



ENVIRONMENTAL EDUCATION

At WAWA, we believe in the power of PLAY! We have developed our pedagogy to link STEAM subject matter to five principles of learning; the power of play, place-based learning, cultural relevance, inquiry instruction, and social constructivism. There are several ways you can get involved in WAWA's environmental education programs.

OUR EE PEDAGOGY



FOUNDATION: STEAM SUBJECT MATTER

POWER OF PLAY

In a world where everyday activities like running can be a risk for Black communities, WAWA prioritizes our sites as safe spaces for youth to be wild and curious. Our environmental education engages the senses and encourages play-based learning. (See Reggio Emilia Approach, Kindergarten in the Forest)

PLACE-BASED LEARNING

Our work has always centered on the urban environment and our surrounding watersheds (Proctor, Utoy, and Sandy Creeks). We use our local ecosystem as a backdrop to conveniently connect youth to the environment around them and to make their appreciation for the outdoors accessible in proximity. (See The Nature School)

CULTURAL RELEVANCE

As an organization that advocates for environmental justice, we situate our education programs in Black history, indigenous knowledge, and "ecological unity and the interdependence of all species". We also infuse Afro-Futurism into our programming to invite people to think beyond their circumstances and envision the life they deserve. (See 17 Principles of EJ, Developmental Psychology of the Black Child)

INQUIRY INSTRUCTION

We encourage self-directed learning and activities that probe youth to teach themselves, problem solve, and maintain awareness. This principle is rooted in self-determination/actualization, and the belief that we must care for ourselves first in order to take care of the world around us. (See Pedagogy of the Oppressed)

SOCIAL CONSTRUCTIVISM

Whether it is the educators at WAWA or elders, youth's knowledge is constructed through their relationships with others. We are an ecosystem and each input impacts the other whether it's classroom peers or a community elder, we all construct our learning with influence from the people within our ecosystem. (See The Whole-Brain Child)



OUR CURRICULUM

GA STANDARDS OF EXCELLENCE Grade (Unit)

FOREST SUCCESSION

Youth will hike through the old-growth forest to understand the process of forest succession. We will note different types of plants that signal the stages of forest growth from pioneer communities to climax communities.

2 (Changes to the Environment from pioneer communities to climax) **4** (Ecosystems) **5** (Constructive and Destructive Forces) **6** (Earth's Changing Landscape)

FOREST SENSORY

Youth will get to know the forest through their five senses. Youth will walk through the old-growth forest collecting experiences and items observed through the five senses.

K (Attributes of Matter)

FOREST SCAVENGER HUNT

Youth will get to know the old-growth forest and learn the features of the Piedmont Region with an educational hike. We will discuss the geographical changes to the area over time, understand the changes of living species in the forest, and note risks to the forest due to human impact. Youth will search for common features in the forest and check them off the list as they are witnessed.

K (Attributes of Matter, Organisms and Nonliving Objects), **3** (Plants, Animals and Habitats in GA Northern Regions), **4** (Ecosystems) **5** (Constructive and Destructive Forces)

BEARS IN THE FOREST*/ TREE NEEDS

Youth will consider the needs of living things, specifically, we will look at trees or bears. The exercise will emphasize the four main resource needs including water, sunlight, nutrients, and air. Throughout the exercise, we will explore reasons why particular species are unable to capture all of the resources.

1 (Plants, Animals) **4** (Ecosystems)

THE INCREDIBLE JOURNEY* (WATER CYCLE)

Youth will understand the primary functions of the water cycle including evaporation, condensation, transpiration, absorption, precipitation. We will role-play as a drop of water and travel through various locations and consider how we moved from one place to another. The group will discuss ways the water cycle is challenged by human activity and/or other barriers.

2 (Changes to the Environment) **3** (Plants, Animals and Habitats in GA Northern Regions) **4** (Water Cycle and Weather) **6** (Water in Earth's Processes, Climate and Weather)

WATER QUALITY

Youth will be acclimated with the Outdoor Activity Center (OAC) and the Utoy Creek watershed. During this program, youth will complete a field study of the OAC observing weather metrics, water quality, elevation, weathering and biodiversity. Students will consider their observations and determine a question they'd like to answer about the study location.

HS (Chemistry & Earth Systems)

SOIL TYPES

This program will be an opportunity for the youth to use their senses to play with the three main soil types: sand, silt, and clay. We will learn about the difference between the three soils types by looking at particle sizes, texture, adhesive ability, and characteristics when combined with water.

K (Earth Materials), **3** (Plants, Animals and Habitats in GA Northern Regions, Rocks and Soil) **5** (Physical and Chemical Changes) **HS** (Geology)



TYPES OF ROCKS

We will have a SMASHING time learning about the three types of rocks including metamorphic, igneous, and sedimentary rocks. Youth will learn the attributes of each rock type including texture, patterns, Mohs hardness scale, and the processes that create rocks. We will discuss the difference between a rock and a mineral.

K (Earth Materials) **3** (Rocks and Soil) **6** (Earth's Changing Landscape) **HS** (Geology) **HS** (Earth Systems)

PIEDMONT-REGION NATIVE SPECIES

Youth will learn about native species that are a critical component of the Piedmont Region of Georgia. This exploration will include a look at both native vegetation, animals, and insects within the old-growth forest. Youth will discuss the risks of non-native species in an ecological system.

K (Plants and Animals) **3** (Plants, Animals and Habitats in GA Northern Regions) **5** (Classification & Inheritance and Variation of Traits) **7** (Interdependent Relationships in Ecosystems)

PIEDMONT-REGION LAND FEATURES

Youth will observe the land features at the OAC to identify indicators of important geological events that shaped the land. This discussion will cover weathering and erosion, tectonic events, sea-level change, and climatic change in Georgia over geological time. The youth will discuss what makes Georgia's Piedmont Region unique and beneficial.

5 (Constructive and Destructive Forces) **5** (Classification & Inheritance and Variation of Traits) **6** (Earth's Changing Landscape) **7** (Interdependent Relationships in Ecosystems) **HS** (Geology)

PIEDMONT-REGION INDIGENOUS PEOPLE**

Youth will travel back in time and learn about the Muscogee/Creek Natives, the indigenous people of the Piedmont Region. Youth will learn about the native peoples' culture and customs and discuss the nuances of colonization in North America.

BIODIVERSITY

Youth will be introduced to the concept of biodiversity and recognize the biodiversity in the forest area around them. They will be able to identify various species and classify them as native, non-native, endemic, endangered, invasive, indicator, and keystone species to Georgia's Piedmont Region.

7 (Stability and Change in Living Systems, Which Food Would You Choose?, Patterns in Living Systems) **HS** (Biology & Environmental Science)

TREE ID

Using our tree identification guide, youth will be able to recognize and identify the most common trees in the old-growth forest by both their common and scientific names.

3 (Plants, Animals and Habitats in GA Northern Regions)

PHOTOSYNTHESIS/ ENERGY EXCHANGE

Youth will discuss information about the roles of organisms and the flow of energy within an ecosystem. They will predict energy transfers throughout an ecosystem, such as food chains, food webs, and trophic levels. High school leveled youth will investigate the roles of photosynthesis and cellular respiration in the cycling of matter and flow of energy.

5 (Electricity) **6** (Human Energy Needs) **8** (Interactions of Energy and Matter) **7** (Stability and Change in Living Systems, Which Food Would You Choose?) **8** (Interactions of Energy and Matter) **HS** (Biology, Environmental Science, Physical Science)



CLIMATE CHANGE & ME

Youth will gain a basic knowledge and understanding about Earth's climate, impacts of climate change, and approaches to adaptation/mitigation.

3 (Pollution and Human Impact) **6** (Water in Earth's Processes, Human Energy Needs) **8** (Structure and Properties of Matter) **HS** (Physical Science, Geology, Earth Systems, Environmental Science)

CARBON CYCLE

Youth will look at the impact of human activity on the climate as we explore the Greenhouse Gas Effect. Youth will explore the movement of energy through biospheres and witness a model of the greenhouse gas effect by observing two 'earth' scenarios.

6 (Climate and Weather, Human Energy Needs) **7** (Stability and Change in Living Systems, Which Food Would You Choose?) **8** (Structure and Properties of Matter, Interactions of Energy and Matter) **HS** (Physical Science, Earth Systems, Environmental Science)

ZERO WASTE/ TRASH TRAPS

Youth will visit one of our local trash traps to see the impacts of poor design and consumerism that leads to the trash in greenspaces and waterways. We will discuss solutions to the planet's great waste crisis, and adopt the EJ perspective, "Not in Anyone's Backyard".

3 (Pollution and Human Impact) **6** (Human Energy Needs)

AGRICULTURE

Youth will tour the Historic Hartnett Community Garden and learn about various methods of agriculture and cultivation. Youth will investigate the benefits and disadvantages of the agriculture industry today and support garden needs.

1 (Plants, animals) **7** (Stability and Change in Living Systems Which Food Would You Choose?) **HS** (Environmental Science)

COMPOST

Youth will learn about the science behind composting as we explore the chemical relationship between nitrogen, carbon, oxygen, and heat.

5 (Cells and Microorganisms) **HS** (Chemistry, Microbiology)

HABITAT SWEET HABITAT

Youth will consider various homes for wildlife including burrows, dens, and nests. Youth will walk through the forest and consider ideal circumstances for a habitat. Youth will have a chance to build their own habitat with resources in the forest.

K (Plants and Animals) **3** (Plants, Animals and Habitats in GA Northern Regions) **4** (Ecosystems)

WEATHER TRACKING

Youth will observe weather conditions, and consider what variables impact weather conditions. Using a weather meter, we will collect weather data including air pressure, wind patterns, relative humidity. Youth will then analyze and interpret data to express how different weather conditions occur.

1 (Weather) **3** (Pollution and Human Impact) **4** (Water Cycle and Weather) **6** (Water in Earth's Processes, Climate and Weather) **HS** (Earth Systems)



BIRD WATCHING**

Youth will be able to recognize and identify the most common birds in the old-growth forest. They will be able to narrow down the possibilities based on certain identification features, such as the habitat, nesting, color patterns, and sounds. They will also be able to recognize how adaptations and other genetic variations in birds help them to survive in their ecosystem.

7 (Structure and Function in Living Systems, Patterns in Living Systems)

CRYPTOGAMS

Youth will put themselves in the shoes of a cryptogam, a living species that, unlike plants, forms from spores, not seeds. The youth will learn about the perfect environment for cryptogams. We will take a hike to find cryptogams in the forest.

K (Plants and Animals) **3**
(Plants, Animals and Habitats in GA Northern Regions)
5 (Classification & Inheritance and Variation of Traits) HS
(Physical Science, Environmental Science)

**These programs were developed by Project WET.*

***Depending on the availability of guest speakers, these programs may have additional costs or may not be available .*



FIELD TRIPS

School groups can join us for a program onsite or virtually that satisfies their curriculum goals.



BREAK CAMPS

Provides youth a safe and supportive place to explore nature and help care for our environment.



ANNUAL EVENTS

We offer several annual events that focus on natural science subjects and are fun for the entire family.



SERVICE-LEARNING

Participants learn about environmental issues while gaining hands-on volunteer experience.



ENVIRO EXPLORERS

Youth can explore, activate their imagination, and establish lifelong friendships in the old-growth forest!



GREENSPACE WELLNESS

Encourages the use of tools and modalities within greenspace for the purpose of health and wellness.



PARTNERSHIPS

We work with partners to develop educational programming that meets both of our organizational goals.

PRICING

Small Groups (up to 6 youth) \$126 for a 1.5-hour program

Large Groups (7+ Youth) \$15-18*/ Child for a 1.5-hour program

**Sliding scale offered to Title 1 Schools.*

BOOK TODAY

Visit WAWA-ONLINE.ORG/EDUCATORS and submit a request

