

District Name: *Richmond Public Schools*

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

[Signature]

Date: *03-11-2022*

3/11/2022 | 13:50 EST

(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. Anne Petersen*

(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.

Anne Petersen Digitally signed by Anne Petersen
Date: 2022.03.11 11:32:28 -05'00'

Date: *03-11-2022*

(Nominating Authority's Signature)

SUBMISSION

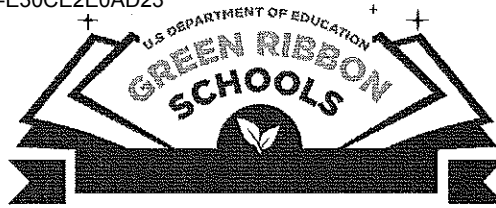
The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: December 31, 2023

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.



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: Mr. Michael Powell


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

Official School Name: John B. Cary Elementary School

(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.



(Principal's Signature)

Date: 03-11-2022

Name of Superintendent: Mr. Jason Kamras

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

Summary Narrative

The No Child Left Inside (NCLI) Eco-Campus at John B. Cary Elementary (Cary) represents our comprehensive vision for achieving student success through environmental stewardship, interdisciplinary connections, college and/or career pathways, and community engagement for every Cary scholar. The Cary Eco-campus integrates our efforts to reduce environmental impact, improve community health and wellness, and make environmental education a foundation of our students' school experiences. At Cary, students investigate the relationship between nature, human systems, and our community's environmental health. The seed of this effort arrived at Cary in 2016 with Principal Michael Powell. Mr. Powell was credited for leading his former school in becoming a Maryland Governor's Green School. Over the past six years, his proven success as a Green School leader has inspired our school and our district to shift its focus to the connections between environmental impacts of our schools, the environment, and equity. Our effort to become a Green School is based on more than our commitment to the environment. It is also grounded in our RPS' commitment to combat the effects of systemic racism as represented by redlining practices, the ongoing effects of urban heat islands, and access to green space on our school campuses.

Reducing **environmental impacts and costs** is a focus of Richmond Public Schools (RPS) as it upgrades an aging, and due to historic racism, underfunded school system. RPS has invested in energy efficient systems to decrease carbon emissions. These strategies include installing solar panels, upgrades to HVAC, electrical, and plumbing systems to reduce environmental impact and save money. Cary reduces greenhouse gasses through grassroots efforts such as our reforestation project, community gardens, and energy saving practices such as using automatic water and lighting shut-off, and recycling and garden clubs. In 2020, the Community Foundation of Greater Richmond approved the Alliance for the Chesapeake Bay (Alliance) for a \$40,000 ConseRVAtion Fund grant to support its work with John B. Cary Elementary School. Mr. Powell also received a REB Distinguished Leadership award that supported the development of the reforestation project in partnership with the Science Museum of Virginia, Alliance, and Manchester Gardening, in addition to local community and civic organizations. The reforestation project alone boasts 15,000 square feet of planted area including: 187 native plants, 53 shrubs, 16 trees, a pollinator garden with accessible paths, and meadow/understory plantings- all built with outdoor meeting spaces for students. Turf conversion such as this on our campus offers a wide range of environmental benefits to our school including absorbing stormwater runoff, creating pollinator habitat, and cooling from shade trees as they mature. Over time, these benefits translate to cost savings for Cary, RPS and the City of Richmond.

The Cary community is dedicated to providing a safe and loving school culture through its focus on **social emotional and physical health**. In our school the whole child is affirmed for who they are, given social/emotional support, and provided rigorous learning. We carry out this vision within our school building as well as through our community involvement. Our commitment to safety begins in our school where RPS has implemented improved air quality measures through training facilities staff members, purchasing updated equipment, and performing regular maintenance. Our Eco-campus sets the outdoor scene for student clubs, staff professional development and self care, student learning, and social development. We recognize a healthy and happy staff is critical to the success of our students. Strategies to support teachers include offering health care benefits to employees including mental health access, and professional development in self care and mindfulness. In turn, our staff support students' social emotional and physical health by providing opportunities such as class outside, support from counselors, eating nutritional meals, and participation in Community Circles meant to build empathy and relationship skills. All these school based activities are championed by our active PTA and community partners who often provide the funding, volunteers and capacity for success. In Spring

2021, Cary received a National PTA School of Excellence award for addressing equity through environmental leadership, social emotional health, and community building. Cary's focus on health and wellness for students has led to potential real world changes for all students in Virginia. Based on Delegate Betsy Carr's participation in several tree plantings and visits during Earth Day, she was inspired to create House Bill 636 Virginia student environmental literacy. The focus of this bill is to improve the health and wellness of students and teaching staff throughout the commonwealth. The bill establishes the Virginia Student Environmental Literacy Plan Grant Fund and Program, to be administered by the Virginia Department of Education, for the purpose of awarding grants on a competitive basis to any local school board that seeks assistance to initiate, expand, or improve teacher professional development opportunities or student environmental education programs that align with the content and objectives of the plan. The way we value the social emotional and physical health of the whole child at Cary is an extension of our school district's commitment to a safe and loving school culture outlined in Dreams4RPS, Richmond Public Schools 2018-2023 Strategic Plan.

Our location, less than one mile from the James River in the Chesapeake Bay watershed, provides us an opportunity for **environmental and sustainability education**. At the center of this effort is Cary's Eco Campus. The Eco-Campus includes the reforestation project, orienteering course, weather station, sensory garden, native plants garden, butterfly garden, healthy choices learning garden and community garden. The reforestation project provides the foundation and groundwork necessary to establish Cary as a "RiverWise School", a term that Alliance defines as teaching students to consider their actions related to the health of the local watershed. In total, the project encompasses an on-site 15,000 square foot native planted area meant to mimic forest succession combined with a teacher professional development series about the space to support watershed stewardship. In September 2021, during Alliance's annual Taste of the Chesapeake event, Mr. Powell was honored with the Virginia Watershed Champion award celebrating his dedication to and passion for Cary's Eco-campus. Our Eco-campus is the scene for citizen science, student observation, data collection and student reflection. In addition, our school has extensive support from our local community for environmental sustainability efforts, including partnerships with Cooperative Extension Master Gardeners, City of Richmond 4H Club, Maymont, Virginia State University, Parks and Recreation and Kiwanis Club of Richmond and more. Further grant funding (\$5,000) was provided by Voya Financial and the Whole Kids/Whole Foods Foundation to support the development of the Monarch Butterfly and Community Gardens. After a year and a half of virtual learning during the 2020-2021 school year, our students have benefited from returning to a transformed campus engaging them in learning the connections between being outside, equity, wellness, and comprehensive social emotional health. We are proud to have support from funders like the Community Foundation and community partners who work to lift up our community, improve our environment, conserve natural resources, and create sustainable partnerships for environmental education.

Pillar I: Efforts to Reduce Environmental Impact and Costs

Our school is part of the Richmond Public Schools district working toward **reducing greenhouse gas emissions** through a comprehensive approach to energy efficiency. Our district participates with demand response to lower Grid demand and replacing equipment to upgrade indoor air quality with reduction and/or rightsizing equipment requirements for energy savings. As an urban district with a history of inequality and aging facilities, these systems are a social justice issue. In the past five years, our district has built five new energy efficient schools to replace buildings more than 70 years old. In our schools built within the past 70 years, as equipment is replaced, it is replaced with energy efficient equipment/systems. Equipment such as heat and air conditioning is monitored and run only as needed to

keep the buildings at the appropriate temperature/humidity. We have programs in the building automation systems such as, “set-points”, “occupied”, “night”. In addition to the computer programs, this is all monitored by a human systems manager.

At John B. Cary Elementary, we have replaced high energy use HVAC systems with newer energy efficient systems. Boilers for heat were replaced in 2018, chillers for air conditioning were replaced in 2014, and new centralized control systems have been installed to meet ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) recommendations. Richmond Public Schools has reduced or eliminated greenhouse gas emissions through cost-effective energy efficiency improvements, conservation measures, and on-site renewable energy. As a school system we have installed solar panels, CFL or LED lights with motion sensors, white roofs, and utilized outside air for cooling when possible. At Cary Elementary, when ceiling light fixtures have been replaced, we replaced the recessed lighting with LED lighting, and include occupancy sensors so the lights turn off automatically. All of the HVAC equipment at Cary is energy efficient and uses variable speed frequency drives so that we use only the minimum energy needed. In the months of July, August, and September, when air conditioning is most likely to be used, Cary reduced its Kilowatt hour usage of electricity from 211121.00 KWH in 2019 to 151054.00 KWH in the same months of 2021. This constitutes a savings of 60067.00 KWH or 33% since 2019. This is a savings of greenhouse emissions equivalent to 106,983 miles driven by the average car or a savings of CO₂ emissions from 47,050 pounds of coal burned. Since natural gas boilers were replaced in 2018 our natural gas usage in the months of December - February has decreased by 3351.00 CCF (1=100 cubic feet). This is a savings of greenhouse gases equal to driving the average car 46,000 miles or saving CO₂ emissions equivalent to burning 20,296 lbs. of coal. These system level decisions have played a significant role in decreasing our greenhouse gas emissions.

Students at Cary Elementary participate and engage in responsible environmental education in many ways, such as designing Earth Day and water conservation posters and learning songs about caring for the environment. Our school proactively addresses **reducing waste production** through using Google Classroom, learning apps, and recycled materials in our project based learning. We also work to reduce solid waste production at Cary through the 3RC process (Reduce, Reuse, Recycle and Compost). Each year, students engage with the TeachEngineering.org Reduce, Reuse, Recycle, and Compost lessons taught in Media Class. We work to reduce waste production with water bottle filling stations. Over the past 2 years of in person instruction, our school has saved over 92,000 plastic water bottles. We have a Recycling Club that works to collect recycling from our classrooms and deliver it to recycling facilities. We also partner with the Parks and Recreation Department of Richmond City to recycle our cardboard and packaging from our cafeteria. Whenever possible, we use biodegradable food delivery materials and try to compost organic matter, reusing this compost in our Gardens. As facilities and equipment are replaced/repared we follow the building code. When floor tiles need to be removed/replaced, they are tested for asbestos contamination. An AHERA (Asbestos Hazard Emergency Response Act) Manual is kept on site and at Facility Services, this manual tracks where asbestos is known to exist, and when we replace it.

Our NCLI Eco-Campus was designed using LEEDs (Leadership in Energy and Environmental Design) guidance to inform decisions. We used the iTree Planting app to determine the effect on carbon avoidance of our tree plantings in our Reforestation project. Over 10 years, the project is expected to create 100,233 lbs. avoided carbon emissions, and 95,908 lbs. sequestered carbon emissions. This figure does not include the shrubs and plants included in our native plant, butterfly, and sensory gardens. These

plantings additionally help mitigate pollution carried by stormwater runoff to the nearby James River and ultimately are part of the Chesapeake Bay watershed conservation efforts.

We are improving **water quality, efficiency, and conservation** through water bottle conservation fountains, automatic shut-off valves on all restroom sinks, and a water conservation campaign to remind students and faculty to minimize water use at home and in school. Our school is contributing to the water conservation of our local community through sustainable food gardens that use water collection rain barrels, our Reforestation project, and plantings that minimize run-off. As an Alliance for the Chesapeake Bay RiverWise school, we understand the dynamic relationship between humans, societal systems, and the environment. Our staff and students have worked to create a healthy influence on the James River and by extension, the Chesapeake Bay watershed through our plantings to minimize erosion, storm drainage, and run-off on our school campus. Our Reforestation project utilizes native trees, shrubs, grasses and perennials and the community garden uses native plants as part of this work.

Transportation is a major concern as we become a more ecologically sound school community. Our school system is currently working to transition to electric buses to replace the current gasoline/diesel buses. This transition will include the installation of charging stations at every school. We support alternative transportation through a walk/bike/carpool to school program with students and staff. We have designed our student drop off program to decrease car idling outside of the school. This program includes crossing guards, bike friendly routes to school, bike racks, and carpool incentives. Families carry a number in their car that is called to dismiss students as they are down the street from the pickup location. This year we have significantly increased our alternative transportation participation. We have approximately 15 students per day that walk to school, 7 students and 2-3 staff that ride bikes, 8 families and 6 staff that carpool, and 12 students that participate in private group transportation to and from school and day care sites. Our school is partnered with Greater Richmond Fit4Kids in the Safe Routes to School program. We currently have five crossing guards to assist students who walk or bike to school. In addition, we participate in the annual walk to school and bike to school days.

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

Our school division's strategic plan Dream4RPS draws on more than 170 community meetings and the participation of more than 3,000 stakeholders. Through this process Richmond Public Schools (RPS) arrived at three core values: equity, engagement, and excellence in combination with a commitment to transparent and inclusive leadership. RPS' vision sees the school district as a "beloved community," in service of students and families. This strategic plan includes a commitment to a safe and loving school culture. The focus on love as a transformative ethos in our school community is reflected in the school structures, interactions, and priorities. From the intentional integration of social emotional learning into the school day to the focus on the healing power of connecting with nature, Cary Elementary is focused on meeting the needs of the whole child, whole school, and whole community for students, staff, and families.

RPS understands that supporting students does not end with academic curriculum. Thanks to community involvement, strategic plan funding has been provided to address the aging infrastructure of our schools through updating systems that affect health and constructing new facilities built with energy saving and environmentally conscious systems. All of our custodial supplies are Earth friendly and our crew members receive training in environmentally sound practices to ensure student and staff safety. Our HVAC uses contaminant control systems and ventilation through air intake filters. Upon returning to school from virtual instruction due to the COVID-19 pandemic, our district added air scrubbers to

every classroom and public space in our school at a cost of approximately \$45,000. While this action was taken to decrease the possibility of COVID-19 transmission, it has also addressed a serious concern of our school system for many years: inadequate air quality in our school system. The air quality in schools has long been suspected of contributing to poor health outcomes and student/staff respiratory issues, including asthma. Our facilities department practices Indoor Air Quality Preventative maintenance and adjusted the Control Sequence for our HVAC system to increase air change frequency, from 3 to 6 per hour. Occupant health and safety is part of the Virginia building code and is reviewed and approved for each project. Cleaning and maintenance is scheduled through SchoolDude and work tickets are generated automatically for health and safety equipment. Ventilation, humidity and moisture are monitored 24/7 and control is integrated in the building automation system along with human monitoring, especially during high humidity months from March to October. Chemical and environmental contaminants are controlled by building code, and everything we replace/install, must, and does, follow the applicable building codes. Chemical management is a part of custodial maintenance and training. Our school system uses environmentally friendly custodial cleaning supplies exclusively. We utilize an integrated pest management program that includes monthly check-ups and attention as needed. Staff are also encouraged to maintain healthy classrooms by storing any food in sealed containers and to report any pests to administration.

In RPS, “Leading with Love” also means supporting staff with structures, professional development, and care. Our school system subsidizes health care for all full time staff and funds the Employee Assistance Program that offers counseling and support services to staff and their families for issues with family, alcohol, drugs, emotions, stress, work/life balance, legal or financial concerns. In addition our school system has made the decisions several times this year to set aside time for mental health days for our students and staff to rest and recover from the challenges of living and learning in a pandemic. Our staff engages in mindful self-care training and is encouraged to ask for help instead of pushing through the daily struggles of teaching. Staff are supported by our PTA and our local community partners like StayRVA and the Kiwanis Club along with many others. Our professional development mirrors our students’ Community Circle structure, with a Mindfulness Moment, kudos to celebrate each other, and engagement of staff in selecting and providing professional development topics. We support our new teachers with mentors but also provide monthly Teacher Excellence Team meetings based on the National Board for Professional Teaching Standards five Core Propositions. Professional development for staff over the past several years include yoga for self-care and stress management, integrating nature into teaching and personal life, and staff fitness challenges. All of this support for teachers underlines our approach to Whole School health and wellness.

At Cary Elementary, our school structures support the health and wellness of students through providing instructional, mental, physical, and emotional support. Our school is fully staffed with a psychologist, counselor, social worker, and nurse. The overall health and wellness of our community is top priority in our school division and our school. We work to ensure the health of students, staff, and community through choices to support health inside and out, including nutrition, physical development, social emotional development, and community connections.

Nutrition is more than feeding students in our environmentally focused school division. Our nutrition services use vendors that provide all parts of the meal in recyclable containers. Our cafeteria manager works to recycle reusable boxes at the local community center in partnership with the parks and recreation department. Our cafeteria increased our student health by partnering with the Virginia Cooperative Extension to expose students to healthy foods they may not have tasted such as fresh kiwi,

mango, and cherry tomatoes. Our cafe manager monitors the preferences of students and constantly works to improve student healthy options. Recently students expressed appreciation for the fresh salad option. She adjusted her ordering to make green salad a choice for students every day. Our manager is currently working to provide students the opportunity to try fresh vegetables like sautéed eggplant, black bean salsa, and more vegetarian options.

During the pandemic remote learning virtual instruction in 2020, our school system introduced daily Community Circles. During Community Circle each day, students develop core social emotional learning competencies through learning to: manage emotions, practice empathy, create positive relationships, and learn to make responsible decisions. Our school also uses a “restorative justice” approach to conflict through training staff to reduce suspensions, practice empathy, and resolve conflicts. As a part of this effort, Cary Elementary has established a Mindfulness Room where students learn to process emotions in a calm environment where they feel safe. Our school has a broad range of fitness opportunities and programs for all students and staff.

Our approach to whole child development seeks to address the foundation of our students’ success, their social emotional development and mediating the effects of systemic racism as understood by the National Parent Teacher Association (NPTA) position on Institutional Racism (2020). We ground our work in data and research based practices. Each year we use the Panorama Survey of Social Emotional Competencies to measure our progress. For example, in the fall of 2020 our 114 3rd-5th grade students scored lower than our school district in 3-out-of-4 areas including: Growth Mindset, Self-Efficacy, and Social Awareness. Self-Efficacy responses, “How much students believe they can succeed in achieving academic outcomes,” were the lowest with 45% of students responding favorably compared to 50% across our school district. We used this information to develop a plan for teacher and family development, engagement, and targeted interventions. Our school community used Social Emotional Learning (SEL) curriculum and integration to address institutional racism through training in bias, trauma, and mental health. The school counselor provided social emotional lessons, interventions, workshops, and family engagement. Teachers delivered and reinforced Second Step social-emotional lessons provided by the School Counselor. The PTA supported the Positive Behavioral Intervention and Supports (PBIS) program and engaged community partners to inform families about mental health resources. During parent-teacher conferences, student’s Panorama survey results were discussed and families were provided resources to support SEL. In the spring Panorama Survey, students increased Favorable responses 10% in Self-Efficacy and scored above our school district in all areas.

Panorama Survey Fall City vs. Fall JBC, Spring City vs. Spring JBC



Our school invests in family engagement to create positive change through community partnerships and empowering our families to see how our community is interconnected. We have formed lasting relationships with other school communities, non-profits, and families to show how Cary’s diversity is a strength. We have invested in children by helping them to lead the way in creating the school, community, and society they deserve through communication and relationship building.

Thanks to the tremendous support of community partners our PTA has accomplished important work, despite the pandemic. The community garden supported by Fit4Kids encourages love and appreciation for working in the soil and producing food to address food insecurity. The Reforestation project which addresses urban heat island issues, incorporates science and social justice learning. And the No Child Left Inside classroom makes it possible for students to learn outside. The Cary community has enlisted local and state policy makers, government, non-profits, universities, and a service club, to create the community garden with the goal of getting students learning outside. And it has worked, our students use the garden, grounds, and outdoor cafeteria for learning during the school day and afterschool in gardening, art, golf, baseball, and running clubs. In 2021, the PTA used our outdoor space to offer Parent Community Circles, playground meet-ups, Friday Food truck meet-up, and a family Paint Night.

Building bridges for our children and families is a major focus of our PTA. During the 2019 rezoning process of Richmond Public Schools, tensions were high within every community impacted. At school board meetings, arguments against merging our school, which is largely students of color, with the other majority Caucasian schools were met with cheers and unfortunately our children were right in the middle of it. At Cary Elementary, we decided that our PTA could bridge this divide by working collaboratively with other PTA committees to create a more integrated community. We started hosting social events such as Playground Chats, Mindful Mornings, community dances, and basketball games.

As our Eco-Campus has taken shape we will expand our offerings to include soccer and a bike club in addition to garden club, and art club.

At Playground Chats parents introduced themselves and shared their concerns, hopes, and fears of the changes to come. However, it was the children who showed that the adults were the problem. Parents saw that children from different schools didn't care about race or socioeconomic backgrounds as they chased each other on the playground. The experiment was a success and it has become an ongoing event. This year we started offering Mindful Moments outside for parents at the beginning and end of school. Once a month parents can meet to learn and participate in community healing through mindfulness and connecting as a community..

As a No Child Left Inside Eco-Campus our students go outside, weather permitting, every day. Our partnership with the Community Foundation has supported the creation of our outdoor "cafeteria and community space", which creates more opportunities for time outside, socially distant learning, and eating outdoors. Teachers are encouraged by our administration to utilize all the available outdoor learning spaces and to adapt our core curriculum through engagement with nature. We have received training in science, literacy, social studies, and math integration with our Reforestation project, and school and community gardens. Our Physical Education (P.E.) teacher provides outdoor activities, weather permitting, every day. Physical development is not the only topic of P.E. class. Our students learn about nutrition, social emotional development, executive function, and teamwork. He also coordinates with community organizations and volunteers to provide additional opportunities beyond the traditional P.E. program. Students learn the basics of nutrition, health, and exercise through our partnership with Greater Richmond Fit4Kids who take classes (135 students so far) outside each week to maintain and learn about our school garden. Fit4Kids also helps support our afterschool Garden Club which has 20 students participating weekly. Afterschool programs and community integration into our health and wellness program help Cary to reach our students' physical, social, emotional, and fitness needs in ways that extend far beyond the capacity of a typical elementary school. Students can participate in programs both during school and afterschool, like Girls on the Run, Orienteering, Track Club, Tennis Club, Minds in Motion, and Golf Club.

- Girls on the Run- This club underscores the important connection between physical and emotional health, our program addresses the whole girl when she needs it the most. Girls on the Run strengthens girls' confidence at a critical time in their lives, their late elementary years when society begins to tell them they can't.
- Orienteering- Partnering with Orienteering USA. We teach map reading and navigation skills, promote enjoyment of, and respect for, the environment, and establish world-class competitive excellence.
- Track Club- We want to support running and a healthy lifestyle for our students and track is a great way to do that.
- Tennis Club- Our school is partnered with USTA/NetGen and Virginia State University. By focusing on play, building character, and championing individual challenges, we empower them to grow and develop at their own pace. It's all about providing players the opportunity to enjoy tennis on their own terms. Kids who play tennis will be healthier, happier and have a game they can play for life.
- Field Day- Whole School participation in physical and mental challenges.
- Minds in Motion- The Minds in Motion program, taught mostly outdoors this year, is sponsored by the Richmond Ballet. The program provides students a weekly opportunity to engage in the arts integrated with core curriculum concepts and movement. Students learn dance from

professional dancers and musicians and work collaboratively the entire school year toward a culminating performance with many schools across the city.

- Golf Club- The First Tee Program of Greater Richmond enables kids to build the strength of character that empowers them through a lifetime of new challenges. By seamlessly integrating the game of golf with life skills curriculum, we create learning experiences that build inner strength, self-confidence, and resilience that kids can carry to everything they do.

Pillar III: Offering effective environmental and sustainability education.

The No Child Left Inside Reforestation project was funded by the Community Foundation through their ConseRVAtion Fund. This funding has allowed our students to engage in action-based learning focused on urban reforestation with Dr. Jeremy Hoffman at the Science Museum of Richmond Virginia and the Alliance for the Chesapeake Bay. There have been several wonderful recent developments since receiving funding; 1) Fostering our partnership with the Alliance for the Chesapeake Bay; and, 2) installation of plant materials and irrigation system led by Manchester Gardening, 3) Sustainability of the space through a 3 year Maintenance Plan with the Alliance.

The NCLI Eco-Campus was created to proactively address the interaction between environmental, energy, and human systems. Our staff connected our literacy program to our understanding of the environment and human effects on it. Our interdisciplinary learning program is grounded in student's learning about the environment in the context of our relationship to the Chesapeake Bay watershed and the historic and current day inequities in our environment. Staff participated in professional development series including content around the urban heat island effect, and how humans artificially warm urban areas around them. Teachers implement effective lessons and strategies that highlight urban heat islands in our students' communities at school and at home. The goal with our staff development is to provide teachers the necessary resources to empower their students to make positive environmental changes towards their own futures. We measure our staff and students' relationship to nature over time using the Practitioner Guide to Assessing Connection to Nature. In addition, students are assessed in the science curriculum in each grade based on the Virginia Standards of Learning.

Interdisciplinary learning is at the core of our educational program at Cary Elementary. The cross curricular components of the EL Reading program are getting our students involved in their community and the world around them every day. Kindergarteners study and explore weather, living and nonliving things, and end the year with a unit on enjoying and appreciating trees. In first grade, students study topics including tools and work, the sun, moon, and stars, and birds' amazing bodies. Our second graders are exploring plants and pollinators. Third graders are becoming experts in topics including water around the world and "Freaky Frogs" where they research animal adaptations. Fourth graders study animal defense mechanisms and fifth graders focus on biodiversity and impacts of natural disasters. Through our curriculum students are gaining knowledge and experience with the natural world every day. This year and beyond, through the implementation of the Eco-Campus our students will get to physically experience these topics outside and extend their learning.

We work to connect students with the social emotional benefits of engagement with nature. Our teachers often take students outside for their morning circle. This helps to build the mind-body-nature connection. Students expressed surprise at how nice it was to stand in the grass with shoes off and meditate and connect through sharing their stories, opinions, and experiences. Math is integrated into our experiences of nature easily. Students have done multiplication with trees and then created word stories. Students are studying and experiencing natural resources through our Eco-Campus. Our fifth

grade is particularly interested in the role of green spaces in an urban setting and have started to investigate farm to table efforts as a civic engagement opportunity, even in our urban environment.

Our school resides in the Chesapeake Bay watershed and students engage with the plants and animals of our local ecosystem from the earliest grades. Students go outside to observe, question, and record experiences within their school environment from kindergarten through fifth grade. All grades in our school use nature to learn core mathematical concepts. In kindergarten and first grade, students study patterns on nature walks looking for colors and shapes. They have collected natural materials for counting and sorting. Second and third graders often work in the garden with our Fit4Kids gardeners. Students used approximation in placing plants in the bed and applied the concept of multiplication and arrays to organize garden space so that each plant had enough space to thrive. In fourth and fifth grade, students have investigated creating a border wall for our garden using area and perimeter. They have also investigated volume, area and perimeter through application of topsoil and mulch. In fifth grade students are constantly using our eco-campus to expand their learning into real life. Students used the engineering process to design and construct a pumpkin catapult. Then students did a science experiment with the pumpkins combining the smashed pumpkins and peroxide to make “elephant toothpaste.” The project integrated measuring tools, force and motion, life sciences, chemistry, and engineering. The learning students engage in daily is exciting and rewarding because it expands the traditional school curriculum into an outdoor adventure.

Our social studies program has integrated investigations into equity and urban heat islands through studying local geography, history, and the local environment. Our students integrate life science and history through interacting with native plants and investigating the ways the first people of our area, the Powhatan, used farming, hunting, fishing, and gathering to thrive. Civic engagement through volunteering and collaborating alongside our local community takes place twice a year. Our students are working with their teachers to write letters to elected officials to support more investment in addressing the effects of our urban heat islands. Our fifth grade will complete a substantial project this spring to understand our school’s carbon footprint and design interventions using engineering principles to decrease our carbon footprint.

Our ENCORE team, (music, art, Physical Education, media, and counseling) act as curriculum connectors, integrating all the content areas through their respective auditory, visual, physical, literary, and social emotional lenses. In music class, students write and perform songs about the environment. In art, students create self-portraits as scientists and create ecosystem landscapes. In P.E., students are constantly outside engaging with the Eco-Campus through orienteering, team sports, learning about water and health, and learning science concepts through games. In the library/media class, students investigate and write about environmental science, read stories about nature, and expand their civic knowledge through community volunteers reading to them. Finally, our school counselor uses the Eco-Campus to meet with student groups in order to build awareness of the regulating possibilities of mindfulness in nature.

From January 2021 to May 2021, the Alliance for the Chesapeake Bay and its partners provided 40 staff members at Cary Elementary with a six-session professional development series titled “Come Outside Cougars”. By taking part in this series, teachers gained the knowledge and skills to be a conservationist and in turn, can pass those skills on to their students. The sessions were designed to bring attention to the environmental issues facing the school community and offer some hopeful solutions. Guest speakers Jeremy Hoffman, Chief Climate Scientist, from the Science Museum of Virginia and Courtney Harlow-Humphries, Manager of Environmental Education at Maymont were invited to share their expertise and empower teachers to link urban heat island issues to their lessons.

The content had a STEM focus, but was organized so the information presented could be linked across subject areas. Students learned about careers in STEM such as agricultural researchers and scientists, anthropologists and archeologists, Natural Sciences Managers, atmospheric scientists such as meteorologists, biochemists and biophysicists. Students learn to use scientific measuring tools such as rain water collectors, surveying equipment, and infrared thermometers.

The “Come Outside Cougars” professional development provided in partnership with the Alliance for the Chesapeake Bay helped staff make the connection between the role they play as environmental stewards and the actions they can take on their own school campus to become a more climate resilient community. The Reforestation project converted 15,000 square feet of mowed lawn to an outdoor learning space where teachers and students can conduct citizen science, make observations, and become curious investigators of the natural world. This natural space offers a place for students and teachers to study the history of the green spaces in Richmond, how humans impact the environment, how energy flows through systems and the life cycles of plants and animals. We believe the learning in this space can extend beyond math and science to reach aspects of social studies, writing, reading, music, the arts and technology. We expect the learning to continue year after year, as the trees mature, plants self-sow and soil grows richer.

The Alliance for the Chesapeake Bay and its partners are providing additional environmental education resources to complement the outdoor learning space, as well as 5E based lesson plans that link to the Virginia Standards of Learning, and newly adopted Science curriculum. Some of these items include classroom sets of related picture books, field guides, infrared thermometers, rain gauges, and measuring devices.

Our school is deeply connected to our community through our numerous partnerships. One of our most important partnerships is with the Kiwanis Club of Richmond. This civic partnership is a continual source of inspiration for our students and our staff. Their consistent involvement with our school through mentoring, volunteering, support of STEM projects such as the funding of our Distance Learning Lab models for students the power of groups of people to make a difference in their community. Kiwanis not only provides direct financial support and volunteer hours but has also served to coordinate 113 volunteers in providing 1,248 hours of service to support the creation of our Eco-Campus. The Kiwanis Club recognizes outstanding students in our school that demonstrate excellent citizenship and academic achievement. Our students have learned the value of community involvement through volunteering along with their families and community members to create our NCLI Eco-Campus. They have also become advocates for our Green School by taking part in our Recycling Club, tending our community garden to address food insecurity, and serving as safety patrols.

Our No Child Left Inside Eco-Campus uses the technology from our Kiwanis Distance Learning Lab. The Distance Learning Lab is a state of the art computer lab designed to engage students in innovative, modern project-based learning. Through our work with the Virginia Commonwealth University (VCU) School of Engineering we have conducted distance learning opportunities where our students were engaged in engineering challenges with college students at VCU. This work has led students to visit VCU and see the students' Capstone projects, STEM Fair Nights at Cary Elementary, and Innovation Day, where students collaborated with college students and faculty to design new technology for self-driving cars based in skateboarding.

Cary Elementary's partnership with the Science Museum of Virginia has been amazing in helping our students become advocates for the environment and understanding climate change. To support this effort, we have purchased a fully automated weather station, attached to the roof of the

building, from Earth Networks which sends data to the station located in the Distance Learning Lab. Understanding weather patterns and trends and its connection to reforesting urban areas is the purpose of this action-based research. Using the distance learning lab, our students will engage in connecting with schools that have tributaries connected to the Chesapeake Bay and we will do action-based research and activities together, through a program that we call *Bay Pals*. Further, we will connect with various embassies and schools abroad to give our students a global perspective of climate change using the distance learning lab.