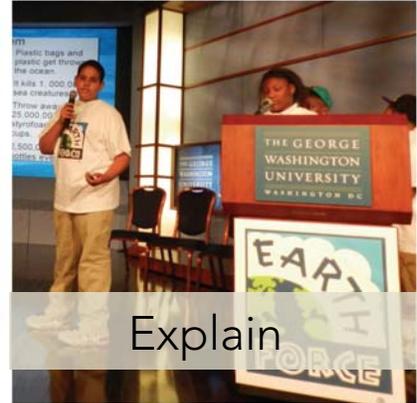


Environmental Literacy Framework

for the District of Columbia

Environmental literacy is the development of knowledge, attitudes, and skills necessary to make informed decisions concerning the relationships between natural and urban systems.



An environmentally literate person:

- can discuss and describe ecological and environmental systems and human impacts on these systems;
- engages in hands-on, outdoor learning experiences that involve discovery, inquiry, and problem solving;
- is able to question and analyze information pertaining to his or her surrounding environment; and
- has the capacity to take actions that respect, restore, protect, and sustain the health and well-being of human communities and environmental systems.

The Environmental Literacy Framework is a guide for schools that identifies the knowledge and skills District students need to become environmentally literate. The framework is outlined by **grade level** (Pre-K–Grade 8) or **science subject area** (high school) and aligned with the **Next Generation Science Standards (NGSS) Performance Expectations**. Included are **environmental contexts for learning** and **guiding questions** designed to scaffold content appropriate to each grade level. Based on themes taken from the Sustainable DC Plan, **sustainability initiatives** provide starting points for in-depth investigations and suggestions for extending learning beyond the classroom.

Grade Level	NGSS Performance Expectations	Environmental Contexts for Learning: Guiding Questions	Sustainability Initiatives
Pre-K	See the District of Columbia’s Early Learning Standard 5.0: Scientific Inquiry*	The World Around Us: How can we use our five senses to learn about the environment?	Nature: Extend your classroom into the schoolyard.
K	K-PS3-1, K-PS3-2. K-LS1-1. K-ESS2-2, K-ESS3-1, K-ESS2-1, K-ESS3-2.	Living Things: What do plants and animals need to survive?	Nature/Food: Visit an urban garden or farm.
1	1-LS1-1, 1-LS3-1. 1-ESS1-1, 1-ESS1-2.	Patterns and Growth: How do plants and animals change over the course of their lives? How do natural patterns affect living things?	Nature: Visit a zoo/aquarium.
2	2-PS2-1, 2-PS2-2. 2-LS2-1, 2-LS2-2, 2-LS4-1. 2-ESS2-1, 2-ESS2-2, 2-ESS2-3.	Changing Landscapes: How do plants and animals support each other in our community? What forces change our local landscape?	Water: Explore a local waterway. Built Environment: Survey your neighborhood.
3	3-LS2-1, 3-LS3-2. 3-LS-4. 3-ESS2-1, 3-ESS2-2, 3-ESS3-1.	Environmental Changes and Adaptations: How have local changes in climate affected the environment? How do living things adapt to changes in the environment?	Nature: Travel to a rural farm. Waste: Tour a recycling center or landfill.
4	4-PS3-2, 4-PS3-4. 4-ESS3-1, 4-ESS3-2. 4-LS1-1, 4-LS1-2. 4-ESS1-1, 4-ESS2-1.	Earth’s Resources: How do humans use natural resources? What processes influence the Earth’s physical features?	Waste: Conduct a cafeteria waste audit. Transportation: Organize a walk/bike to school day.
5	5-PS3-1. 5-LS1-1, 5-LS2-1. 5-ESS2-1.	Web of Life: We are what we eat; how does energy cycle through the food web? How do the four spheres of the Earth’s systems interact?	Food/Water/Nature: Engage in an overnight Meaningful Watershed Educational Experience.

*NGSS does not include standards for Pre-K.

Grade Level	NGSS Performance Expectations	Environmental Contexts for Learning: Guiding Questions	Sustainability Initiatives
6	MS-ESS3-1, MS-ESS3-2, MS-ESS3-3, MS-ESS3-4, MS-ESS3-5.	Earth and Human Activity: What are the consequences of human activity on air, land, and water over time?	Nature/Water: Improve local watershed health by reducing stormwater runoff at your school.
7	MS-LS2-1, MS-LS2-2, MS-LS2-3, MS-LS2-4, MS-LS2-5.	Exploring Solutions: How can we creatively address the environmental consequences of human activity?	Built Environment: Tour a green infrastructure site. Energy: Conduct a school-wide energy audit. Food: Design a personal healthy-eating goal.
8	M5-PS3-1, M5-PS3-2, M5-PS3-3, M5-PS3-4, M5-PS3-5.	Earth Works: How do the choices you make affect the environment?	Waste/Energy: Analyze your carbon footprint and create a personal action plan to reduce it.

High School Science Subject Area	NGSS Performance Expectations	Environmental Contexts for Learning: Guiding Questions	Sustainability Initiatives
Earth Science	HS-ESS2-2, HS-ESS2-4, HS-ETS1-1.	Our Changing Planet: How do changes in climate occur, and how do they impact Earth's systems?	Waste/Transportation: Research the ways current transportation and waste systems impact climate.
Biology	HS-LS1-5, HS-LS1-7, HS-LS2-1, HS-LS2-2, HS-LS2-7, HS-ETS1-2.	Designing and Evaluating Solutions: How can humans reduce their environmental footprint?	Nature/Food: Design and evaluate a nutrition plan for a healthy adult that supports a sustainable local food system.
Chemistry	HS-PS1-2, HS-PS3-3, HS-ESS2-2, HS-ESS2-5, HS-ESS2-6, HS-ETS1-3.	Collect and Analyze Data: What can a cross section of environmental data tell us about the health of the District?	Nature/Water: Conduct water-, soil-, and air-quality tests in the District.
Physics	HS-PS3-3, HS-PS3-4, HS-ETS1-4.	Alternative Energy: What innovations will help meet future energy needs?	Energy/Built Environment: Compare the efficiency of existing power systems and design a carbon-neutral energy producer.

The DC Healthy Schools Act of 2010 recognizes that the environment plays a central role in supporting learning outcomes and maintaining life-long, healthy behaviors. The Act called for the development of the DC Environmental Literacy Plan, a road map that lays the foundation for District-wide implementation and integration of environmental and sustainability education into the K-12 curriculum.

Informed by experienced District teachers, the Environmental Literacy Framework is the next step towards the implementation of the Environmental Literacy Plan. By providing place-based applications to science content, students will have a better understanding of the relevant health, economic, and environmental concerns of the local and global community and will be prepared for the opportunities and challenges of the 21st century.

The DC Environmental Literacy Plan and Framework are also the local components for regional and national environmental literacy efforts, such as the Chesapeake Bay Agreement and the No Child Left Inside Act of 2013. Additionally, these efforts complement the Sustainable DC Plan of 2013, which includes the goal of ensuring that all school-age children in the District are educated in sustainability and prepared for a changing green economy.



“Today’s children will one day be responsible for making decisions that will shape the future health of the environment. To prepare them for such responsibilities, they need a sound environmental education as a foundation upon which to make those decisions.”

- Deborah Mitchell, senior editor for Environmental Protection

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DISTRICT DEPARTMENT OF THE ENVIRONMENT



ANACOSTIA WATERSHED SOCIETY

