

Getting Started With
Georgia Envirothon:

A Guidebook for Teachers
2018 Edition



Introduction: The Georgia Envirothon

What is Georgia Envirothon?

The Georgia Envirothon is an exciting natural resource education program designed to challenge students in an interactive, outdoor competition where high school teams (consisting of 4-6 students) are tested in areas of Wildlife, Forestry, Aquatic Ecology, Soils and Land Use, and a Current Environmental Issue. Teams take written and hands-on tests outdoors and give presentations based on the chosen Current Issue. Students have the opportunity to compete at the Regional, State and North American levels. The Envirothon originally began over 40 years ago in Pennsylvania by a group of Soil & Water Conservation Districts and parents who were concerned about the lack of natural resources education in their schools. Georgia began its program in 1995. The National Envirothon was created in 1988.

Why form an Envirothon Team?

The team works collaboratively and students learn such skills as critical thinking and problem solving to arrive at solutions to specific real world environmental problems. The Envirothon encourages, motivates, and inspires students to become more competent, proficient, and aware of the environment and natural resources conservation. The Georgia Envirothon promotes analytical thinking, stewardship, and empowers youth to take responsibility for the conservation of natural resources for future generations.

Teams are sponsored by their school, club, or local Soil & Water District. The Georgia Envirothon Council, along with the Georgia Association of Conservation Districts, cooperating state agencies, RC&D Councils, educators, community and private interest groups, collaborate to plan and organize the competitions.

When do I register, what is the fee, and when are competitions held?

The North & South Region Competitions are generally held the first week in March. These are one-day competitions. The registration fee is \$200 before Dec. 15 and \$225 for late registration. An Envirothon T-Shirt and lunch are provided. The top 5 teams from each region then advance on to the state competition which is typically held the last week in March. The state competition is a two-day event. There is no registration fee for the state competition. Meals and lodging are provided at no charge to participants.

Overview of Station Testing

- *Teams will be evaluated in 5 subject areas: soil, forestry, aquatics, wildlife, and a current environmental issue particular to that year.*
- *Each stations testing is comprehensive. Stations will be 45 minutes in duration and will consist of written and hands-on components. This is the same for both region & state competitions with the exception of the current issue portion – at the state competition, students give an oral presentation based on a scenario dealing with the issue.*

The following list includes examples of some topics that teams may be tested on at each station. The study materials from which all test questions are taken can be found under the resources tab at www.gaenvirothon.weebly.com

Aquatics/Hydrology:

Aquatic ecology

- Water chemistry
- Plants, aquatic life (e.g. macroinvertebrates) and fish and wildlife living in, or around water
- Water quality
- Riparian habitat
- Wetlands
- Conservation
- Water delivery

Soil and Land Use

- Classification
- Profiles
- Soil characteristics & health
- Soil surveys
- Site suitability / current issues
- Erosion & sedimentation
- Conservation Best Management Practices

Wildlife

- Identification
- Behavior
- Habitat characteristics
- Food and diet
- Diseases
- Species rules and regulations
- Management

Forestry

- Forest ecology
- Tree identification
- Insects
- Diseases
- Timber management
- Improvement of timber stands
- Forest and multiple-use management
- Fire prevention and fuel load management
- Climate impacts

Current Environmental Issue:

The state hosting the National Envirothon Competition determines the theme for the current environmental issue. Topics chosen in the past include:

- Nonpoint Source Pollution / Watersheds
- Endangered Species
- Air Pollution
- Urban Renewal
- Agricultural Soil & Water Conservation Stewardship

All themes reflect timely, complex, and often controversial environmental topics.

The Georgia Envirothon provides study materials on the website pertinent to the current issue. The Georgia Envirothon has established a network of partnering resources and environmental agencies, academia, RC&D Councils, nonprofit organizations, and the private sector with expertise and knowledge regarding the chosen current environmental issue. They are prepared to provide relevant resource materials and professional expertise and they often volunteer as judges, work as station coordinators, create station tests, drafting the current issue scenario, etc.

Training Tips

Guide for Preparing for the Event

While this program culminates in a competition, it is first and foremost an educational program designed to increase knowledge and awareness of our natural environment. Students should put as much time and effort into preparation as they would for any competitive event such as football or band, in which they hope to become state champions.

Preparation should be on-going throughout the school year. While knowledge of basic ecological concepts is essential, equally important is the exploration of sampling and testing procedures and techniques used in water quality analysis, soil quality determinations, wildlife management, and forestry. Familiarity with identification guides for land and animal species is helpful. It is recognized that few schools have the equipment and expertise needed to study all topics. However, all schools have a wealth of information available from local Soil & Water Conservation Districts, RC&D Councils, Natural Resources Conservation Service, GA Department of Natural Resources, Extension Offices, Georgia Forestry Commission, and local experts on environmental issues.

Team work should also be emphasized. Learning to work together to explore new topics is important. While independent study is encouraged, students should meet regularly to discuss ideas and share different viewpoints. In the field of natural resource management, few issues are black and white. Consideration of many options and opinions should be encouraged to develop solutions that are environmentally, socially, and economically viable. Some teams prefer to have students specialize in specific areas of the competition, while others prefer that all team members have a solid background in all of the competitive categories.

Most importantly, this program should be fun! Field trips, speakers, demonstrations, and study should focus on increasing the interest of students in the natural environment. Certainly, winning the Regional and State Competitions may be an important goal for some teams, but creating a desire to learn more about environmental issues and increasing students' awareness of their natural environment should be paramount.

While some coaches use this program as part of their classroom curriculum, additional effort may be required in order to explore all of the topics. It should also be stressed that because of the highly competitive nature of this program at the national level, some of the material may be beyond the level normally taught in high school, especially for students in 9th & 10th grades.

Additional information, rules, guidelines, learning objectives, and study guides can be found at www.gaenvirothon.weebly.com

Envirothon Training Tips

1. **Use the resources provided as a supplement to activities, speakers and field work experiences.** Reading and memorizing the content is not only boring, it misses the whole aim of the program.
2. **Plan to cover topics as seasonally appropriate.** It is much easier to learn to identify trees when they still have their leaves, but learning to measure their height can wait until winter. Also, water that is not frozen is easier (and more fun) to test. More animals may be active in warm weather, but their tracks and other signs are more readily apparent when there is snow on the ground.
3. **After teaching a new skill or concept, incorporate practice time and references on a regular basis.** For example, after learning tree ID, have students identify trees on every excursion outdoors.
4. **Mix and match activity / lesson methods.** Issues surrounding forest management can be introduced through a guest speaker, researched through reading, investigated through a local field study and culminated with a simulation exercise.
5. **Call on resource professionals and volunteers in your community.** Ask for a tour of the water treatment plant after learning about water testing. Compare your students water test results with those of the plant. Soil & Water Conservation Districts, Extension Agents, DNR Employees, GA Soil & Water Conservation Commission employees, and foresters are other good resources.
6. **Ask students to bring in news articles concerning the current environmental issue.** How does/can the event affect them directly (town is flooded) or indirectly (higher prices for bananas). What can they do about it?
7. **Stress connections to everyday life and current science classes.** Chemistry is obvious with studies of acid rain and tolerance levels of various aquatic organisms. Wildlife identification and zoology go hand in hand. Tree and wildflowers are part of botany, etc.
8. **Don't automatically give out all the answers or demonstrate all the methods.** High school students are at first taken aback when they ask "Is this answer correct?" and you respond "I don't know, did you perform the procedure correctly? How can you check your answer?". However, in the long run this will build confidence and competence. When environmental scientists are doing field work, there is no answer book.
9. **Remember a primary goal of the Envirothon is to increase students' interest in, understanding of, and involvement with the environment.** They will be most enthusiastic when having fun with a purpose. Practicing new skills that produce important information can lead to great pride!!