

VIRGINIA'S K-12
Environmental Literacy
Strategic Plan
2026–2029



“It is crucial to incorporate environmental education because both education and our environment are at the foundation of our daily lives and society as a whole. By incorporating environmental literacy into daily lives, it empowers youth to understand their situation and build the foundation for their future.”

– Margo Roseum
Education Program Manager
Shenandoah National Park





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MESSAGE FROM THE DIRECTOR

Dear Fellow Virginians,

I am pleased to introduce Virginia's K-12 Environmental Literacy Strategic Plan on behalf of the Virginia Department of Conservation and Recreation (DCR). Environmental literacy is essential to preparing Virginia students to become responsible environmental stewards. I invite partners across Virginia to join in the work of developing an environmentally literate generation, which is so important for the future of our planet. Together, we can foster a culture where environmental literacy is a core component of every student's education.

This plan represents a step forward in advancing environmental education across the Commonwealth through the cultivation of partnerships, supporting educators, and building a sustained network. It is intended to guide both new and longstanding environmental education efforts towards equipping students with the knowledge, skills, and dispositions to engage with environmental issues in ways that intersect daily life, including health, community engagement, and workforce development. While the plan is not a sole solution to addressing environmental literacy needs, it serves as a foundation in a statewide effort to integrate environmental education into the lives of Virginia's K-12 students. DCR is committed to supporting the plan's implementation through continued coordination, outreach, and sharing resources.

I am grateful to the many organizations and individuals who contributed to the development of this plan. Their dedication and expertise played an essential role in defining a shared vision for environmental literacy in the state. Through collective action, we have the opportunity to implement this guide to strengthen environmental literacy in Virginia. For the next generations, it is my hope that our efforts today will spark curiosity, inspire appreciation, and ignite a passion for our natural world.



Nikki Rovner
Director, Virginia Department of Conservation and Recreation

EXECUTIVE SUMMARY

The Virginia K-12 Environmental Literacy Strategic Plan sets forth a comprehensive vision for enhancing environmental literacy across the state, aiming to integrate environmental education and outdoor learning into the educational experience of every elementary, middle, and high school student. This plan was spurred by the re-establishment of the Office of Environmental Education within the Virginia Department of Conservation and Recreation (DCR), which is mandated to develop the K-12 Virginia Strategic Plan for environmental literacy in collaboration with various stakeholders.

Recognizing the critical role of environmental literacy in promoting the health and well-being of Virginia's communities and ecosystems, this plan defines environmental literacy and underscores its significance in shaping responsible citizenship. By championing four core goal areas (network cultivation, educator support, a student-centered approach, and resource optimization) and strategies to achieve them, the plan aims to equip Virginia's youth with the knowledge and skills necessary to address environmental challenges and contribute to the sustainability of the state's natural resources.

Furthermore, the plan outlines approaches to implementation, emphasizing collaboration among interested parties. By leveraging existing resources and intentional areas for growth, the plan offers a roadmap for advancing environmental literacy.

This plan seeks to begin building a sustainable approach to environmental education, nurturing a diverse range of skills and interests among students while fostering a deep connection to the natural world. The plan aims at cultivating a generation of environmentally literate individuals capable of making informed decisions about the health of their surroundings.

As a living document, the Virginia K-12 Environmental Literacy Strategic Plan offers a dynamic guide for guiding the advancement of environmental literacy and fostering a sense of stewardship among Virginia's youth.

“Environmental education is crucial in cultivating Virginians who can actively participate in the civic process to ensure their communities are healthy.”

— Daria Christian
Executive Director,
Friends of the Rappahannock



HOW DO I USE THIS DOCUMENT?

Welcome to this document! Here's a guide to what you'll discover and how to navigate it effectively:

Environmental Literacy: This section provides historical insights and addresses fundamental questions like “What defines environmental literacy?” and “Why is it essential for Virginia?” It also explores the benefits associated with environmental literacy.

Goals: In each goal section, you will find a defined objective alongside multiple strategies aimed at achieving it, as well as metrics that DCR will use to assess our progress over the next five years.

Implementation Table: The participants column categorizes the various individuals and organizations that may be involved in goal implementation. Adjacent columns detail strategies for involving these participants in achieving each goal.

Flexibility and Adaptation: This document serves as a practical guide for advancing environmental literacy. It's important to note that the suggested approaches are not exhaustive, but are meant to guide individuals and organizations towards developing their unique support towards environmental literacy in Virginia.

Multiple Categories: You may find that your roles or your organizations fit into multiple participant categories. You'll also notice some strategies, metrics, and ways to participate cross over between goals, reflecting their interconnectedness and the integrated nature of the plan. Feel free to interact with the tables in ways that best suit your unique needs and objectives.

WHO IS RESPONSIBLE?

We all play a role in shaping Virginia’s environmental future by taking action and making informed decisions that support environmental literacy. The Office of Environmental Education at the Virginia Department of Conservation and Recreation will oversee tracking and monitoring the metrics outlined in this plan.

PARTICIPANTS
Administrators (Principals, Superintendents, Curriculum Coordinators)
Business and Industry Partners
Community-based/Non-profit Organizations
Health Care Professionals
Institutes of Higher Education
Networks (Groups of connected people that share information or resources)
Parents, Caregivers, and Community Members
Philanthropy
School and Facility Operations
State and Local Government Agencies
Teachers/Formal Education

How do I define a participant? A participant is any individual or group supporting or seeking to engage in environmental education in Virginia.





“There is a mountain of evidence that suggests Environmental Education is a powerful way to teach students. Over 100 studies found that it provides transformative learning opportunities that bring tremendous results and engage young people in the world around them in meaningful, collaborative ways. There is no doubt that environmental education is one of the most effective ways to instill a passion for learning among students.”

— Dr. Nicole Ardoin
Stanford University Graduate School
of Education and Woods Institute for
the Environment

ENVIRONMENTAL LITERACY

Virginia has a rich history of environmental education efforts, indicated by its commitment as a signatory to the Chesapeake Bay Watershed Agreement. Updates to the agreement have further defined and supported a stronger approach towards equipping Virginia students with the knowledge and skills needed to protect and restore their local environment. This landmark agreement has continued to prioritize environmental literacy and promote individual stewardship as a means to ensure the future well-being of the Chesapeake Bay watershed.

The 2022 Appropriations Act established the current Office of Environmental Education within the Department of Conservation and Recreation. The Act mandates that the office develop and implement the Virginia Strategic Plan for environmental literacy in collaboration with the Virginia Department of Education (VDOE), the Science Museum of Virginia STEM program, and other relevant stakeholders.

Representatives from more than 68 organizations, including business sectors, school systems, educators, tribal nations, and government agencies collaborated through workshops and workgroups to develop Virginia’s K-12 Environmental Literacy Strategic Plan. Refer to the acknowledgments for a comprehensive list of contributors.

The Virginia K-12 Environmental Literacy Strategic Plan is designed to create a statewide, systematic approach to environmental literacy, ensuring that all students in Virginia possess the knowledge and skills necessary for environmental stewardship.

While the statewide environmental literacy plan is not a sole solution, it serves as a pivotal tool for coordinating efforts, fostering partnerships and raising awareness about educational opportunities and resources. Ultimately, the plan seeks to empower educators, families, school systems, state agencies, organizations, and businesses to collectively elevate environmental literacy across the Commonwealth.



FROM PROCESS TO PRODUCT

	ENVIRONMENTAL EDUCATION	ENVIRONMENTAL LITERACY
Definition	A process of teaching individuals about the environment and sustainability through knowledge-building, experiences, and skills development.	The outcome of effective environmental education that individuals know, feel, and can do to make informed decisions and take responsible action.
Focus	Teaching and learning methods (programs, lessons, curricula).	The results of that teaching (knowledge, attitudes, skills, dispositions).
Example	A teacher leads a unit on watersheds with a field trip to a local river.	A student understands how their actions impact watershed health and chooses to reduce pollution through personal and civic actions.
Goal	Provide opportunities to learn about and engage with the environment.	Develop individuals who are ready to think critically, make informed decisions and act.

KNOWLEDGE

Virginia Standards of Learning

Environmental and sustainability concepts

Ecological principles

Environmental issues

Sustainability

Earth's social, cultural, and political systems

Civic participation and action strategies

SKILLS

Communication

Collaboration

Critical thinking

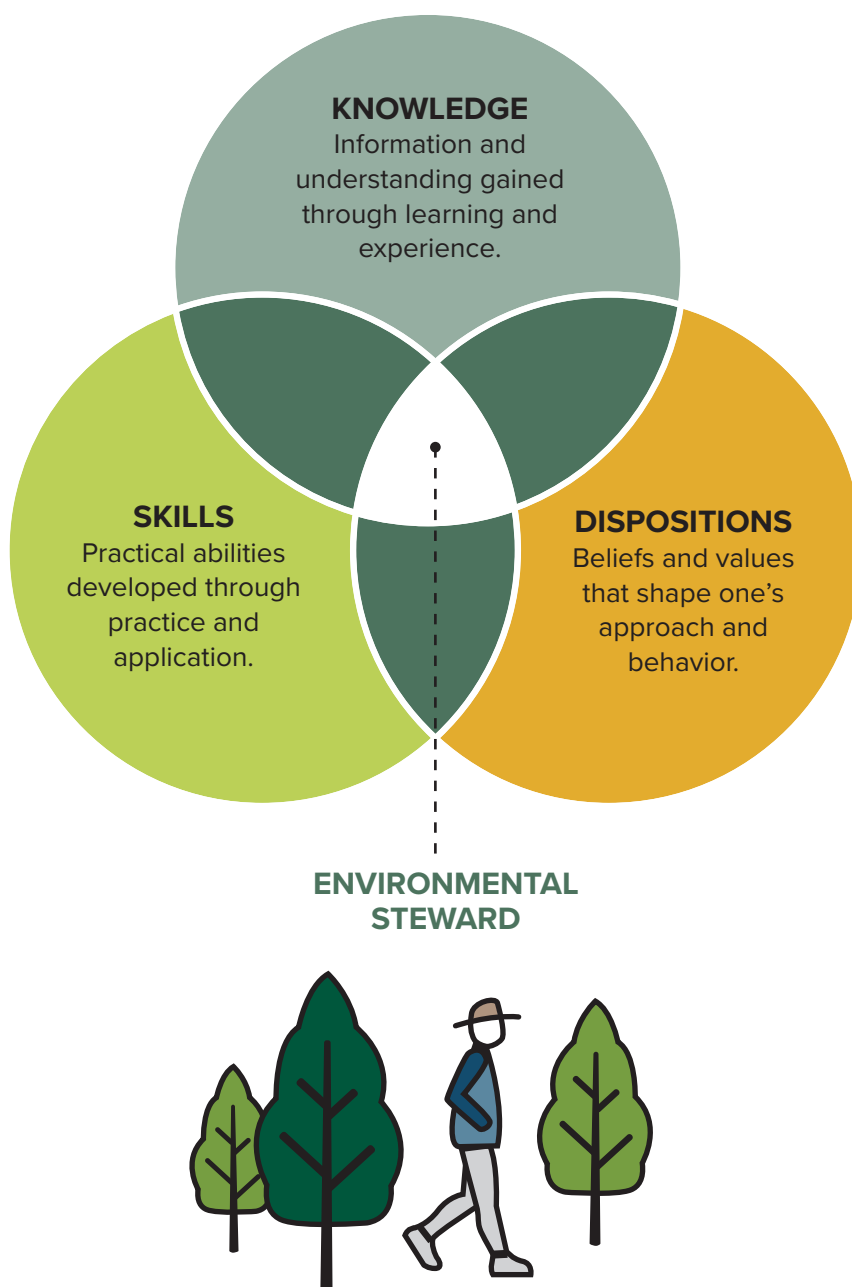
Creative thinking

Civic engagement/responsibility

DISPOSITION

Environmental stewardship emerges at the intersection of diverse perspectives, beliefs and cultural values, highlighting that the path to literacy is as varied as the communities across the Commonwealth. For this reason, specific dispositions are not prescribed, as the journey to environmental literacy is varied, and there is no single correct way to achieve it.

K-12 ENVIRONMENTAL LITERACY FRAMEWORK FOR VIRGINIA



What is environmental literacy?

Environmental literacy is possessing the knowledge, skills, and dispositions necessary to solve problems and resolve issues that sustain ecological, economic, and social stability, both individually and collectively.

The K-12 environmental literacy Framework for Virginia outlined previously builds upon this definition. Incorporating the five C's from the Profile of a Virginia Graduate, the framework highlights that the intersection of these domains—knowledge, skills, and dispositions—is where an environmentally literate steward is found.

Why is environmental literacy important to Virginia?

Environmental literacy is crucial for the state of Virginia as it faces its own unique set of environmental challenges and opportunities. Virginia is home to a rich variety of natural resources and landscapes that play a vital role in supporting economic and social vitality. From the majestic Blue Ridge Mountains to the picturesque Chesapeake Bay, these ecosystems are integral to Virginians' lives, serving as venues for recreation, tourism, agriculture, forestry, and various other activities. Without a knowledgeable and engaged populace, Virginia risks compromising the very ecosystems that support its communities and industries.

Virginia residents benefit from environmental education, which fosters a sense of stewardship and responsibility towards their environment. Environmental literacy promotes a student-centered approach that strengthens a student's emotional, academic, physical, and cognitive well-being by using outdoor learning experiences, career readiness education, outdoor spaces (such as Virginia State Parks), and community engagement. By equipping individuals with the knowledge, skills, and dispositions to understand and address environmental issues, Virginia can cultivate a culture of sustainability. This is pertinent in the face of changing environmental pressures, where adaptation and mitigation strategies are essential for safeguarding Virginia's coastal areas, mountains, agricultural lands, and suburban and urban centers. Environmental literacy is about preserving Virginia's future, ensuring that both present and future generations can thrive in harmony with the state's rich ecosystems.

For more information, visit:
doe.virginia.gov/teaching-learning-assessment/instruction/environmental-literacy.



“Environmental education is vital in engaging not just youth but all Virginians. In a world where so much of what we learn and hear in the news is not easily accessible or tangible, studying the environment around us helps us connect with our immediate surroundings. It is an opportunity to learn about and care for resources we can immediately influence and see their impact. It is an opportunity to practice the skills and content we know in other subjects and become better acquainted with such a rich and diverse setting across the Commonwealth.”

– Chuck English
Independent Consultant
Education and Workforce Development

What are the benefits of environmental literacy?

The benefits of environmental literacy are multifaceted, encompassing educational advancements, enhanced environmental stewardship, increased civic engagement, and improved health and well-being. By fostering a deep understanding of ecological, economic, and social systems, environmental literacy equips individuals with the skills and dispositions necessary to make informed decisions and take responsible actions that benefit the environment and the societies that arise from it.

Educational

Academic Performance: Environmental education’s hands-on interactive approach sparks imagination and enthusiasm. This leads to increased student engagement and creativity, ultimately resulting in improved academic performance across core subjects. (Toth, 2016)

Critical thinking and decision making: Environmental education supports opportunities for students to analyze environmental issues and suggest solutions by developing critical thinking abilities. Students learn to consider the effects of their actions and to make useful decisions. (EuroSchool, 2023)

Verbal communication: Time spent in natural environments can benefit individual communication development and benefit social interactions. (Children & Nature Network, n.d.)

Engagement: Environmental education enhances engagement for all students, especially those with learning disabilities, by incorporating hands-on, experiential lessons that promote collaboration and contextual learning. This approach makes it easier for students with diverse learning styles to grasp complex concepts and participate equally. (Schneller, Schofield, Hollister, & Mamuszka, 2015)

Environmental Stewardship

Green careers: Environmental education has the power to motivate students to pursue careers that make a positive impact on the environment. It can open doors for students to explore a wide range of natural resource careers that work together to preserve a healthy and sustainable environment for everyone. (Colorado Alliance for Environmental Education [CAEE], 2024)

Hands-on actions: Environmental education promotes hands-on activities like tree planting, stream cleanups, schoolyard cleaning, and habitat monitoring to benefit the environment. (Ardoyn and Bowers, 2020)



Sustainability: Environmental education fosters a mindset of sustainability in youth, empowering them to become change agents. It promotes a collective effort towards a more environmentally conscious society through practices such as proper garbage and solid waste management, care of rivers and oceans, and prevention of habitat destruction (Van De Wetering, Leijten, Spitzer, & Thomaes, 2022).

Civic Engagement

Personal responsibility: Through environmental education, students learn how their actions impact the environment and develop the knowledge and skills to address complex issues, ultimately empowering them to take responsible action to promote sustainability and healthy environments. (Toth, 2016)

Drive to tackle community challenges: Environmental education programs enhance community conservation capacity by fostering informed citizenry, boosting participation in conservation efforts and encouraging the formation of local environmental groups. (Ardoin and Bowers, 2020)

Health and Well-being

Mental health: Engaging with nature through environmental education may foster socio-emotional development, including increased self-esteem, reduced stress levels, and improved social skills. It can also mitigate eco-anxiety by providing coping tools, fostering empowerment through action, incorporating emotional and existential dimensions, and encouraging collective efforts towards common goals. (Pihkala, 2020; Sprague, Berrigan, & Ekenga, 2020)

Physical health: Exposure to nature and outdoor activities through environmental education may contribute to better physical health outcomes, such as reduced rates of obesity, increased physical activity levels, and improved overall well-being. (Sprague, Berrigan, & Ekenga, 2020)



How can you contribute to environmental literacy in your community?

One popular tool is a Meaningful Watershed Educational Experience (MWEE).

Have you heard of a MWEE?

The MWEE is a learner-centered framework that focuses on investigations into local environmental issues and leads to informed action. MWEEs are made up of multiple components that include learning both outdoors and in the classroom. They are designed to increase environmental literacy by actively engaging students in building knowledge and meaning through hands-on experiences.

What are the key elements of MWEEs?

MWEEs have four essential elements that engage students in hands-on, inquiry-based learning to build environmental literacy.

- **Issue Definition:** Students investigate an environmental issue by researching, asking questions, and analyzing multiple perspectives to understand root causes.
- **Outdoor Field Experiences:** Students explore their local environment firsthand, collecting data, making observations, and strengthening their connection to nature.
- **Synthesis and Conclusions:** Students reflect on their findings, share insights, and draw evidence-based conclusions to deepen understanding.
- **Environmental Action Projects:** Students design and implement real-world solutions to address environmental issues in their communities.

Watersheds are central to nearly every environmental issue, and because everyone lives in one, MWEEs are perfect for exploring environmental topics like aquatic ecosystems, water quality, climate, and more. Best of all, these investigations don't require a faraway trip; local and state parks, school grounds, and nearby natural areas offer all the learning opportunities you need!



Support the growth of environmental literacy in your community by getting involved in a local MWEE project.

Reach out to the Office of Environmental Education (environmentaleducation@dcr.virginia.gov) to discover MWEE opportunities in your area.

Check out the MWEE guide here: <https://www.noaa.gov/office-education/bwet/resources/mwee-guide>.



VISION:

The vision for Virginia is to cultivate environmentally literate K-12 students who develop a deep appreciation for their environment and emerge as stewards for their communities and beyond.

The following goals support this vision:

Network Cultivation: Foster collaborations among environmental education entities with shared interests to cultivate a sustainable, interconnected network across Virginia.

Educator Support: Provide accessible and interdisciplinary professional learning opportunities in environmental education.

A Student-Centered Approach: Promote a student-centered instructional approach that includes strategies to develop the academic, physical, cognitive, and emotional well-being of students and integrates outdoor learning experiences, career readiness education, and community engagement.

Resource Optimization: Ensure sustainable promotion and optimization of educational resources to achieve meaningful access to environmental education for all students statewide.

“Through environmental education, individuals are equipped with the tools and resources to make informed decisions, promote sustainable practices, and advocate for environmental conservation in their communities and beyond. In essence, environmental education nurtures a generation of environmentally conscious and proactive citizens dedicated to safeguarding the Earth. There is no backup planet. This Earth is our only home.”

— Meg Moberg
Middle School Science Teacher





GOAL 1:

NETWORK CULTIVATION

Goal: Foster collaborations among environmental education entities with shared interests to cultivate a sustainable, interconnected network across Virginia.

Strategies

- Enhance the Virginia Environmental Literacy Network (VEN) to coordinate and cultivate statewide and local environmental education networks for sustained local engagement.
- Establish regional hubs aligned with the eight K-12 superintendent regions.
- Encourage and support schools and divisions in developing and implementing environmental literacy plans by connecting them with necessary resources and expertise.
- Analyze current communication channels and develop a plan to improve interconnectedness.
- Integrate with current initiatives by aligning regional hubs with environmental education programs, networks, resources, partnerships, and the statewide Standards of Learning (SOL) to maximize impact.
- Raise awareness about the importance of environmental education and the role of regional hubs through outreach.

State Metrics:

- Establish eight regional Virginia Environmental Literacy Network hubs aligned with the Virginia K-12 superintendent regions.
- Increase the number of environmental education programs, networks, and partnerships integrated into regional hubs.
- Increase the number of public school divisions adopting and implementing environmental literacy plans.



Learn more about regional hubs and get involved in Virginia's Environmental Literacy Network at www.vaelitnetwork.org

GOAL 1: NETWORK CULTIVATION

PARTICIPANTS	WAYS TO PARTICIPATE
Administrators (Principals, Superintendents, Curriculum Coordinators)	Serve on the leadership committee of a regional network (such as VEN) to provide guidance and direction.
	Encourage teachers within their divisions to actively participate in network activities and initiatives.
	Facilitate partnerships with other schools, community organizations, and businesses to expand the reach of the network.
Business and Industry Partners	Offer financial support or sponsorships for network events, conferences, or initiatives.
	Collaborate with schools to develop real-world projects or initiatives that address environmental challenges in local communities.
Community-based Organizations	Serve as members of community-based organizations. Share learning opportunities and lessons learned with other network members to enhance collective impact.
	Collaborate with schools to organize community events or projects that promote environmental awareness and stewardship.
Health Care Professionals	Participate in network events or initiatives aimed at promoting environmental education in schools and communities.
	Support students and teachers involved in network activities by supporting health-related environmental education initiatives.
	Serve as volunteers or mentors for environmental education programs or projects.
Institutes of Higher Education	Connect educators to networks and resources they need to advance environmental literacy and outdoor learning in their schools.
	Provide access to resources such as guest speakers, field trips, or research facilities to enrich the learning experiences of network participants.
Networks	Serve as key partners in the statewide network, facilitating collaboration and knowledge-sharing among participants.
	Foster connections and partnerships between different sectors and organizations within the network to maximize impact.



PARTICIPANTS	WAYS TO PARTICIPATE
Parents, Caregivers, and Community Members	Participate in and support network events or initiatives aimed at promoting environmental education in schools and communities.
Philanthropy	Provide funding (such as gifts or grants) to support network activities, projects, or initiatives.
	Invest in capacity-building efforts aimed at strengthening the infrastructure of environmental literacy-based networks.
School and Facility Operations	Join local environmental literacy networks to exchange best practices tailored to the particular needs of communities and promote sustainability within school facilities.
	Participate in workshops on environmental sustainability and education tailored to these roles and consider network collaborations to support implementation of environmentally friendly practices (such as proper waste disposal or recycling.)
State and Local Government Agencies	Mobilize funding or resources to support network activities and environmental literacy programs.
	Serve as liaisons between the network and other government agencies or organizations to facilitate collaboration and coordination.
Teachers/Formal Education	Actively participate in network events, workshops, and professional learning opportunities.
	Share evidence based best practices and resources (that align with SOL) with other teachers within the network.



GOAL 2:

EDUCATOR SUPPORT

Goal: Provide accessible and interdisciplinary professional learning opportunities in environmental education.

Strategies:

- Create customizable pathways for educators, allowing them to continually enhance their skills and tailor strategies to specific areas of focus.
- Adopt evidence-based practices for K-12 teachers and educational partners to guide outdoor learning experiences. This includes field practices, classroom management, and Meaningful Watershed Education Experiences (MWEs).
- Partner with institutes of higher education to prepare pre-service and in-service teachers for environmental education by assessing current efforts in Virginia universities and determining their capacity for and interest in environmental education.
- Promote the implementation of systemic K-12 professional learning aligned with Virginia's SOL and supporting environmental literacy goals, offering training for both formal and nonformal educators to connect with SOL and divisions' needs.
- Establish connections between school divisions and local environmental education providers to ensure access to professional learning opportunities for teachers and educational partners.

State Metrics:

- Increase the participation rate of educators enrolling in the Virginia Environmental Education Certification program.
- Increase available environmental education professional development opportunities for Virginia educators.
- Support and utilize the opportunity to implement Environmental Education into content areas other than science, such as history, the arts, and language arts.

PARTICIPANTS	WAYS TO PARTICIPATE
Administrators (Principals, Superintendents, Curriculum Coordinators)	Improve access to professional learning and encourage teachers to actively participate in professional learning opportunities focused on environmental literacy.
	Request the addition of professional learning within strategic planning to ensure cross-curricular opportunities and outdoor field experiences to support the Virginia SOL.
Business and Industry Partners	Support community organizations to enable them to furnish teachers with the resources and training required to enhance environmental literacy within their schools and localities.
	Collaborate with community organizations and schools to offer tours and field experiences, equipping teachers with the expertise to develop workforce-oriented lessons that prepare students for Virginia's job market.
Community-based Organizations (Informal Environmental Education Providers)	Offer environmental education programs and resources to schools and educators, focusing on student ownership through hands-on learning experiences and outdoor education opportunities.
	Share expertise and resources with educators to enhance environmental education efforts and promote environmental literacy and the environmental education SOL.
Health Care Professionals	Provide insights on public health and environmental health issues to inform the development of environmental education initiatives and curricula.
	Participate in professional learning events or workshops focused on integrating health-related topics into environmental education programs.
	Collaborate with educators to develop interdisciplinary projects or initiatives that explore the connections between health, the environment, and human well-being.

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GOAL 2: EDUCATOR SUPPORT

PARTICIPANTS	WAYS TO PARTICIPATE
Institutes of Higher Education	Provide access to resources such as guest speakers, field trips, or research facilities to enrich the learning experiences of educators and students.
	Train pre-service and in-service teachers and school leaders in the use of outdoor classrooms to gain firsthand experience in using these spaces as instructional locations.
	Research the impact of outdoor and environmental learning on Virginia's youth and teacher efficacy.
Networks	Publicly acknowledge outstanding achievements in environmental literacy within schools and communities and celebrate success stories to inspire innovation statewide.
	Push for increased resources to support nature-based and outdoor learning.
	Facilitate collaboration and partnerships between different organizations and individuals to enhance the impact and reach of environmental education efforts across Virginia.
Parents, Caregivers, and Community Members	Participate and support educators in school and community events aimed at promoting environmental education and literacy.
	Make requests for the support of outdoor and environmental education opportunities within school settings by engaging with the school board, administration, and educators in their efforts to incorporate outdoor learning experiences into curricula.
Philanthropy	Provide financial or other support for innovative projects, initiatives or professional learning opportunities that have the potential to scale up and have a broader impact on promoting environmental literacy among K-12 students.
	Invest in capacity-building efforts aimed at strengthening the infrastructure and resources available for environmental education in Virginia.



PARTICIPANTS	WAYS TO PARTICIPATE
School and Facility Operations	Involve teachers in sustainability projects such as community gardens, recycling programs, or initiatives to reduce plastic waste. Empower them to take leadership roles in promoting sustainability within the school community.
	Organize and/or lead training sessions that focus on sustainable practices to enhance outdoor learning experiences, both on- or off-site, such as MWEs.
State and Local Government Agencies	Provide leadership and guidance in the development and implementation of policies and initiatives that promote environmental education and K-12 environmental literacy.
	Collaborate with schools and educators to help fund outdoor and environmental learning opportunities to foster experiences both on school premises and within the broader community.
Teachers/Formal Education	Actively participate in professional learning opportunities, workshops, and conferences focused on environmental education across grade levels and content areas.
	Implement interdisciplinary projects, aligned to the Virginia SOL that integrate environmental education concepts and promote environmental literacy among students.
	Collaborate with other educators, community members and organizations to promote the development and implementation of effective strategies for environmental literacy in Virginia's K-12 education system.



GOAL 3:

A STUDENT-CENTERED APPROACH

Goal: Promote a student-centered instructional approach that includes strategies to develop the academic, physical, cognitive, and emotional well-being of students and integrates outdoor learning experiences, career readiness education, and community engagement.

Strategies:

- Encourage environmental career exploration for students by connecting nonformal educators and Career and Technical Education (CTE) providers.
- Utilize MWEs to create opportunities for exploring green career pathways.
- Integrate environmental literacy across all subjects for a multi-faceted understanding of environmental issues.
- Facilitate and expand access to hands-on learning experiences such as internships, field trips, outdoor activities, and projects to deepen students' connection to nature and real-world challenges and career opportunities.
- Use outdoor learning opportunities to support students' physical, cognitive, and emotional well-being to create a positive and supportive learning environment.
- Encourage students to develop a strong environmental identity by fostering personal connections to nature, community, and sustainability through self-reflection, hands-on experiences, and storytelling.

State Metrics:

- Evaluate student responses to outdoor learning opportunities, including MWEs, using surveys to assess the impact of environmental education on student attitude and perspective related to environmental stewardship and advocacy.
- Promote the integration of career pathways, highlights, and exemplary student-centered activities through existing or new professional learning initiatives.

- Facilitate focus groups with students and educators to explore the influence of outdoor learning experiences and career exploration opportunities.

PARTICIPANTS	WAYS TO PARTICIPATE
Administrators (Principals, Superintendents, Curriculum Coordinators)	Allocate resources for integration of green career pathways across disciplines.
	Prioritize outdoor time in the school day for the mental and physical health and well-being of students and staff.
	Support professional learning opportunities for teachers on interdisciplinary education and holistic teaching practices.
Business and Industry Partners	Develop avenues for youth interested in pursuing careers in environmental fields, outdoor recreation, or natural resource-based professions to access job training, paid internships, or summer work experiences.
	Assist schools and community partners in creating, constructing, and maintaining sustainable structures for youth education.
	Provide funding, resources, and expertise for hands-on learning projects related to industry needs.
Community-based Organizations (Informal Environmental Education Providers)	Partner with schools to offer community service projects and volunteer opportunities for students, highlighting green career pathways.
	Provide resources and support for hands-on learning experiences such as outdoor activities and field trips.
	Engage students in community events and initiatives to foster social awareness and responsibility.
Health Care Professionals	Support health education initiatives within schools to promote physical and emotional well-being.
	Offer resources and expertise for mindfulness programs and stress management techniques.
	Collaborate with schools on wellness initiatives and provide access to health-care services for students.

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GOAL 3: A STUDENT-CENTERED APPROACH



PARTICIPANTS	WAYS TO PARTICIPATE
Institutes of Higher Education	Partner with K-12 schools to offer mentorship programs, college preparation support, and career guidance aligned to career clusters used by Virginia educators.
	Create pathways for high school students to be exposed to the training and requirements for entering green career opportunities.
Networks	Bring together the heads of teacher preparation programs at Virginia's universities, community colleges, and private colleges to review certification coursework mandates and teaching methodologies. Equip Virginia's aspiring educators with the necessary knowledge and skills to develop interdisciplinary, whole-student approach to environmental literacy in classrooms.
	Endorse policies and funding to support whole student empowerment initiatives at the state and local levels.
Parents, Caregivers, and Community Members	Encourage children to explore the outdoors by visiting local and state parks. Check parks, libraries, and community centers for available programs and activities.
	Support interdisciplinary education and advocate for resources and opportunities to enhance students' academic, emotional, and physical well-being.

PARTICIPANTS	WAYS TO PARTICIPATE
Philanthropy	Support partnerships between schools, businesses, and community organizations to maximize impact and reach.
	Provide funding and resources for hands-on learning experiences, community engagement initiatives, and wellness programs.
School and Facility Operations	Recommend the development, maintenance, and usage of outdoor learning spaces (such as school yards, courtyards, or gardens.)
	Establish partnerships with local organizations and businesses to provide students with opportunities for community service, mentorship, and environmental career exploration, fostering a sense of civic responsibility and social awareness.
	Provide leadership and guidance in developing and implementing policies and initiatives that integrate sustainability practices into areas of operation. Examples include advocating for energy-efficient facilities, implementing recycling programs, and incorporating outdoor learning environments that emphasize ecological stewardship.
State and Local Government Agencies	Provide technical expertise and financial support to help schools implement effective strategies and programs that highlight green career pathways offered at agencies.
	Encourage outdoor activities for students by providing outdoor spaces and develop the policies, guidelines, and programmatic offerings that enhance student well-being.
Teachers/Formal Education	Implement interdisciplinary teaching methods and hands-on learning experiences in the classroom and use the school grounds and building as a living laboratory for learning, promoting healthy lifestyles through outdoor engagement.
	Foster partnerships with community organizations and businesses to enhance students' real-world learning opportunities.
	Support students' development by integrating social-emotional learning and wellness into the classroom.



What do we mean by resource? The key characteristic of a resource is its capacity to be used in some way to create value or provide utility. They can be both tangible as in programming, funding, or equipment, or intangible such as partnerships, skills, and expertise.

GOAL 4:

RESOURCES

Goal: Ensure sustainable promotion and optimization of resources to achieve meaningful access to environmental education for all students statewide.

Strategies:

- Create an operational GIS map of Virginia, named the Interactive Source for Environmental Education in Virginia (iSEE VA), to map environmental education providers statewide.
- Conduct a resource identification and mapping assessment to locate and map environmental education resources across Virginia.
- Complete a needs assessment using existing and new data to identify areas with limited access to environmental education.
- Develop resources to bridge gaps between schools, educators, community partners, programs, and outdoor spaces for efficient programming.
- Create a resource to raise awareness of funding opportunities for all educators.
- Align existing resources with the Virginia Standards of Learning to support utilization.
- Foster collaboration in data collection efforts.

State Metrics:

- Increase enrollment of environmental education providers in the Interactive Source for Environmental Education in Virginia.
- Increase knowledge among Virginia educators of grant funding opportunities that can support student environmental education experiences.
- Increase knowledge among school divisions of funding opportunities to support Environmental Literacy Strategic Plan development.

PARTICIPANTS	WAYS TO PARTICIPATE
Administrators (Principals, Superintendents, Curriculum Coordinators)	Allocate resources based on needs assessment results to ensure access to outdoor learning classrooms.
	Ensure that budgets and school safety protocols incorporate provisions for staff assistance and necessary equipment to facilitate secure outdoor learning activities.
	Facilitate partnerships with local businesses and community organizations to expand resources and opportunities.
Business and Industry Partners	Offer mentorship or internship opportunities for students interested in environmental career pathways.
	Partner with schools to support green school yard design, construction, and maintenance.
	Provide financial and in-kind resources for environmental education programs in underserved communities.
Community-based Organizations (Informal EE Providers)	Partner with schools to provide environmental education resources and programs.
	Urge for funding and support to increase resource availability.
	Engage parents and caregivers in career exploration activities, providing them with resources and guidance to help children explore environmental career pathways.
Health Care Professionals	Partner with schools to promote environmental health initiatives.
	Offer expertise in health-related environmental education topics and insights on the relationship between environmental factors and public health.
	Collaborate with schools to organize health-focused environmental projects, fostering hands-on learning experiences for students, and promote environmental career pathways.

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GOAL 4: RESOURCES

PARTICIPANTS	WAYS TO PARTICIPATE
Institutes of Higher Education	Develop environmental career pathway programs, offering students clear academic tracks with industry connections.
	Support educators in gaining skills for data collection and how to use outdoor learning equipment safely and manage outdoor classrooms effectively.
	Forge strategic partnerships with K-12 schools to provide mentorship, resources, and training opportunities for educators in environmental education.
Networks	Promote policies and funding to support environmental education initiatives statewide.
	Establish a platform for identifying and sharing local environmental education resources within the network's area of influence, enabling schools and organizations to access relevant materials and programs effectively.
Parents, Caregivers, and Community Members	Fundraise and champion, with Parent Teacher Organizations, for access to resources and opportunities and the supplies needed to support environmental learning in and on school grounds.
Philanthropy	Award funds for environmental education programs, initiatives, and assessments of environmental literacy resources so all youth have equal access to quality environmental and outdoor learning experiences.
	Promote and support the preservation and creation of outdoor spaces.
School and Facility Operations	Incorporate environmental education into facility management practices, such as waste reduction and energy conservation programs.
	Implement sustainable building and renovation practices, such as using eco-friendly materials and energy-efficient systems, to create more environmentally conscious learning environments, promoting buildings and physical spaces as valuable educational resources themselves.

PARTICIPANTS	WAYS TO PARTICIPATE
State and Local Government Agencies	Develop initiatives and resources that prioritize and integrate environmental literacy, ensuring alignment with each agency's objectives and commitment to environmental stewardship and education.
	Share information and opportunities about funding options from local, state, and federal sources to help schools and community groups get the resources and staff they need to improve environmental education.
	Distribute environmental education resources based on needs assessment results.
Teachers/Formal Education	Use tools and resources provided by community partners and networks to enhance environmental education programming.
	Participate in joint learning experiences with businesses and industries to introduce students to environmental career pathways.



Find resources near you,
or list your organization as a
resource on Virginia's Source
for Environmental Education
at [www.dcr.virginia.gov/
environmental-education](http://www.dcr.virginia.gov/environmental-education)



CONCLUSION

This initial three-year plan represents the Commonwealth's commitment to enhancing environmental education statewide, recognizing the opportunity for ongoing development. It is both visionary and feasible. The objective is to provide guidance for the enhancement of environmental education across the state. The effective implementation of this plan will foster increased environmental literacy among all K-12 students, thus safeguarding the long-term health and prosperity of Virginia's cherished landscapes and its residents.

Virginia's environmental literacy plan relies on the active support and engagement of Commonwealth residents. Following its publication, DCR will concentrate on distributing and promoting the plan through outreach efforts to organizations and school divisions. Strategies to socialize the plan include partnering with schools and districts, establishing advisory committees for ongoing feedback, disseminating updates via email newsletters, ensuring multilingual accessibility, and maintaining the Isee VA interactive website. DCR will model the plan's implementation, striving to achieve its goals and encouraging widespread participation. The plan's sustainability hinges on active participation, including the annual measurement of outlined metrics and a comprehensive third year review. Following the initial three years of data collection, the plan will be updated and may move to a five-year cycle. Through these initiatives, Virginia aims to foster a collaborative approach to environmental education statewide.

“The peer-reviewed literature from the last decade-plus demonstrates that good environmental education programs can positively influence students’ academic performance, knowledge, skills, confidence, motivation, and behavior.”

— Dr. Marc Stern
Virginia Tech University
School of Forest Resources and
Environmental Conservation



ACKNOWLEDGMENTS

We recognize and express our gratitude to the numerous organizations and individuals whose invaluable contributions have shaped the ideas, goals, and strategies presented herein. Thank you for your dedication and collaboration.

Alliance for the Chesapeake Bay
Blandy Experiential Farm
Blue Sky Fund
Boxerwood Education Association
Chesapeake Bay Commission
Chesapeake Bay Foundation
City of Richmond, James River Park System
Clinch River Valley Initiative
CodeVA
Collaborative Teaching and Learning Group Consulting LLC
Dinwiddie County Public Schools
Eastern Woodland Revitalization
Elizabeth River Project
Franklin County Public Schools
Friends of the Rappahannock
Hanover County Public Schools
Hanover-Caroline Soil and Water Conservation District
Hero Kids Foundation
James River Association
James River Soil and Water Conservation District
JASON Learning
Learning for All
Local Concepts LLC
Laurel Ridge Community College
Lynnhaven River NOW
The Mariners' Museum and Park
Massanutten Regional Governor's School
Mattaponi Future Fund
Mattaponi Tribe
Maymont Foundation

NASA Langley Research Center (ADNET)
National Institute of Aerospace
National Park Service
NatureBridge
Explore Nature By Nurture
New College Institute
National Oceanic and Atmospheric Administration Chesapeake Bay Office
North American Association for Environmental Education
Old Dominion University, The Center for Educational Partnerships
Pamunkey Indian Tribe
Prince William Soil and Water Conservation District
Rockingham County Public Schools
Science Museum of Virginia
Science Museum of Western Virginia
Tennessee River Basin Network
The Mariners' Museum and Park
The Virginia Commission for the Arts
University of Virginia, State Arboretum of Virginia
Virginia Association for Environmental Education
Virginia Association of Science Teachers
Virginia Association of Soil and Water Conservation Districts
Virginia Department of Conservation and Recreation, Virginia State Parks
Virginia Department of Education
Virginia Department of Forestry
Virginia Department of Wildlife Resources
Virginia Environmental Justice Collaborative
Virginia Institute of Marine Science
Virginia Interfaith Power & Light
Virginia Living Museum
Virginia Resource-Use Education Council
Virginia Science Education Leadership Association
Virginia Sea Grant
Virginia Tech
Washington County Public Schools
William & Mary





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