

GUIDEBOOK

Water Testing: A Learning Module

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**“Safety in Ohio through Service”
Learn and Serve Ohio
Ohio Department of Education**

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Introduction

With collaboration between Learn and Serve Ohio, Ohio Community Service Council, and Ohio Campus Compact, the Ohio Department of Education was one of ten states to receive funds in 2004 to implement a Learn and Serve America Homeland Security Grant. This two-year grant addressed homeland security, or hometown safety, concerns through the active participation of youth engaged in service-learning that meets community needs while developing students' academic and civic skills. Ohio is also utilizing students as an important resource in planning for and responding to the health, safety and security concerns in Ohio's communities.

Ohio's program, *Safety in Ohio through Service* (SOS) built upon collaborations already established with Ohio Campus Compact, the Ohio Community Service Council and Citizen Corps Councils. Students connected with the Citizen Corps Councils and /or Lead Volunteer Centers to identify specific needs and then designed service learning projects around prevention, preparedness, response, and recovery in the event of a disaster. Ohio awarded these funds to seven Local Education Agencies (LEAs) who submitted proposals that demonstrated: 1) strong evidence of the eleven critical components of a service-learning project; 2) the involvement of youth in all aspects of planning and design of the program; 3) connections to the Citizen Corps Councils and/or Lead Volunteer Center; 4) connections to a college of university for K-12 and college students to collaborate on hometown safety service-learning projects; and 5) a commitment to partnerships with community groups such as Faith-Based Organizations, Charter schools, businesses, and other non-profit organizations as appropriate to meeting the identified needs to execute the service-learning projects. These LEAs included:

Columbus Public Schools, Elyria City Schools, Maysville Local School District, North Olmsted City Schools, Ripley Union Lewis Huntington School District, Tri-Village Local School District, and Worthington City Schools.

Between 2004 and 2006, among these seven districts representing rural, suburban, and urban areas, 7,495 youth participants, 9,233 youth beneficiaries, and 1,179 adult beneficiaries were trained in homeland security topics. These youth participants performed 37,525 hours of service to their community addressing safety needs while increasing their civic knowledge, skills, and attitudes and their awareness of homeland security issues. According to the Independent Sector's dollar value of volunteer time, these students provided \$676,951 worth of time to their community! Additionally, seventy-three new partnerships were established from these seven grantees' efforts, while they strengthened over twenty already existing partnerships. These partnerships at the state and local level will continue to enhance and sustain the programs developed, as well as student and community outcomes.

The SOS evaluation team is constantly updating the SOS website which includes the twenty-seven learning modules developed by the seven grantees so that others may utilize them as resources, replicate them, and then provide feedback to the evaluation team as they continuously modify the best practices for addressing homeland security needs with service learning.

Source: Learn and Serve Ohio 2006 Annual Report.

What's included in this guidebook

The goal of this guidebook is to provide the user with the necessary framework and information to successfully implement this SOS Learning Module. The following pages contain overviews, resources, and suggestions to help you plan and implement this project at your institution. As a part of the guidebook you will find a checklist for the major steps in implementation to help you keep track of the module as you progress through its planning and implementation. This is not to say that the following pages are the definitive instructions for a successful project. Institutions will have their own unique skills and needs to include in the learning module. This is truly a *guidebook*, a place to start and keep organized as you implement the module in your location. We have also included space for you to keep track of important dates and contacts, this way all of the information you need can be kept in a single place. At the end of this guidebook you will find additional resources not used in the initial implementation of the module. These have been provided to assist you in customizing the module to your specific students and location.

You may wish to print out this packet and keep it in a 3-ring binder. This way, as you add your own resources and planning information, it is all in one place ready for future implementations. Finally, at the end of this sourcebook we have included a form for your feedback. We appreciate your comments and suggestions on how to make the most from these modules. Only through your kind of feedback can the SOS evaluation team continue to ensure the usability of these modules in diverse settings across Ohio.

Module Overview

Ownership of our shared environment is a key part of developing stewardship in future generations. However, the issues of quality control and standards for environmental factors can seem distant. This module aims to bring the matter directly to the students. In this module students hear from representatives from agencies involved with the safety, processing, and security of our water supply. After hearing from these individuals firsthand the importance of maintaining a safe and high-quality water supply, students will have the opportunity to test their local water for themselves.

The primary curricular link is science and biology. However, the importance of safe and clean water can easily cross-over into subjects such as social sciences, government, and even history, where water quality has played an important role in the development of cleaner and healthier cities. Opportunities also exist for taking the subject out of the classroom and into the community. Regardless of positive or negative results, the greater community can only benefit from the results of this project. Additionally, students will complete the project with a greater understanding and appreciation of the work that goes into maintaining clean water for both human and wildlife in our state.

Important Information when Getting Started

The success of the Learning Module depends on a few critical aspects that should be carefully addressed prior to beginning even the planning stages of any module. Some may seem self-evident, such as having the necessary amount of time. However, it is highly recommended that institutions carefully examine such issues to see if implementation is a realistic goal for any given academic year.

- **Institutional Support:** Critical to the success of these programs is the support of you peers within your institution. Administration, faculty and staff need to be enthusiastic, committed, and supportive of the program. You may wish to use some of the data included in the introduction to show the value of service-learning programs.
- **Time:** As noted above, you need to be realistic about the amount of time required by both the lead instructor as well as all other faculty and staff involved in the project. It is suggested that a preliminary meeting be held to ensure that involved parties will have the necessary time to commit to the project.
- **Funding:** Being realistic about what you can and cannot do is an important part of a programs success. Working with administration to ensure proper funding for supplies, transportation, or any other necessary expense will greatly increase the profitability of the program for your students. Depending on your project, your Major Partners may provide you with some of the supplies you need.

- Outside partners: Early planning and commitment is very important when working with outside institutions and agencies. Find your contact person early and get a solid commitment from them. Make sure they know what you expect from them as well as what they expect from you.

You can also contact the SOS evaluation team if you have questions. We have partnered with a number of individuals involved in the program and can help get you the assistance you need, often from the person who created the module.

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Necessary Resources and Major Partners

The following is a list of suggested Major Partners for the Water Testing Learning Module. Depending on your area you may have additional resources available. Please also refer to the “Additional Resources” section.

- **Local Water company**
- **Local Community Health and Wellness agency**
- **Parks and/or Wildlife agency**

The following agencies were involved in the Water Testing Learning Module in its initial development and implementation.

- **Brown County Soil and Water**
- **Brown County Health Department**
- **Adams/Brown Recycling**

Instructional Supplies & Materials

The Water Testing Learning Module does not require a large number of supplies. In its initial implementation the Brown County Department of Soil and Water provided the necessary testing supplies. Check with your Major Partners to see if they can assist in providing supplies for you.

- Dip nets
- Waders
- Testing Chemicals
- Closable containers
- Saines
- Animal Identification posters

Additionally, you will need or should consider:

- Transportation to testing location
- Change of clothing
- Old clothing and shoes
- Garbage bags (for muddy items)

Curriculum Integration

This Learning Module was implemented as part of the science curriculum. Additional suggestions include:

- Science: Environmental issues, importance of water as a natural resource. The role of water in the ecosystem. The importance of water in the food chain. Effects of water quality how that can impact the local water table.
- Geography: Understanding the concept of watersheds and how local water quality has an effect on the greater water supply of the larger region. This can be very effective in those areas whose watersheds are directly tied to large bodies of water such as major rivers, reservoirs, and lakes. Understanding the water table and how it functions as part of the larger ecosystem.
- Social Science/ government class: The EPA, its history and function within the government and its relation to state and local governments.
- Health: Medical issues surrounding tainted water supplies.

Problems to Avoid

This module did not present any major problems in its development and implementation. However keep in mind that students will be getting wet. Students should be prepared by wearing appropriate clothing that can get wet and muddy. The bus may become muddy after the exercise and need to be cleaned. Students should bring a change of shoes and a bag for their muddy ones. It is suggested that students to bring a change of clothing for after the field trip. The module should be done in the fall and spring.

Other problems to avoid are more general to any project of this type. Start planning early to avoid problems at the last minute. Confirm any special guests or visits several weeks prior to the implementation. Finally, keeping the faculty and staff at your institution updated in the planning and progress of the project avoids any possible schedule or curricular conflicts.

Module Implementation

The following is a general model for the implementation of the Water Testing Learning Module. Every implementation will have its own differences, you are encouraged to be creative and make the module your own.

- Approval from administration for the module and any necessary funding.
 - Approved on _____

- Gather in-house faculty and staff who wish to be involved in the implementation
 - Meeting date _____
 - Interested faculty/staff _____
 - _____
 - _____
 - _____
 - _____

- Discuss overall goals of the module
 - Immediate goal(s) _____
 - _____
 - _____
 - Long term/secondary goals _____
 - _____
 - _____
 - _____

- Decide on what curricular areas to cross-link the module across (this will depend on what faculty is available to be involved in the project). Check all areas that have been confirmed with necessary faculty/staff support.

- Language studies? _____
- Social sciences? _____
- Math? _____
- Science? _____
- Health/PE? _____
- Vocational? _____
- Art? _____
- Foreign Language? _____
- Other (specify) _____

- Set a date for any off-site visits or tours (a separate form is included for more detailed itinerary information).

- Date _____ Destination(s) _____

- Contact selected outside resources. Begin with local governmental agencies responsible for water quality in your area. Refer to both the list of Major Partners as well as the Additional Resources section of this guidebook. Local community colleges and/or universities in your area may also be willing to assist. Additional detailed forms are available at the end of this sourcebook.

- Contact: _____ Organization: _____

Phone: _____ Email: _____

Notes: _____

○ Contact: _____ Organization: _____

Phone: _____ Email: _____

Notes: _____

○ Contact: _____ Organization: _____

Phone: _____ Email: _____

Notes: _____

○ Contact: _____ Organization: _____

Phone: _____ Email: _____

Notes: _____

- Gather necessary materials and supplies for the city construction project (if not provided by a Major Partner). Discuss this part of the project with students.

Explain the testing process and procedure in advance.

- Once you have selected the testing site(s) to visit set a date and time well in advance and ensure it does not conflict with other activities at your institution.

- Field-trip date _____

- Depending on what locations your field-trip is visiting, you may wish to augment or supplement your in-house lessons and curricular links. Set up a brief update meeting with the involved parties to bring everyone up to speed.
 - Meeting date and time: _____
- Begin curricular integration of the module in the classroom.
 - You may wish to send home a brief communication to parents/caregivers about the project and field trip. Explain the goals of the module and what students can expect to gain from the experience.
 - Send out necessary permission forms to parents/caregivers.
- Contact any outside guests and reconfirm dates and times well in advance of the scheduled date.
 - Contact:_____ Confirmed:_____
 - Contact: _____ Confirmed:_____
 - Contact: _____ Confirmed:_____
 - Contact: _____ Confirmed:_____
- Contact your field trip contacts and confirm your scheduled arrival date and time if they are to assist in the testing part of the project. Do this at *least* a week in advance to avoid a last-minute change in schedule.
- If necessary, send home reminders about the field-trip and necessary permission forms.
- Field trip
- Student discussion and evaluation of project

- Module completion follow-up meeting with involved staff, faculty and administration. This is the time to discuss, plan, and suggest alterations for future implementations of the module. Input from students should also play a role in this discussion.
- Send comments, suggestions, and your thoughts back to us. We hope to continually evaluate and modify these modules so they can be successful for a wide range of institutional settings.

Additional Resources

The following resources are provided to assist you in customizing the Beyond the Freeway Learning Module for your particular student group and institution. You may wish to print out information from these sources and add them your guidebook binder for future use.

- Ohio EPA www.epa.state.oh.us (main page)
 - Division of Surface Water: Click “Offices and Programs” and then select “Surface Water.” You can find program details and resources here on water quality and testing programs.
 - Also under “Offices and Programs” is the state Drinking and Ground Waters department.
 - Also refer to the Education section by clicking “Public Participation” and then selecting “Students and Teachers” from the side bar menu. This section continues reading lists, information to schedule a guest speaker, and other useful information.
- Ohio Department of Natural Resources: www.dnr.state.oh.us The web site has sections on conservation and education.
- Local colleges/universities: You may be able to get assistance from college programs already working on environmental projects.

If you discover additional resources that may assist others in using this module, please list them on the included response form, at the end of this guidebook.

Contact Information

Name: _____ Phone: _____

Email: _____ Fax: _____

Organization: _____

On-site visitor: _____ Field-trip contact: _____

Date of visit/trip: _____ Arrival time: _____ Departure time: _____

Topic of visit/trip: _____

Notes: _____

Name: _____ Phone: _____

Email: _____ Fax: _____

Organization: _____

On-site visitor: _____ Field-trip contact: _____

Date of visit/trip: _____ Arrival time: _____ Departure time: _____

Topic of visit/trip: _____

Notes: _____

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Topic of visit/trip: _____

Notes: _____

Name: _____ Phone: _____

Email: _____ Fax: _____

Organization: _____

On-site visitor: _____ Field-trip contact: _____

Date of visit/trip: _____ Arrival time: _____ Departure time: _____

Topic of visit/trip: _____

Notes: _____

Response Form

Your name: _____ your institution: _____

Phone: _____ email: _____

Name of Learning Module: _____

Circle one: Primary school Middle/intermediate school High school

Circle one: Urban Rural Suburban

Overall, did you feel the module was successful in accomplishing your educational goals? In not, please explain. _____

Did you feel that this guidebook provided you with the necessary tools to complete this Learning Module? _____

What alterations, if any, did you make to the module for your institution? _____

Did you experience any problems or obstacles in planning or implementation? _____

What outside resources or partners did you team with? _____

What suggestions do you have for other institutions planning on using this Learning Module? _____

Please check each curricular area you integrated this module into and provide an example of what was involved in that integration (please attach additional pages if necessary).

Language arts: _____

Social science: _____

Math: _____

Science: _____

- Health/PE: _____

- Vocational: _____

- Art: _____

- Additional comments: _____

Thank you for taking the time in filling out this form. Your comments are extremely valuable. If you would like to be contacted for a more in-depth discussion please feel free to let us know, we would be more than happy to meet with you and discuss your experience with this SOS Learning Module.

Return to:
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