



Environmental Education

PROGRAM CATALOG

DAN RIVER BASIN



DANRIVER.ORG



Remember playing outside all day when you were a child and coming in when your mom said dinner was ready?

Today's children probably won't.

Within the last twenty years, childhood has moved from playing outdoors all day to sitting behind an electronic screen indoors for more than seven hours a day. This shift has caused obesity rates to double, and the United States has become the largest consumer of ADHD medications in the world. Our children are stressed and out of shape because they are missing a connection to the natural world that is essential to their health and development. Children are learning about the environment and nature in the classroom, but not enough time experiencing it.

Benefits from Nature

- Outdoor play reduces obesity by building active, healthy bodies.
- Spending time outside raises Vitamin D levels.
- Exposure to nature and unrestricted play time is thought to reduce ADHD symptoms.
- Environmental education in schools help raise scores on standardized tests such as math, science, and writing.
- Environment based education programs can improve critical thinking skills.
- Children's stress levels fall within minutes of exposure to natural settings.
- Hurried lifestyles can contribute to anxiety and depression.
- Play in nature helps enhance social interaction among children and build close relationships.
- Children can maintain a healthy vision by spending 3 hours a day outside.

Scheduling

You'll find DRBA's most popular environmental education programs on the following pages. If you require a topic you don't see here, DRBA can deliver a wide variety of custom presentations to meet your needs. Please note there is a fee for most of DRBA's programs and presentations.

To schedule your program, please follow these easy steps:

1. Select the program(s) you are interested in for your class or group.
2. Write down any questions or concerns you might have about the program.
3. Decide on 2-3 dates and times that would work best for your class or group.
4. Contact Krista Hodges to discuss and schedule your program: khodges@danriver.org or call (276) 634-2592.

To learn more about the Dan River Basin Association
or to sign up for our monthly e-newsletter,
visit **danriver.org**

For School Groups:

Our programs are designed to further a student's discipline of study through meaningful outdoor learning experiences. In the classroom and field based programs can be designed to meet a certain grade level's needs from Pre-K – 12th grade. DRBA's project-based programs are also designed to meet any grade level's needs from Pre-K – 12th grade. Every program has been correlated with VA SOL and Essential Standards guidelines. Each program may correlate with several guidelines, but DRBA has chosen which guideline aligns best with the program.



Other Groups:

Groups such as scouting troops, environmental clubs, faith-based, rotary clubs, and community after-school programs are encouraged to contact DRBA to discuss presentations, one day trips, or programs. DRBA can help any group learn, complete projects, build teamwork skills, and find a new and/or renewed confidence in nature.

DRBA's Vision for Environmental Education

To make environmental education available to all children and adults in the Dan River Basin that are interested in learning and connecting with the world around them, while providing an exciting and educational learning experience.



Learn more: danriver.org/EEforEducators

Education Programs

Tub O Bugs

Students investigate the role of macroinvertebrates (aquatic insects) in their ecosystem, including their place in aquatic and terrestrial food chains. Curiosity and excitement are sparked in this hands-on learning experience as live insects and crustaceans are gathered for students and youth to experience first-hand.



Grade Level: Pre-K - 5

Length of Time: Minimum 30 mins.

SOL: K.6, K.7, 1.5, 1.8, 2.4, 2.5, 3.4, 3.5, 3.8, 4.2, 4.3

Essential Standards: Ecosystems

Grade Level: 6 - 8

Length of Time: 1 hour

SOL: LS.5, LS.6, LS.7, LS.8, LS.9, LS.11

Essential Standards: Ecosystems

Grade Level: 9 - 12

Length of Time: 1 hour

SOL: BIO.7, BIO.8

Essential Standards: Ecosystems

Watershed and Pollution

Students discuss the water cycle, what defines a watershed, and the types of pollution that affect our water quality. After a presentation, students work together in teams to determine what type of pollution is present in their scenario, how it got there, and what are the solutions to keep it out of the waterway.



Grade Level: 4 - 5

Length of Time: Minimum 30 mins.

SOL: 4.8

Essential Standards: Ecosystems

Grade Level: 6 - 7

Length of Time: Minimum 30 mins.

SOL: 6.6, 6.8

Essential Standards: Ecosystems

Green Schoolyard

Students and teachers work together to create a Green Schoolyard on their school campus. After conducting a schoolyard report card, the location and desired inventory is created to begin implementing the schoolyard project. The project can include a rain barrel system, certified Monarch Waystation, composting program, storm drain marking, and a weather monitoring station.



Grade Level: K - 5

Length of Time: 1 - 2 years

SOL: K.1, 1.4, 1.5, 1.7, 1.8, 2.4, 2.5, 2.6, 2.7, 2.8, 3.6, 3.7, 3.8, 4.2, 4.3, 4.4

Essential Standards: Ecosystems; Structures and Functions of Living Organisms

Grade Level: 6 - 8

Length of Time: 1 - 2 years

SOL: 6.6, 6.7, 6.8, 6.9, LS.6, LS.8, LS.9

Essential Standards: Ecosystems; Structures and Functions of Living Organisms

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Trout in the Classroom (TIC)

Students from Pre-K to High School learn to:

- Raise trout from eggs to fingerlings
- Monitor water quality
- Engage in stream habitat and ecosystem studies
- Appreciate water resources and foster a conservation ethic



Students receive the trout eggs in the Fall or early Winter and care for them until they become fingerlings, ultimately releasing them in the Spring into a local approved coldwater stream. During the program, students learn to see connections between the trout, water resources, stream ecosystem and themselves. Teacher's feedback showed that students improved behavior and attendance and increased math, science and language arts skills. This program was founded in Virginia by Dr. David Jones, local Orthodontist in Martinsville, and is a partnership between Dan River Basin Association, Trout Unlimited, and Virginia Department of Game and Inland Fisheries. The trout eggs are picked up from the VDGIF state hatcheries, and the streams where the trout are released are approved by VDGIF Biologists.

Grade Level: Pre-K - High School

Program Length: About 6 months; between October - May

Location (s): In classroom and required field trip to release trout fingerlings in an approved cold water stream

SOL: K.1, K.4, K.6, K.7, 1.1, 1.5, 1.7c, 1.8, 2.1, 2.4a, 2.5, 3.1, 3.4a, b, 3.5, 3.8a, b, c, 4.1, 4.2, 4.3, 4.8a, b, 5.1, 5.8d, 5.9b, 6.1, 6.6, 6.8, 6.9, LS.1, LS.5, LS.7, LS.8, LS.9, LS.11, BIO.1, BIO.8, ES.8

Essential Standards: Ecosystems; Structures and Functions of Living Organisms; Earth/Environmental

Streamside Trees in the Classroom (STIC)

Elementary school students root Black Willow cuttings in the classroom while learning about the importance of streamside vegetation and water quality. The program is completed by a field trip to plant the trees along a stream in need of restoration. High school students or natural resource partners develop lesson plans and activities related to water quality and natural resource protection as their part of the program to do with the elementary students on their Planting Day.



On Planting Day, participating high school students work with elementary students through a mentoring relationship while planting the trees. After the trees are planted, the high school students host activities and lessons with the elementary students. This program is in partnership with Army Corps of Engineers at Philpott Lake, students learn to appreciate and protect our natural resources in this unique environmental education program.

Grade Level: 4th Grade & High School

Program Length: 4 - 5 weeks; September - October

Location (s): In classroom and required field trip to plant trees along a waterway

Elementary

SOL: 3.6, 3.8, 4.2, 4.8

Essential Standards: Ecosystems; Structures and Functions of Living Organisms

High School

SOL: ES.6, ES.8, Bio.8

Essential Standards: Earth/Environmental

Recreation Programs

Local Trail Hike

The possibilities are endless with this activity. Whether your students are avid weekend hikers or beginners, a day on a trail is sure to open their minds to the beauty of nature and spark an interest in learning more about the world around them. Students can investigate the trail to identify the native flora and fauna or learn about hiking safety and wilderness survival techniques.



Grade Level: 3 - 5

Length of Time: 1 - 3 hours

Maximum Participants: 25 per session

SOL: 3.5, 3.6, 3.8, 4.8

Essential Standards: Ecosystems; Structures and Functions of Living Organisms

Grade Level: 9 - 12

Length of Time: 2 - 3 hours

Maximum Participants: 25 per session

SOL: LS.6, BIO.8

Essential Standards: Ecosystems; Structures and Functions of Living Organisms; Earth/Environmental

River Experience

Spend a couple hours investigating what lies beneath the reflective water surface. Enjoy a stream walk identifying aquatic insects, mollusks, and crustaceans, wildlife watching, and learning about the importance of protecting our water resources. Water quality testing can be incorporated into this activity upon request.



Grade Level: 4 - 5

Program Length: 1 - 2 hours

Maximum Participants: 25 per session

SOL: 4.9

Essential Standards: Ecosystems

Grade Level: 9 - 12

Length of Time: 1 - 2 hours

Maximum Participants: 25 per session

SOL: LS.6, BIO.8

Essential Standards: Earth/Environmental

River Exploration: Float or Paddle Trip

A one day river trips engages students and gives them confidence in nature, themselves, new skills, and an interest in recreation. Canoes and/or kayaks will be provided by a local outfitter. Trip will be guided by a DRBA volunteer; students can learn about or participate in activities such as beginner's canoeing and kayaking, river safety, and river clean-up. Water quality testing can be incorporated in this activity upon request.



Grade Level: 6 - 8

Program Length: 2 - 5 hours

Preferred Time: 10am - 4pm

Maximum Participants: 15 per session

SOL: 6.5, 6.7, LS.6, LS.9, ES.8

Essential Standards: Ecosystems

Grade Level: 9 - 12

Length of Time: 2 - 5 hours

Preferred Time: 10am - 4pm

Maximum Participants: 15 per session

SOL: BIO.8

Essential Standards: Earth/Environmental

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Stewardship Programs

Water Quality Testing

Students investigate a living system as they monitor a local stream and analyze the quality of the water. Biological, chemical, and physical parameters are covered; students will search for macroinvertebrates in the streambed, test pH and turbidity, and assess the river banks for signs of erosion.



Grade Level: 6

Length of Time: 1 - 2 hours

Maximum Participants: 25 per session

SOL: 6.8, 6.9

Essential Standards: Ecosystems

Grade Level: 9 - 12

Length of Time: 1 - 2 hours

Maximum Participants: 25 per session

SOL: LS.9, ES.8

Essential Standards: Earth/Environmental

Local Trail or Campus Clean Up

Begin instilling the role of a good steward early in your students by participating in a local trail or school campus clean up. Students will experience first hand the effects of human impact on the environment. Trail location will be determined by school location or willingness to travel.



Grade Level: K - 6

Length of Time: 2 - 3 hours

Maximum Participants: 25 per session

Essential Standards: Ecosystems

Grade Level: 7 - 8

Length of Time: 2 - 3 hours

Maximum Participants: 25 per session

Essential Standards: Ecosystems

Grade Level: 9 - 12

Length of Time: 2 - 3 hours

Maximum Participants: 25 per session

Essential Standards:
Earth/Environmental

Adopt a Section of Trail or Riverbank

Adopt a favorite section of trail or riverbank and volunteer to keep it clean for one school year. Students will learn firsthand about human impact on the environment by direct exposure to our litter problem. Your class can clean up the section of trail or riverbank on a monthly or bi-monthly basis. Any students who volunteer to adopt a section of trail or riverbank will be featured in DRBA's quarterly newsletter.



Storm Drain Marking

Water traveling through storm drains eventually finds its way untreated to the Dan River and its tributaries. Storm drain labels remind us to keep storm drains clean in order to protect the rivers and streams we use for recreation and where thousands of residents get their drinking water. You can do a project on a school campus or in a local town. All supplies are provided.



Additional Resources

Tools and information available for educators about the Dan River basin and watershed education.



Dan River Basin map --- <http://www.danriver.org/map-of-watershed>

Dan River, NC Watershed Assessment and Water Quality Study ---
http://www.danriver.org/content/file/danrwatershedassmtfinalreport_feb09.pdf



Nature Conservancy Watershed Lesson Plans --- <http://www.nature.org/>

VA DEQ Stream GIS Tool --- <http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>



Surf Your Watershed! --- <http://cfpub.epa.gov/surf/locate/index.cfm>

Trout in the Classroom National Website --- www.troutintheclassroom.org



Visit the Teachers' Corner section on our website - www.danriver.org/EEforEducators

About the Dan River Basin Association (DRBA)

The Dan River Basin Association (DRBA) was created in 2002 by residents to protect and promote the natural and cultural assets of the 3,300 square mile Dan River Basin in Virginia and North Carolina. Since its inception, the organization has become a leader in outdoor recreational master planning, trail and blueway development, bi-state and multiple jurisdiction collaboration, interpretation and dissemination of information about environmental issues, environmental education and more.

By protecting the region's natural assets such as the Dan River and its tributaries, DRBA is working to promote tourism as well as healthy lifestyles. DRBA assists localities in creating community parks, trails and access to local rivers and streams. By promoting a bi-state network of rivers, greenways, and trails, DRBA hopes to improve the region's quality of life, making the area a better place in which to live, visit, and do business.

DRBA in North Carolina

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