

COBB COUNTY WATER SYSTEM

Watershed Stewardship Program

environmental exploration
for students



Elementary School
3rd - 5th Grade
Programs

about us

The Cobb County Water System Watershed Stewardship Program offers **free** outreach programs for classrooms and community groups in Cobb County. These hands-on programs promote respect for our environment by educating participants about the connection between behavior and water quality. Our focus is on ecological literacy, including topics such as pollution prevention, biodiversity, and environmental health.

Contact a Watershed Educator to schedule a free program
water_RSVP@cobbcounty.org
(770) 528-1482

We provide education on issues impacting local water quality, foster good habits and responsible behavior, and cultivate an appreciation for and a connection to our natural resources. We can also assist you with your community service projects, provide teacher workshops, and loan curriculum resources for your use.

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green school initiative

The Green School Initiative recognizes Cobb County schools with an active environmental education program and encourages other schools to develop environmentally-based education initiatives within their schools. The primary focus of the program is conservation, preservation, and beautification of our environment.

How can I become a Cobb County Green School?

To qualify as a *Green Classroom* a teacher must complete five environmentally-based lesson plans per year. This can be any environmentally beneficial project, a lesson plan of your own, a facility tour, or presentations by the Cobb County Watershed Stewardship Program. In order to qualify as a *Green School*, five teachers in your school must each complete five earth-friendly activities throughout the year.

**For more details, please visit
www.cobbwater.org/greenschool.htm**



3rd -5th grade activities

Ecoregions of Georgia

Grade 3, Time: 1 hour, Requirements: Blackboard or similar writing surface

Georgia ranks sixth in the nation for overall species diversity, particularly due to our five distinctive ecoregions! Learn the characteristics and natural history facts about each ecoregion by exploring how geographical topography contributes to biological diversity.

Vocabulary/Concepts: *habitat, biodiversity, rocks, soils; GPS: S3CS4b, S3E1d, S3L1, S3L2*

What is a Watershed?

Grade 4, Time: 1 hour, Requirements: One room for set up & rotating class visits; 30 max

We all live in a watershed - upstream and downstream. During this interactive session, students use a watershed model to demonstrate the impacts of pollution on streams and lakes while learning about local water quality issues. This hands-on program reveals how everyday activities can affect our drinking water and wildlife while encouraging discussion about watershed protection and pollution prevention. *Model also available for checkout.*

Vocabulary/Concepts: *watershed, runoff, pollution, riparian; GPS: S4CS4, S4E3d*

Erosion & The Hydrologic Cycle

Grade 5, Time: 1 hour, Requirements: One room for set up & rotating class visits; 32 max

Erosion and Weathering - what's the difference? Students visit lab stations to study the causes and effects of erosion, weathering, and sediment deposition while discovering how these forces change the landscape and aquatic habitats. Using a wetland model, students decide how to mitigate the consequences of human impacts and how natural systems are beneficial to the hydrologic cycle.

Vocabulary/Concepts: *erosion, weathering, deposition, soils, pollution; GPS: S5CS4a, S5E1, S5P2*

Campus Explorer

Grades 3-5, Time: 1 hour, Requirements: Outdoor access, on campus or at a nearby park

Nature is everywhere - offering the perfect setting and basis for instruction! Let us guide your class on an engaging and inquiry-based interpretive walk on your campus. Students use their senses to explore, apply scientific processes, and journal observations. Once back in the classroom, utilize the information collected and apply it to the concepts of math, art, science, and writing. Topics are limitless. Connect your classroom to the world!

Vocabulary/Concepts/GPS: *Can be adapted to correspond with your lesson plans*

assembly program

Brooke and Branch Puppet Show

Grade 3, Time: 1 hour, Requirements: Space for all students to sit 10 feet back from stage, power outlet

Brooke is a little girl who goes on a big adventure! Join her as she learns about water quality and biodiversity from the friends she meets along the way. This program emphasizes ecological concepts and vocabulary in a fun and engaging way while demonstrating how we can help the environment.

The Brooke and Branch Puppet Show can be set up in a library, gymnasium, or cafeteria and is designed to accommodate the entire grade at once. Students will receive a Brooke and Branch Activity Book to reinforce the concepts introduced during the show.

Vocabulary/Concepts: *watershed, water quality, habitat, storm drain, biodiversity, macroinvertebrate, bioindicator*

GPS: *S3L1c,d, S3L2, SC3S1, ELA3R2, ELA3LSV1*



To schedule a puppet show call 770-528-8214 or email puppet_RSVP@cobbcounty.org

field trips

Investigating Urban Streams and Ponds

Grades 3 - 5, Time: 1.5 - 2 hours

Join us at a stream, pond, or wetland to conduct a study about water quality and habitat. Activities may include water quality testing, sampling for aquatic insects, and investigating physical characteristics of the waterway. The group is responsible for its own transportation to the site. This program can be done at a schoolyard stream, pond, or at a local park.

Biodiversity and Butterflies: A Rain Garden Tour

Grades 3 - 5 Time: 1 hour

Visit our rain garden and learn how it filters pollution, slows down stormwater, and prevents erosion while beautifying the community, providing wildlife habitat, and restoring biodiversity to the landscape. In the fall this site is host to many species of butterflies, including the Monarch, on its fall migration to Mexico. The Rain Garden is located at the Water Quality Lab and can be paired with a Water Quality Lab Tour.

Water Quality Laboratory Tours

Grades 3 - 5, Time: 1 - 1.5 hours

Cobb's Water Quality Laboratory is responsible for testing treated wastewater effluent and surface water samples. Join our Lab Analysts, Biologists, and Chemists for a hands-on walk through water quality analysis. Call 770-419-6295 to schedule a tour.

Wastewater Treatment Plant Tours

Grades 3 - 5, Time: 1 - 1.5 hours

What happens after the flush? Find out where our water goes by visiting one of Cobb's four wastewater plants. Students will experience visually how a wastewater treatment plant works and how cleansed wastewater is recycled back into our rivers and streams. Call 770-419-6295 to schedule a tour.

teacher workshops

Bring fun, interactive learning experiences to your classroom! Teacher curriculum classes are offered upon request for groups of 10 or more. Participants receive hands-on training, a curriculum guide, program resources, and a certificate of completion. PLUs are available for workshops with 10 contact hours.

Leopold Education Project* | Grades 4-12 LEP is a conservation ethics curriculum that is based on the essays found in Aldo Leopold's *A Sand County Almanac*. The hands-on activities correspond to the month-by-month descriptions of Leopold's relationship with the natural world and strive to instill a land ethic among tomorrow's stewards.

Monarchs in the Classroom* | Grades K-8 Age-specific lessons focus on butterfly life cycles, systematics, ecology, conservation, and monarch migration, and include extensive background information with sections on monarch biology, practical tips for rearing and observing insects, and conducting inquiry-based lessons in the classroom.

Project Learning Tree | Grades PreK-8 Use the forest as a "window on the world" to increase students' understanding of our environment, and help them acquire an appreciation and tolerance of diverse viewpoints on environmental issues. PLT encourages creativity, originality, and flexibility to resolve environmental problems and issues.

Project WET | Grades K-12 Develop awareness and respect for water resources through activities that focus on living and non-living systems, the importance of water for all users (energy producers, farmers and ranchers, fish and wildlife, manufacturers, recreationists, rural and urban dwellers), and sustainable water management.

Project WILD | Grades K-12 A wildlife-based conservation curriculum that fosters responsible actions toward wildlife and related natural resources. Project WILD strives to develop awareness, knowledge, skills, and commitment that results in the making of informed decisions, responsible behavior, and constructive action concerning wildlife and the environment.

*A small fee to cover the curriculum cost may be required for some of these workshops.

service projects



Storm Drain Marking

We are calling for volunteers to help educate our citizens. As rain water runs off the landscape from roads, driveways, lawns, rooftops, and parking lots, it carries pollution into our water. In addition, any litter on our roads will also wash into our streams through the storm drain system. To emphasize the connection between runoff and water pollution we need your help marking storm drains around Cobb County.

In Cobb County, **all storm drains lead to surface water**, not a treatment plant. It's very important for everyone to know that pouring oil, paint, or any other substance down a storm drain is illegal. Only rainwater should be in the storm drain system. Leaves and grass clippings also do not belong in the storm drain. They can cause flooding and pollution.

Help educate the community by marking the storm drains in your area. Cobb County Water System will provide marking kits including aluminum markers, adhesive pads, gloves, garbage bags, and education materials.

Waterway Cleanups

Is the creek in your area full of trash? Did you know all roadside litter eventually ends up in our waterways via storm drains and runoff? Help clean up local waters! It's easy, fun, and a great way to give back to the community. Cobb County Water System will provide gloves, bags, and other supplies to help with the project. Through a sponsorship by Cobb Water, if you register for a fall cleanup through Rivers Alive, you can receive free t-shirts for your participants. Visit www.riversalive.org to register your event.



seeds of stewardship

Two exceptional resources that provide opportunities to expand the horizons of ecological stewardship are available for checkout. Whether thumbing through a book from the **Traveling Treasure Trunk** or creating a dazzling display from the **Our Shared Forest - Science Night Kit**, students are provided with items that encourage time to reflect and consider the world we live in. These are great resources to augment your regular lesson plans, with introductory and review materials, or to have available for projects and reports.

Traveling Treasure Trunk

Explore this amazing collection of water and nature resources for your classroom including books, games, music, and videos. The trunk is available for three-week periods. We'll drop it off, set it up, and pick it up. Just let us know when and where!

Our Shared Forests - Science Night Kit

Our Shared Forest is a curriculum intended to educate students about the natural environment of the Southeastern U.S. and Ecuador, especially the birds that these countries share. The *Science Night Kit* utilizes volunteers and students to put on a "science night" for the rest of their school!



resources for checkout

What's in the Water?

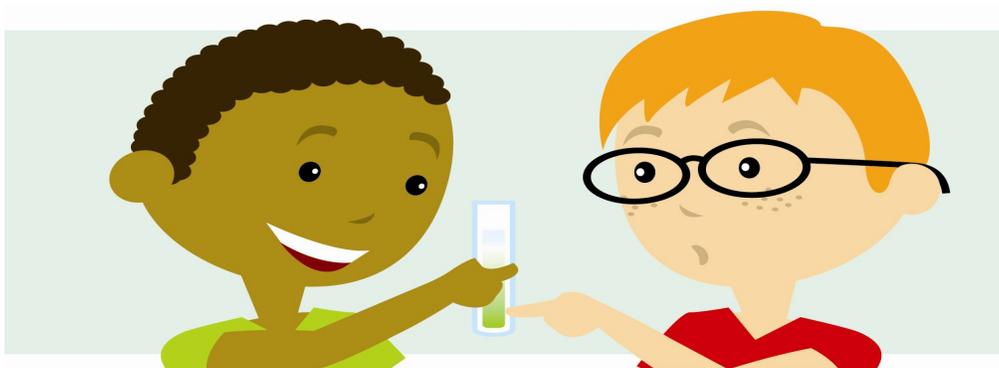
Includes two activities in which students role play a community where members are getting sick and use clues to determine the source of the problem. These activities allow students to consider how land use impacts water quality.

Watershed/Nonpoint Source Model

The popular *Enviroscape* Watershed/Non-point Source Model is available for classrooms and special events. Show your students how many small sources of pollution can have a real impact on our waterways through a hands-on demonstration. The model comes complete with an instructor's manual. We recommend pairing this with one of our Student Action Relays.

Student Action Relays: Pet Waste and FOG

These activities provide the stewardship component that all students can implement and teaches the importance of personal responsibility. In the *Pet Waste Relay*, students learn how water quality is impacted by pet waste and practice picking up after their pets. The *FOG Relay* focuses on the impact Fats, Oil, and Grease (FOG) from residential kitchens has on stream health. FOG causes sewer blockages that lead to overflows that impact water quality. Students learn how their simple actions in the kitchen can reduce the problem.



The Watershed Stewardship Program has resources that educators can borrow to support lessons in their classrooms. Please visit www.cobbstreams.org for a full list and description of each activity.

Macroinvertebrate Mayhem

Macroinvertebrates are aquatic insects that help us determine water quality. In this activity, students take on the role of these insects in a stream and discover how pollutants impact different organisms. This is a great pre-activity for a stream or pond study!

Tree Study

A compilation of our favorite tree activities including several measurement exercises to determine tree age, height, and the benefits we receive from trees.

Butterfly Box

Learn common Georgia butterflies and their caterpillars, the stages of butterfly metamorphosis, the difference between moths and butterflies, and the challenges facing Monarchs.

Wetland Metaphors

Discover the functions and importance of wetlands through this metaphor activity. Students choose an object that represents an essential function of wetlands and present it to the rest of the class.

A Drop in the Bucket and other Water Lessons

A visual demonstration of where water is located on Earth, how much of it is accessible to humans, and what percentage is freshwater, saltwater, or frozen in ice caps. These activities give students a fun and simple way to express relative proportions of water on planet Earth.

Water Cycle Activities: Incredible Journey and The Blue Traveler

Help students learn the basic steps of the water cycle, including the manmade components. Participants become water droplets and travel through oceans, clouds, groundwater, and other processes to gain an understanding of water movement on the planet. Each participant will have a different journey to share as they summarize their travels as a water drop.



Connecting Community to Local Ecology

662 South Cobb Drive • Marietta, Georgia 30060

www.cobbstreams.org

Cobb County Watershed Stewardship is funded through the Cobb County Board of Commissioners.



Cobb County...Expect the Best!

Tim Lee, *Chairman*

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