and make a difference to the extended community.

Mullen's meals are planned by the division's Food and Nutrition Department's registered dietitians and are based on the Dietary Guidelines for Americans and the Healthy, Hunger-Free Kids Act. Meals feature a wide

variety of fruits, vegetables, whole grains, low or fat-free milk, and properly portioned proteins and grains. Meals are free of trans fats and are less than 10% saturated fat. Where feasible, food is sourced from local suppliers and is always fresh. To allow students to eat breakfast, Mullen offers free meals to all. Students eat breakfast in the classrooms and each classroom is equipped with a compost bin and encouraged to set up a food share area where uneaten wrapped foods are set aside for later consumption and not thrown away.

Second-grade students at Mullen take part in swimming lessons for six weeks (about one and a half months) each year at Colgan High School. The students are transported by school buses which are provided by the school division at no cost to the parents. There they learn about swimming techniques, safety, and the importance of exercise.

Each Friday Mullen celebrates “Fitness Friday.” Both staff and students are permitted to wear comfortable exercise clothes. This allows everyone to take part in physical activities and encourages additional exercise. The IB-PYP program believes that physical education and health are vital to the development of young, healthy lives. It is not only crucial for the development of muscle and bone strength, but it has also been associated with psychological benefits. Participation in physical activity can provide opportunities for self-expression, building self-confidence, self-motivation, social interaction, and integration.

In conjunction with the counselors, Mullen has a social and emotional learning team made up of teachers and counselors who provide ideas and advice for staff in dealing with social and emotional wellness. The team turned the teacher’s lounge into a relaxing mental health break room with comfortable furniture and blankets, a soothing water fountain, and inspirational messages painted on the wall by the art teacher. One of the teachers conducts yoga classes each week for willing participants. The Social and Emotional Learning (SEL) team has provided social activities for staff such as an escape room and arranged assemblies for the students such as Omega Man, who focuses on bullying and making good choices. Professional development is offered to staff on stress and dealing with burnout and resources are offered for personal use and classroom use. Mullen’s staff takes part in the PWCS Spring into Fitness and Walktober programs, fielding two teams of 10 each time. Mullen staff participates in the county-wide staff kickball program and competes against other area schools. Picnic-style tables in a beautifully maintained shaded area also support wellness and nutrition as staff and students can go outdoors to get fresh air and sunlight while they enjoy their lunch.

In the 2020-21 school year, Mullen launched both Zoom and in-person technology assistance for parents through the Instructional Technology staff. This included access to ParentVue, access to school counselors and community resources, and technical help for parents to assist their students on their devices. With recent policy changes for the 2023-24 school year, a class will be held to assist parents with remote learning should inclement weather arise. A section of the Mullen website contains videos and tutorials on various technological issues.

Through its Social Emotional Learning Team, Mullen has launched the use of Positive Behavior Interventions and Supports (PBIS). The goal of PBIS is to support the Mullen staff and provide a proactive approach to improve school safety and promote positive behavior. The focus of PBIS is prevention, not punishment which encourages students to act responsibly, show respect, and follow safety rules and guidelines.

Mullen has a full-time nurse who promotes healthy practices like consuming adequate water, healthy eating habits, and proper hygiene. Throughout the school, there are posters with visuals to inform staff and students how to properly wash hands, how to cover their mouths when coughing, and what a balanced diet should look like.

Providing a safe and healthy learning environment is a collaborative effort among all Mullen stakeholders, including custodians, maintenance personnel, additional staff, and teachers.

Pillar III: Providing Effective Environmental Education

Element 3A: Shared Responsibility for Environmental Learning

Environmental literacy and sustainability are cross-curricular priorities at Mullen. This is reflected in the 2018 Science Standards of Learning and assessed on unit tests, project-based learning, and hands-on activities. Learning can also be supplemented with Discovery Education Mystery Science. Lessons are constructed using the five E's: Engage, Explore, Explain, Elaborate, and Evaluate. In all IB programs, teaching and learning are based on inquiry. Also, a strong emphasis is placed on students finding their information and constructing their understanding. Students have a variety of books and resources at their disposal along with materials for exploration.

Mullen includes its youngest students in preschool in the method of recycling and composting. Its preschool classes consume both their breakfast and lunch in their classrooms, so the students are taught to sort and separate their trash from their food scraps. Green Team members engage with these youngest students to reinforce these environmentally conscious habits.

In 2018 Mullen was awarded first place for an energy challenge shutdown video (https://www.youtube.com/watch?v=gyLKs0_wppM) featuring both staff and students. Students have taken part in the PWCS Energy Challenge since its inception in 2015. Students perform energy audits in the classroom along with the teachers who make certain that all classrooms are shut down before leaving for the day and leaving for extended closures such as Thanksgiving, Winter, and Spring Break.

The exhibition is one of the final experiences of the IB Primary Years Program (PYP) and is completed at the end of the student's final year. As part of the exhibition, students are encouraged to explore and document their understanding of important topics and learn from each other. For the past five years, more than 60% of the projects were environmental. Students are also connected with experts in their topics, either in person or virtual via Zoom, in which they can ask their guiding questions and receive answers. As the final portion of their exhibition, students are expected to develop an action plan for their project. The four main plans of action for IB PYP are:

- Participation - Contributing as an individual or group;
- Advocacy - Action to support environments, social, or political change;
- Social Justice - Action to support equality, rights, and well-being; and
- Social Entrepreneurship - Creative, resourceful, innovative, sustainable social change.

In the past, students have organized events, written persuasive letters to members of the community, made presentations, and given informative talks regarding environmental issues such as fracking, water and air pollution, and plastics in the environment.

Mullen has supported the Green Team, which currently consists of 18 students, since the 2020-21 school year and three years before COVID. These students are responsible for meeting with the custodians concerning collecting recyclables in the school, and the composting programs. Each K-5 classroom has an assigned recycling person and compost manager to assist their classmates with the identification and disposal of products in the correct receptacles. The classrooms are also responsible for school grounds clean-up on a rotating basis which allows the students to take ownership of the school grounds and their cleanliness. This includes the shared fields and playgrounds with the community.

Mullen has been using a hydroponics tower to grow herbs. The garden is taken care of by the Green Team. Water is kept to a specified level and grow nutrients are added on an as-needed basis. The herbs are distributed to the cafeteria or staff as they are cultivated. Seedlings are grown from seed to replenish the garden.

Mullen's administration is encouraging and supportive of IB and environmental literacy professional development opportunities by allowing time off for attendance. Teachers and staff at Mullen have recently participated in Meaningful Watershed Educational Experience (MWEE) 101 and a cross-curricular "Take Your Kids Outside" course provided by PWCS. Before COVID, the PWCS Energy and Sustainability team offered Green Classroom certification courses in collaboration with U.S. Green Building Council with Mullen staff members participating and sharing with their teams. Mullen has participated with Project Learning Tree (PLT) in an all-day hands-on professional development which enabled the teachers to get outdoors and offered activities and learning ideas for the classroom. Mullen staff have participated in Project Wild and Project Wet professional development and shared their learning with their teams.

Each year, Mullen conducts a Science Night in conjunction with the Book Fair. Science Night welcomes students, families, and community members to take part in hands-on, engaging activities. Mullen offers opportunities for community members such as the Vulcan quarry, PWCS Energy and Sustainability Team, and local scientists and environmentalists to display and present information to the Mullen families. All displays and presentations have been aligned with the VA Science Standards and have included animal hides and skulls, rock and soil samples, petting zoos, microscopes, and telescopes.

Since 2003, Mullen students have fielded robotics teams. For the 2023-24 school year, Mullen's team, Shamrock Squad, consists of four girls and seven boys in the fourth and fifth grades. The team will participate in the First Lego League Fun Day held in the Spring of 2024. Robotics builds often feature an environmental theme and introduce science, technology, engineering, and math (STEM) to students through fun, exciting hands-on learning. Mullen's robotic participants gain real-world problem-solving experiences and have voice, choice, and ownership for their learning which follows the five essential elements of IB-PYP.

In the 2022-23 school year, Mullen participated in the One School, One Book program in which all students read the same book. The school choice was "The World According to Humphrey" by Betty Birney. Along with sharing the book, the school pet hamster, Humphrey, made appearances in all classrooms to help students learn about habitats, adaptations, and responsibilities of pet ownership. Humphrey is still an important part of the Mullen family.

Each spring, Mullen students in all grade levels take part in the 4-H Embryology Program through the Virginia Cooperative Extension. Classrooms throughout the school participate in hatching eggs in incubators, which are monitored live on streaming video throughout the school. Students study life cycles using real-world examples. Eggs are monitored, hatched, and safely placed on farms.

Whole school assemblies have been held such as the Mobile Dairy which brings dairy cows directly to the school and Reptiles Alive which teaches children about the reptiles living in their backyard. The students were also able to learn what to do if they encountered wild animals and how to help wildlife in their neighborhood.

Element 3B: Use of Environment and Sustainability to Develop Science, Mathematics, Engineering, and Technology Content

Mullen has a courtyard used by students and staff as an outdoor classroom. They also have an outdoor tree-shaded classroom with picnic tables with enough seating for two classrooms in the front of the school used for lunch and/or instruction by students or staff. Mullen is currently developing a family and community courtyard project to remove non-native plantings, which will be replaced with native plants, reducing the need for

irrigation and decreasing area maintenance. Students will research and create labels for the plants to more easily identify and care for them. This area will provide a home for local pollinators. Funding for the project will be from a \$2,500 grant through Dominion Energy awarded in December 2023. In addition, Mullen will be provided with funds from the annual PWCS Energy Challenge, as well as free compost from Freestate Farms where Mullen's food scraps are delivered and composted. This project has an expected finish date of June 2024.

Mullen has 18 students that participate in its Green Team which meets daily for recycling and composting collection in conjunction with the custodial team. The Green Team also meets to take part in sustainable activities such as school building energy audits, school-wide waste characterization, germinating seeds to plant on campus, designing and planting a native garden, learning about and experimenting with composting, creating and displaying information to the classrooms, and learning about Mullen's natural areas and stormwater pond.

Information is collected by the students from the five bottle fillers around the school grounds. The Green Team tracks the progress made with refillable plastic water bottles and shares this data with the rest of the school. Trends are reported monthly on the morning student-led live broadcast, The MUES News. To date, over 52,068 bottles have been saved.

This year, fourth-grade students participated in a field trip to Prince William County Fairgrounds for Farm Field Days. Students were able to learn about farm animals such as chickens, cows, and horses. They studied connections between plant life and pollinators, water cycles, and erosion.

Element 3C: Development and Application of Civic Knowledge and Skills

In conjunction with environmental studies on watersheds and soil, life cycles, and local Virginia species of wildlife, students have the motto of "Earth Day, Every Day" at Mullen. To achieve a balance in learning, the IB PYP emphasizes the five parts of the curriculum which are called the Essential Elements of the curriculum. These five elements are Concepts, Knowledge, Skills, Attitudes, and Action. As a part of the learning in a PYP school, the students have chosen the environment as an issue they are passionate about and to make people aware of through their actions.

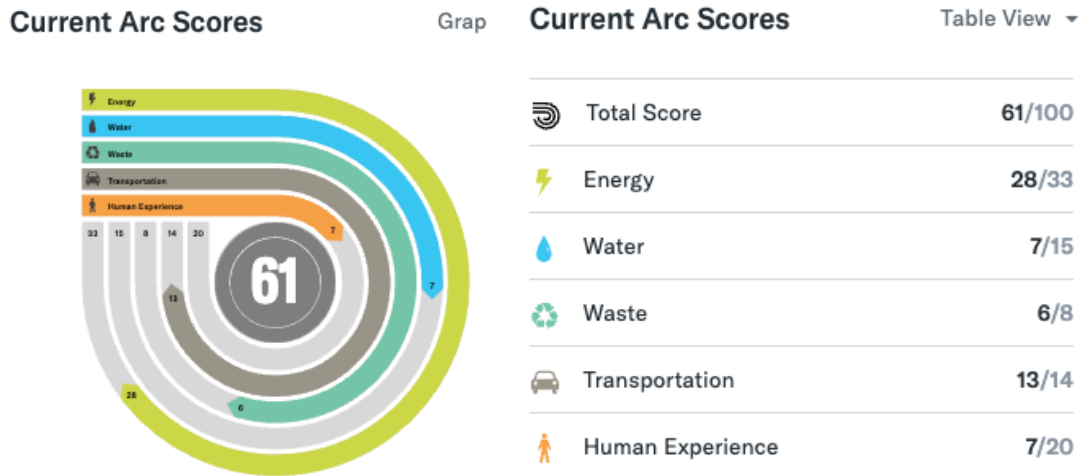
All third-grade students at Mullen attended the Mr. Eco Hero show in October 2023. The one-hour show with singing and dancing led by Mr. Eco, an environmental rap superhero, included eight songs on topics of waste reduction, recycling, water and energy conservation, and watershed stewardship. As a follow-up activity, the third-grade students reflected on their favorite songs and shared the concepts with their families. The PWCS Energy and Sustainability Team created civic action-themed activities on the division's Learning Management System for each of the third-grade classes. Teachers then chose a favorite song and one of the lessons and activities to use for an action project this spring.

For the last eight years, students and staff members across all grades have taken part in monthly campus clean-ups. Students adopted the two stormwater management ponds adjoining Mullen's campus. This area is then used by classes for nature walks in which lessons such as recording living and nonliving things and observing habitats take place. The retention pond will also be used in the spring of 2024 for the MWEE. Each week, students also collect litter from the main campus, including the shared community soccer fields, separating the recyclables from the landfill trash.

Mullen is partnering with the Virginia Blue Bird Society to build birdhouses for the creation of a bluebird path on the school grounds. Students will then collect data from the bluebird boxes, and compile and report on that data.

Most recently, Mullen was recognized as a Virginia Naturally School for both the 2021-22 and 2022-23 school years and has been an active participant in the PWCS Energy Challenge since its inception in 2015. Mullen was part of the initial six-school pilot program for the Food Scraps to Composting program started in October 2020 and has fully embraced the program.

Mullen is the first elementary-level school in PWCS to complete data entry for all five parameters for Arc, a digital sustainability measurement platform. The platform uses data from the school to measure five different parameters of sustainability: energy and water usage, waste production, transportation, and human experience. The students were instrumental in completing whole school waste audits, and the transportation and human experience surveys. Mullen has an Arc sustainability score of 61, which has the potential to be eligible for Leadership in Energy and Environmental Design (LEED) Gold certification.



Mullen Elementary is committed to sustaining environmental literacy and stewardship in the hope of being recognized as a Green Ribbon School.










Green Ribbon Application and Narrative Mullen ES 2023

Final Audit Report

2024-02-26

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