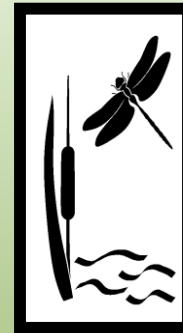
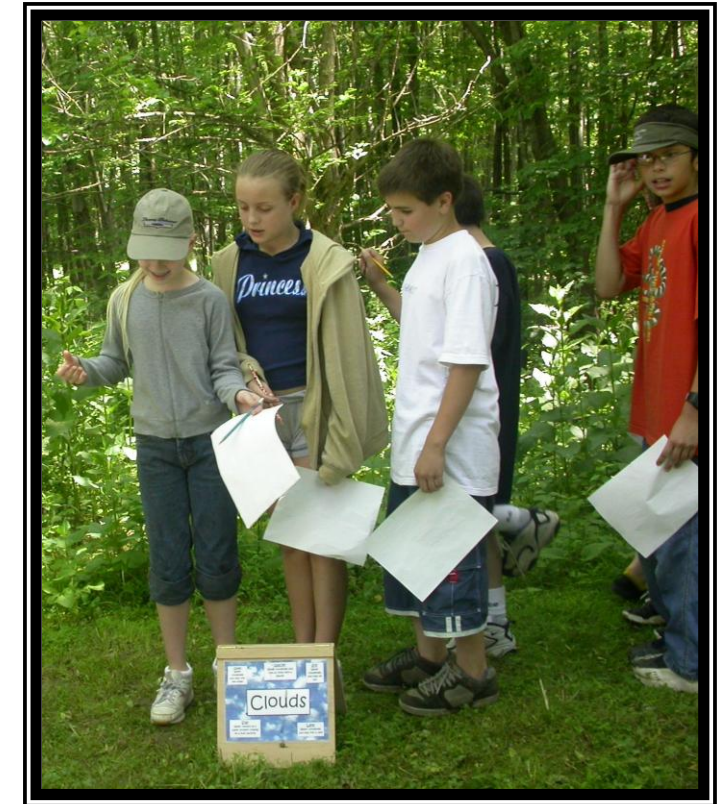


# Churchville Nature Center



E  
N  
V  
I  
R  
O  
N  
M  
E  
N  
T  
A  
L  
  
E  
D  
U  
C  
A  
T  
I  
O  
N  
  
P  
R  
O  
G  
R  
A  
M  
  
G  
U  
I  
D  
E



Churchville Nature Center  
501 Churchville Lane  
Churchville, PA 18966

## A Guide to the Environmental Education Programs at Churchville Nature Center

Bucks County Commissioners  
Robert G. Loughery, Chairman  
Charles H. Martin,  
Diane M. Ellis-Marseglia, LCSW

*The Bucks County Department of Parks and Recreation does not discriminate on the basis of disability in its programs, activities, and facilities. The official registration information of the Friends of Churchville Nature Center, Inc. may be obtained from the PA Department of State by calling 1-800-732-0999.*

### STAFF

Director: *Chris Stieber*  
Assist. Director: *Kirsten Becker*  
Naturalist: *Marlin Corn*  
Lenape Village Director: *Marge Custer*  
Environmental Ed. Director: *Peg Mongillo*  
Coordinator of Volunteers: *Diane Sears*  
Bookkeeper: *Janna Winans*

### FRIENDS OF THE CHURCHVILLE NATURE CENTER

#### BOARD OF DIRECTORS

President: *Rick Tweed*  
Vice President: *Pat Komelasky*  
Secretary: *Chris Walker*  
Treasurer: *Susan Friedman*  
*Art Friedman*      *James Kelly*  
*Roy Reinard*      *Ted Robinson*  
*Andrea Mangold*      *Scott Petersen*  
*Mike Repak*      *Debbie Repak*  
*Bob Smith*

*Your window to the natural world*

# Our Mission

is to instill  
an awareness  
and



appreciation of the  
natural world in all  
people through  
education,



and to promote  
responsible,  
environmental  
stewardship



with a commitment to the preservation of resources  
and wildlife habitat.

## WHAT HAPPENS IF IT RAINS?

If the weather is too inclement for the group to go outdoors, you have two options, 1) reschedule for another day, or 2) participate in a rainy day program. The rainy day program is an hour long and consists of activities related to your topic, as well as a tour of the nature center.

## MAKING RESERVATIONS

Reservations for an Environmental Education program may be made by phone. Call 215-357-4005. Programs may be scheduled Tuesday through Friday between the hours of 10:00 AM to 5:00 PM. We suggest that you call as far in advance as possible, as space is limited.

### Fees:

<u># of Students</u>	<u>Fee</u>
1 - 12	\$ 66
13 - 24	\$ 132
25 - 36	\$ 198
37 - 48	\$ 264
49 - 60	\$ 330

For group sizes larger than sixty – call for fees

Fees include 12 children and 2 chaperones. Additional chaperones are charged the program fee of \$4.50 each.

**Fees for full-day programs are listed in brochure.**

Fees are due two weeks after the reservation is made; otherwise, the reservation will have to be canceled.

**\*\*\* Fees in this brochure are effective until 8/31/16\*\*\***

## CANCELLATION POLICY

In the event that you must cancel your reservation, the center must be notified at least one week before the date of your program in order for you to be issued a refund, less a \$10.00 cancellation fee. If you need to cancel less than one week before your program date, we must be notified before the close of the last nature center business day before your scheduled program (be aware we are closed on Mondays). In this case we can reschedule your program for a different date.

---

---

## *Meet the Staff*

The staff of educators at Churchville Nature Center shares a very special quality: a very deep commitment to the preservation of the quality of life for all living things on our earth. To that end each one brings with them a cache of knowledge and education. We are fortunate to have such a dedicated staff.

The Lenape Village educators go through an extensive training period, learning the way of life of the Lenape People who once inhabited this area.



We are approved by the PA Department of Education to be a provider of continuing education workshops for teachers.

Each of the environmental educators in the Environmental Education Department brings with them a unique blend of field experience and education. Each one has participated in an intensive training session. The environmental programs are designed and taught with the input from this highly skilled group of teachers. All the necessary background checks are done on each new educator.



---

---

## About Churchville Nature Center Environmental Education Programs

The Churchville Nature Center is a special place developed for preservation and education in Bucks County. In 2004, the center celebrated its 40<sup>th</sup> anniversary. The facility, located adjoining the Churchville Reservoir, provides an ideal setting for an outdoor component to your classroom curriculum. Within easy walking distance are the diverse settings of a wet meadow, marsh, woodland, Eastern White Pine grove, pond and lake.

Each environmental education program is designed with lots of hands-on, exploratory activities. If you would like to plan for a full day at the center, programs can be combined or a large group auditorium show can be arranged.



Our programs are designed to help fulfill requirements of Pennsylvania Academic Standards for Environment and Ecology. For further information in this regard talk to our Environmental Education Director at 215-357-4005 Ext. 14.

---

---

To Schedule a program call 215-357-400

## Half Day Programs

### Nature Awareness

(Grades pre-k and up: all seasons)

A program designed for all age levels. This sensory and exploratory journey through the many habitats of Churchville Nature Center takes the students on a discovery adventure. They are encouraged to use their senses and inborn curiosity to become more aware of their environment.



### Home is Where the Habitat is

(Grades 2 -5: all seasons)

This program incorporates the unique ecosystems at Churchville Nature Center. Students visit marsh, meadow, pond and lake to survey who lives there and what special adaptations each species in the habitat uses to survive.

### Amazing Insects

(Grades k-6: spring or fall)

An educational program designed to look at some of the most diverse and abundant animals on earth. We fear them, yet we need them for our survival. Some are pests, yet they are invaluable to us. Students participating in this program leave with a renewed respect for these small but mighty creatures.



### Wild About Plants

(Grades k-12; all seasons)

This program focuses on the green energy-making plants, which feed the communities that thrive in PA. Depending on the season, students will be introduced to ephemerals (early spring flowers), native flora, seeds and pods. We strive to preserve an environment rich in diversity typical to Bucks County.

To schedule a program call 215-357-4005

# Community Cooperative Watershed Watch Project

A program for 4<sup>th</sup> – 12<sup>th</sup> grade students

CCWWP is a partnership between the Churchville Nature Center and local school students working to improve the quality of our local watershed. Students and teachers travel to selected sites within the Churchville Greenway Watershed. Once there, students are involved in a series of activities, collecting data and recording observations. Students will learn to do a physical inventory, visual assessment, chemical analysis, and a biotic survey of the stream site. Data collected is compared to data collected by other students at other sites within the Churchville Greenway Watershed and used to assess and suggest improvements needed.

Participating in this project is truly a valuable experience for students. Teachers receive an “Educators Guide to Freshwater Ecology” manual, student activities for the classroom, and use of chemical testing kits for in-class preparation. All materials are supplied for a field study trip. Prior to the trip, we will come to school and present a one-hour program to prepare students for the actual trip.

Fee for participating in project:  
\$12.00 per student.

Includes:

- 1 hour auditorium program at your school
- 2-1/2 hour field trip at selected site
- Churchville Nature Center Staff
- Teacher Packet
- Use of all testing equipment
- CNC generated “Data Report”, including photos of trip





# Teacher Workshops

The Churchville Nature Center Education Department is an approved provider of Act 48 credit hours. These courses can be held at your school, or a date can be set up to accommodate a group of teachers from your school here at the center.

## Freshwater Ecology & Watershed Monitoring

This workshop covers a variety of topics as they relate to watersheds and freshwater ecology. We will cover the dynamics of an ecosystem. We will look at biological indicators, species tolerances, water quality assessment, physical characteristics and chemical testing of an aquatic ecosystem. This is an intensive workshop, and a teacher manual is supplied.

## Natural Encounter & Holistic Learning Workshop

This workshop was developed to help educators integrate natural learning methods into their educational activities. The methods presented in this workshop are ideally suited to help students establish a strong, nature-based foundation upon which to build their educational and life experiences, and it encourages students to be more focused program participants.

## Outdoor Education Conference

This conference, held in the spring, supplies the educator with ways to use the outdoors and area nature centers as a resource for an outdoor component for their in-class curricula. Join us as we sample some of the unique programs offered at Churchville Nature Center.

*All courses listed are Act 48 approved*

Teachers receive a 10% discount on all reference books sold in our store

# Half Day Programs

## Aquatic Ecology (Grade 2 –4)

Students analyze the inhabitants of a pond to understand the concepts of community and diversity better. We will use nets to borrow the creatures from their home to identify them. Students will learn the relationships between a healthy pond and human health.

## More Trees, Please (Grades 3– 12)

This exploratory, hands-on program offers a detailed look at the many benefits and uses we get from trees. Students will discover how much we depend on trees in our everyday lives.

## Our Watery World (Grades 4–12)

Water is the most common substance found on earth. However, over 97% of our water supply is too salty to use for our purposes. Another 2% is inaccessible to us. With less than 1% of Earth's water available to us, the need for constant watershed monitoring is a necessity. Chemical testing, visual observations and biotic index are some of the tools the students will use to determine the quality of the water in our local watershed.

*Student Instructor Ratio  
12:1*

*Two chaperones are  
required with each group.*

Each half-day program is  
1-1/2 hours.

*Groups are welcome to  
have lunch in our picnic  
grove, and if time allows,  
to visit our gift shop and  
interactive displays.*

## Reptile Smiles (Grades pre-k – 12)

This is a unique program featuring live snakes, lizards and turtles. The diversity of these fascinating creatures, what makes them different from other animals, and their important role in the world's ecosystem will be stressed. This is an indoor program and will not necessitate that students be split into separate groups.

## Full Day Programs

### Schedule of Activities

- ⌚ 20 minute slide show presentation on stream ecology and the water cycle
- ⌚ 45 minute habitat assessment and chemical testing
- ⌚ 30 minute lunch break
- ⌚ 40 minute macroinvertebrate collecting and identifying
- ⌚ 25 minute marsh exploration
- ⌚ 20 minute water cycle activity or plant survey



### Schedule of Activities

- ⇒ 40 minutes learning to use a compass and reading maps
- ⇒ 40 minutes practicing with compass and learning navigational skills using the sun and stars
- ⇒ 40 minutes following trail directions and leaving trail markers
- ⇒ 30 minute lunch
- ⇒ 1 hour following trail of another group and learning to tell direction using natural signs; e.g. moss on trees

## Ecosystems: Freshwater Ecology (Grades 4 – 12)

This full-day program offers teachers and students a hands-on field study and practical application of the Watershed and Wetlands standards as listed in the PA Academic Standards for Environment and Ecology. Depending on the grade level, students will be involved in gathering, recording and evaluating data collected in a variety of aquatic habitats. We will be using sophisticated, non-toxic chemical testing equipment in a variety of media.

**NEW**

## Lay of the Land (Grades 4 – 12)

This is a *life skills* program teaching students about orienteering and finding their way around anywhere. Students will explore maps: both topographic and street. The morning is spent learning to read a compass and follow directions. They will learn to orientate themselves with a compass and with natural signs such as stars, the position of the sun and the use nature around them. They will be given directions to follow a trail at the nature preserve, and learn to leave a trail for others to follow.



1-15 students...	\$135.00
16-30.....	\$270.00
31 – 45.....	\$405.00
46 – 60.....	\$540.00

\$8.00 per student extra

## Outreach Programs



We come to your school

### Rainforest Ventures

Explore the world's diverse rainforest ecology through a series of interactive activities. Three programs to choose from:

- “Rainforest Adventure” – ages 4-6
- “Rainforest Exploration” – Gr. 2-4
- “Rainforest Ecology” – Gr. 5-6

### O! Gee! Geology

Grades 3 - 6

This is a hands-on interactive rock cycle program. We will explore the processes that make up the changes in the Earth. Students become geologist, as they look for meteorite dust, explore a volcano, pound copper and create a metamorphic rock.

### Reptile Smiles

All grades

This exciting program features live snakes, lizards and turtles. Students will learn about the diversity of these fascinating creatures, what makes them unique, and the importance of their role in the environment. All reptiles used are harmless. (Special Fee)



### Schoolyard Habitat

All Grades

One of our naturalists will visit your school and take your class on a trek around school property. They will see things they never noticed before. This is an excellent program for student and teachers.

### Enemies of Diversity

Grades 4 - 12

Why are animals and plants becoming endangered, how can we manage this valuable part of our ecosystem, and why should we care, are some of the questions the students will explore.

We will come to your classroom and engage your student in hands-on, interactive activities during any of these traveling programs

Fee for one classroom of max. 30 students is \$85.00

Fee for two or more classrooms in one day is 75.00 per class.

Special discounted rates also available for multiple classes in one school spread out over time.

To Schedule a program call 215-357-4005

Special  
Seasonal  
Program

## Maple Sugar Program



*Special Program  
Fee  
\$4.50 per student*

Students will travel from station to station learning how to identify maple trees. They will see the proper method of extracting sap and boiling it to make it become maple syrup. They will learn the history of this process, starting with the Native Americans.

- Maple Sugar comprised 12% of the diet of Native Americans. The Indian name for maple sugar is *Sinzibuckwud* (drawn from wood)
- It was pointed out as one of the attractions of the “New World” that, whether settling in the South or in the North, one could grow one’s own sugar in one’s own backyard.
- Information on the benefits and practice of maple-sugar making was included in tracts for immigrants to Canada and the United States
- The use of maple sugar was regarded as an act of protest during the Civil War in the United States. All of the cane sugar, and most of the molasses, was raised and produced in the southern states. During the war and prior to the war, people in the north refused to use cane sugar. Northerners used maple sugar to sweeten their foods. Therefore, using maple sugar was a form of protest against the South.

## Design a Series Programs

*Each 1-1/2 hour program in this “Soil Series” is designed to compliment all other programs in the series.*

### The Dirt, the Whole Dirt, and Nothing but the Dirt

(Grades 2 – 12)

This program answers many questions. What is soil? How is soil formed? What are the different types of soil? What are the components of soil? How does water influence the development of soil? We will explore the various cycles occurring in the development of soil. Students will learn to do soil profile and use a soil triangle to determine the type of soil. We will end with a “Painting with Soil” activity.

### Weathering Rocks

(Grades 4 – 12)

We will take the students on an in-depth look at soil formation. We will discuss and observe examples of weathering, erosion and chemical breakdown. It’s an ever-changing world for rocks. The minerals in a rock affect the chemical composition of soil.



### Micro Fauna: The Soil Dwellers

(Grades 4 – 12)

This program starts with an investigation of the community under a decaying log. We will examine the organic matter layer under the log, observe the organisms living there, and collect samples from the deepest layer to discover even tinier organism, breaking down the organic matter. Students will learn how to use a Tullgren funnel to extract these organisms from the soil.

### More Nutrients Please

(Grades 4 – 12)

This program focuses on the nutrient requirement of high order plants. It explores a plant’s influence on soil type and soil’s influence on plants. Students will determine the nutrients required by plants and how the availability of nutrients determines the type of plants that will survive in certain soil types. Students will learn about the symbiotic relationships happening within the soil ecosystem .



**Combine two of our half-day programs for a full day of outdoor education,  
or  
participate in a half-day program, then treat your students to a live reptile program after their lunch for only \$1.00 more per student.**

## Lenape Village Programs

The Churchville Nature Center offers a wide variety of educational programs. One of the most unique is a hands-on, living history program about the Lenape people who once inhabited the area.

**Trained educators dressed in authentic buckskin will present the students with a hands-on experience in our Lenape Native American Village. The Village depicts life in the time of the 1500's; just before contact with European settlers. We have striven to be historically accurate in our outfits, structures and information.**

In order to enhance and reinforce the learning process, teachers will be mailed a confirmation letter with information to prepare students for their visit, and given a post-trip packet to review with them afterwards.

Our staff work with up to 15 children at one time. Groups larger than 15 should be split into separate groups with their own educator. All groups have two teachers or chaperones for every 15 children.

### 1½ Hour Program

(Age 4 and up)

This program is a general introduction to the life of the Lenape people. Included in the tour of the whole village will be information on family life, cooking, gardening, hunting and other basic skills while touring the whole village.

Fee:

# of Children	Cost
1 – 15	\$100.00
16 – 30	\$200.00
31 – 45	\$300.00
46 – 60	\$400.00
61 – 75	\$500.00

Teachers and Chaperones - \$5.00

### 3½ Hour Program

(3<sup>rd</sup> Grade and up)

This program is an extended hands-on experience, which is not possible with the shorter programs. There are seven interpretive stations through which students are rotated. Each station introduces another aspect of the daily life of the Lenape people.

Fee:

Students	\$8.60 each
Teachers and Chaperones	\$5.00 each



## Interpretive Stations

1. **Garden/Horticulture** – Students will learn about the garden and foods that were grown, such as corn, beans and squash. Also discussed will be the foods foraged for, such as wild edibles, seeds and nuts. On the way to the next station, students can observe the construction of a dugout canoe.
2. **Family Life** – Students will have a chance to see a Lenape bark house first-hand and learn how it is constructed, as well as learn about the family life, clothing and other social aspects of the Lenape.
3. **Hunting Skills** – Hunting was a necessary and needed skill to have in order to survive and to provide for both food and clothing. Students will learn many of the methods used to hunt, such as traps, snares, bow and spear. At this station, the children will also learn the importance of the whitetail deer.
4. **Fire Making** – The ability to make fire was a very basic and necessary skill. Fire provided warmth, heat for cooking and many other uses. Students will learn how to make a fire by friction, and how to construct a tipi fire. The highlight will be the production of fire from scratch, using only natural materials.
5. **Pottery** – The ability to make containers and other items out of natural earth allowed the Lenape to make bowls and pots that could actually be put on the fire for cooking. Students will learn the process of making a clay pot from start to finish, and have a chance to make their own finger pot to take home with them.



6. **Food & Cooking** – Students will learn the ways various foods were prepared, such as hominy, bread, stews, nut oil and more. Then they will be shown how these foods were stored in the village.

7. **Natural Cordage** – Natural cordage is the use of natural fibers to make string, rope and other lashings. The ability to make cordage was a basic skill, since it was used to make homes, clothing, tools and much more. At this station the students will learn about the plants used to make cordage, and will be able to make their own piece to take with them.

