Educational Programs for Youth

Cornell Cooperative Extension of Oswego County
www.thatscooperativeextension.org
963-7286
Dear Partner in Education,

The educators of Cornell Cooperative Extension of Oswego County are pleased to present the newest edition of our Educational Programs for Youth.

4-H Youth Development, the youth component of Cornell Cooperative Extension, links the resources of Cornell University to young people between the ages of 5 and 19 years of age. The program, here in Oswego County and elsewhere, creates opportunities for youth to develop skills, gain practical knowledge and wisdom through observing, doing and reflecting on experiences. 4-H calls this “learning by doing”—an evidence-based learning model that has been successful for over 105 years. Regardless of whether the subject area is engineering, nature, nutrition or science, children who are exposed to 4-H programs are better prepared to accept responsibility for themselves, their role in preserving the environment and to take active part in their families and communities.

The programs listed in this publication incorporate the foundation of the 4-H program and are based upon the principles of youth development. They are derived from the exciting and innovative curriculums in the areas of agriculture, environmental science, horticulture, fiber science and life skills that have been developed by Cornell University researchers and faculty. Oswego County educators utilize these resources to create educational experiences for Oswego County youth that meet the requirements of many of the New York State Learning Standards and Common Core Standards.

The field trips and school or community based programs have been specifically developed to augment classroom instruction and enhance community programming in libraries, youth centers and parks. Regardless of the site, lesson plans reflect the ages, developmental needs and abilities of participating students. 4-H Clubs, Boy Scout and Girl Scout troops, and other youth groups are encouraged to schedule programs for club and troop meetings.

This publication is organized by subject areas. Booking information can be found on the next page. Please be advised that fields trips to the Amboy 4-H Environmental Education Center can be contracted through BOCES Arts- in-Education Program. You will need to contact your principal for more details about this payment option.

We remain committed to continuing to develop our educational partnership and look forward to your participation in Cornell Cooperative Extension of Oswego County and our programs.

Sincerely,

Paul A. Forestiere II
Executive Director

Linda C. Brosch
4-H Team Coordinator

Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EEO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.
Our School Enrichment Program offers the two following components:

♦ Classroom visits by Cornell Cooperative Extension of Oswego County staff. There is no charge for classroom visits.

♦ Programs at our Amboy 4-H Environmental Education Center. See page 10 for Amboy 4H Environmental Education Center fees.

Please call us to schedule your educational program TODAY

We can be reached at 963-7286, Monday—Friday,
www.thatscooperativeextension.org/4-h_enrichment

Email: Linda Brosch: lcr23@cornell.edu
       Cynthia Walsh: cw99@cornell.edu
       Debbie Holliday: dah28@cornell.edu
       Jan Smith: jes89@cornell.edu
       Mary Matteson: mmm65@cornell.edu
**Title: Buzzing About**

**Audience:** 2nd-5th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  

Bees are such amazing insects! They are a very important part of the agriculture world for two reasons: they produce honey, an important, unique food for humans and they are our largest group of pollinators. Students learn about the honeybee, honey production, parts of a flower and pollination. In the process of playing a game, they learn about plant pollination as they pretend to be honeybees and apple trees.

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**Title: Discovering Milk with Clover, the Milking Cow**

**Audience:** K-3rd  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  

During this program, a milking cow made out of plywood provides a hands-on activity as youth learn about milk production, animal husbandry and dairy nutrition facts.

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**Title: Fruit or Veggie?**

**Audience:** K-4th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  

People depend on plants for clothing, shelter, oxygen, transportation, and even recreation. Plants provide people and other animals with food. As students identify and compare fruits and vegetables, they increase their understanding of the parts of a plant, their purpose and which parts we eat most often. This is done with fun activities that include a jeopardy style game and taste testing.

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**Title: How Corny**

**Audience:** K-5th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  

This workshop explores the world of corn and popcorn production as well as the many uses from food to fuel to packing peanuts that corn has in today’s society.

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**Title: By the Way**

**Audience:** 3rd-6th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  

Most people can easily identify a main product and its origin, but it is often hard to spot the connection between by-products and their origin as the manufacturing process changes the form of the item. Various products are displayed together in the classroom for all to see with the sign “Every item on this table has something in common, a relationship.” Using Detective Rules, students work together in small teams to solve the mystery of the relationship between the items. Examples of commodities that may be used include corn, cattle, soybean, eggs, hogs.
Title: **Incubation and Embryology**  
**Audience:** K-3rd  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

This program teaches about the development of a chick embryo in a fun light-hearted presentation. Can easily be adapted to various age levels.

Title: **Tree-mendous**  
**Audience:** 2nd-6th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

The tremendous importance of trees to our lives can be equaled to that of clear water, clean air and fertile soil. Trees and the products derived from them provide immeasurable daily benefits for us. Students play either a fast paced word game or a round of “Wood” Jeopardy that helps them learn new words as well as gain an appreciation for the variety of ways people use and benefit from trees.

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Title: **Journey from Orchard to Table**  
**Audience:** K-4th  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Youth will discover through role-playing how many agriculture related careers are involved as an apple journeys from the orchard to the table.

Title: **Pasta Please**  
**Audience:** 2nd-6th  
**Educator:** Debbie Holliday  
**Program Length:** 60-90 minutes  
**Availability:** Year-round

Youth learn about grains, food origins, culture and develop their own cooking skills as they make their own pasta and sauce.

Title: **Rethink Your Drink**  
**Audience:** K-12th  
**Educator:** Cynthia Walsh  
**Program Length:** 30-45 minutes  
**Availability:** Year-round

During *Rethink Your Drink*, youth will learn how to make healthy drink choices. Hands on activities will help the youth see how much sugar they are currently drinking and thus recognize healthy selections.
**Title: Sun Safety**

**Audience:** K-12  
**Educator:** Debbie Holliday  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Skin cancer statistics are on the rise! Most people receive 80% of their lifetime exposure to the sun before they reach the age of 18. Skin cancer in adults often occurs because of sun exposure and burns they received as kids. The best way to prevent this is to educate youth about cancer, the effects of a sunburn, the need for sunscreens and other barriers to block the sun’s UV rays. We teach youth how to develop a personal sun protection program. This is done with age appropriate lessons and activities. Participants will make their own personal UV radiation detector to show them when they are exposed to harmful UV rays. Sun protection is a year round concern for all ages.

**Title: Biofuels**

**Audience:** 4th-12th  
**Educator:** Linda Brosch  
**Program Length:** 60 minutes  
**Availability:** Year-round

Renewable energy sources like biofuels are constantly making headlines in the news today. This program explores the production of the biofuel ethanol. It is typically made in the US by converting the starches from corn kernels into the sugars in corn syrup, and then adding yeast to break down the sugars, which releases carbon dioxide and ethanol as byproducts.

**Title: Birds of Prey**

**Audience:** 3rd-12th  
**Educator:** Linda Brosch  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Students and educators will learn to appreciate the ecological significance of predation in natural systems and understand the role of birds of prey in the environment. They will explore predator-prey relationships, as well as, life histories and the ecology of birds of prey. Detailed species accounts of vultures, hawks, eagles, ospreys, falcons, and owls will be investigated.

**Title: Cleaning Up an Oil Spill**

**Audience:** 4th-7th  
**Educator:** Linda Brosch  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

This is a hands-on lesson in which youth learn how dispersion is helpful in environmental cleanup operations. Students will use deductive reasoning to determine which method and materials work best in cleaning up an oil spill on a miniature model pond.

**Title: Butterfly Wings**

**Audience:** 3rd–7th  
**Educator:** Jan Smith  
**Program Length:** 60 minutes  
**Availability:** Year-round

What is the difference between a butterfly and a moth and how do you tell the difference? In this lesson youth explore habitats, and learn how to identify common butterflies. Youth create investigations to answer questions or solve problems and share their findings with others.
Title: Do All Vegetables Look Alike
Audience: K-4th
Educator: Jan Smith
Program Length: 45-60 minutes
Availability: Year-round

In this program children learn about vegetables, their growth requirements and habits, and how they reproduce. Hands on activity will show the difference in size, shape, and texture of many different vegetable seeds. They will also be able to put together their own vegetable id sheet.

Title: Ecobots
Audience: 4th-12th
Educator: Linda Brosch
Program Length: 60 minutes
Availability: Year-round

Youth enhance their engineering skills by learning to think like a robotics engineer, assembling their own robots in order to manage an environmental clean-up.

Title: From Sap to Syrup...The Sweet Delight of Maple Sugaring
Audience: 2nd-12th
Educator: Jan Smith
Program Length: 45-60 minutes
Availability: February-March

Maple sugaring has been a part of our culture in New York State for many years. Students learn about the sugaring process, including tree identification, tapping, collecting and processing sap, tree biology and the history of maple sugaring.

Title: Insectaganza Excitement
Audience: K-8th
Educator: Linda Brosch
Program Length: 45-60 minutes
Availability: April-October

Insects are in the cracks of the sidewalk, underneath and inside logs in the woods, and even in our houses. They are everywhere. Insects are the most abundant class of animals in the world. They can be the most destructive, as well as, the most productive. This program will introduce students to the insects. Hands-on activities will show the students why these animals are so successful.

Title: Fabric Flight Connection
Audience: K-7th
Educator: Mary Matteson
Program Length: 45-60 minutes
Availability: Year-round

This program provides youth in grades K—5 information about non-apparel uses of textiles and encourages exploration of careers in science and technology. Suggested hands-on activities teach students how objects move through the air. Patterns and instructions for making boomerangs, windsocks, kites, rockets, hot-air balloons, parachutes, gliders and more are included.
Title: In-Touch Science: Fibers & Animals

Audience: 4th-12th
Educator: Mary Matteson
Program Length: 45-60 minutes
Availability: Year-round

Ten activities show children how each of five science concepts relate to animal life and to fibers used for textiles. One of the sessions illustrates the importance of microstructures; small physical features that the eye cannot see. Children work wool fibers into felt fabric and in the process discover that wool fibers have microscopic scales.

Title: Making Rope

Audience: 3rd-12th
Educator: Mary Matteson
Program Length: 60 minutes
Availability: Year-round

In this program, youth will learn about rope structure and will create natural fiber-based ropes! No one knows when the first rope was made. We do know that sailors, builders, hunters, and farmers have long depended on rope to move and control animals, structures, and machines. Early ropes were made by hand, using cotton, dogbane, sisal, jute, hemp, flax, abaca (manila hemp), coir (coconut husks), leather, or hair. Today, most ropes are made in factories from petroleum-based synthetic fibers.

Title: Mammals of Oswego County

Audience: K-6th
Educator: Linda Brosch
Program Length: 45-60 minutes
Availability: Year-round

Students learn about the characteristics that all mammals have in common. Through visual aids, they discover the mammals that live around us in Oswego County. Emphasis is on the similarities and differences between the mammals.

Title: Junk Drawer Robotics

Audience: 3rd-9th
Educator: Linda Brosch
Program Length: 45-60 minutes
Availability: Year-round

The goal of Junk Drawer Robotics is to make science, engineering, and technology engaging and meaningful in the lives of young people. The activities do this by encouraging youth to use the processes and approaches to science, the planning and conceptual design of engineering, and the application of technology in their personal portfolios of skills and abilities. There are two lessons in this series that the educator can choose from: Clipmobile Challenge (friction), and Marshmallow Catapult (levers and fulcrums).

Title: Nature Detectives

Audience: 3rd-6th
Educator: Linda Brosch
Program Length: 45-60 minutes
Availability: Year-round

Nature Detectives offers fun and easy indoor and outdoor science activities. It encourages young people to explore while discovering science and their local environment through birds.
**Title: Power of Wind**  
**Audience:** 4th-8th  
**Educator:** Linda Brosch  
**Program Length:** 60 minutes  
**Availability:** Year-round  
Youth work with members of a team to design, create, build, and test wind powered devices and are given opportunities to explore wind as a potential energy source in their community.

**Title: Wired for Wind**  
**Audience:** 4th-8th  
**Educator:** Linda Brosch  
**Program Length:** 60 minutes  
**Availability:** Year-round  
*Wired for Wind,* explores how to engineer renewable energy technologies, and the positive impact that they can have in communities across the country and the world. During this program, students will conduct an experiment to test the efficiency of different wind mill designs.

**Title: Which Came First the Pumpkin or the Pumpkin Seed?**  
**Audience:** K-5th  
**Educator:** Jan Smith  
**Program Length:** 45-60 minutes  
**Availability:** Year-round  
Pumpkins come in a variety of shapes and sizes, and are one of the plants that we eat, which are native to North America. This program will introduce students to botany basics by exploring the mechanics behind growing pumpkins. Students will also learn about plant biology, such as diocotyledonous (dicot) leaves, root architecture, trichomes (plant hairs), photosynthesis, leaf veination, floral attributes, pollination, and genetic diversity.

**Title: Food, Land People**  
**Audience:** Teachers  
**Educator:** Debbie Holliday  
**Program Length:**  
**Availability:** Year-round  
**Cost:** $20.00/person  
Food, Land & People is a nonprofit organization committed to helping people of all ages better understand the interrelationship among agriculture, the environment, and people of the world. This training workshop is open to anyone interested in helping students understand how people, the environment and agriculture are connected and the importance it plays in their personal lives.

All participants will receive the Food, Land & People’s science and social sciences based curriculum, “Resources for Learning” in CD form. This curriculum currently serves Pre-K to 12th grade students throughout the United States. It was developed and tested by more than a thousand educators with subjects that range from environmental science and stewardship, human populations and land use issues, natural resources, conservation, food and nutrition to farming and more. The CD contains 55 lessons for hands-on learning, critical thinking and easy integration with existing curricula. Each lesson has been aligned with the New York State and Common Core Learning Standards in all curriculum areas.

All attendees that attend the entire workshop will receive a certificate from Cornell University for professional development hours.

Must have a minimum of 10 registrants to hold training.  
Maximum number of participants is determined by location.
**Amboy 4-H Environmental Education Center**

The Amboy 4-H Environmental Education Center is a 150-acre nature preserve located in eastern Oswego County. The mission of the facility is to promote responsible environmental stewardship by developing a greater understanding, awareness, and appreciation of the natural world and people’s relationship to it. The Amboy 4-H Environmental Education Center is a laboratory where youth and adults can observe nature first-hand, alone or under the guidance of the facility’s environmental educators.

All programs take place outdoors after a brief instructional period and can be adapted to any grade level. Overnight use of the facility is available for a minimal fee.

**Cost:**
- 1 Program - $3.00 per person ($30.00 minimum)
- 2 Programs - $4.00 per person ($50.00 minimum)

Teachers and aides are free. Parent chaperones are asked to pay the program cost.

Payment can be made on the day of the field trip or with a purchase order. Cash or check only.

**Educator:** Linda Brosch

**Additional natural history programs can be provided or created upon request.**

**Title: Adaptations**
**Audience:** 3rd-7th
**Program Length:** 45-60 minutes
**Availability:** Year-round

Animals and plants have special behaviors and physical traits that help them survive in their environment. Students learn what an adaptation is during a brief instructional period. Afterward they will venture into the nature preserve to investigate how local fauna and flora have adapted to their environment.

**Title: Animal Tracks and Traces**
**Audience:** K-4th
**Program Length:** 45-60 minutes
**Availability:** Year-round

Students actively investigate the woods to discover how animal tracks and traces reveal varying habits, physical characteristics, and interactions. Students will search throughout the nature preserve for animal signs.

**Title: Aquatic Lifecycles**
**Audience:** K-3rd
**Program Length:** 45-60 minutes
**Availability:** Late April-October

The water is home to a variety of animals. During an instructional period, students will learn about the distinct lifecycles of aquatic animals. A walk to a nearby waterway will allow the students to carefully discover some of these creatures in their varying life stages.

**Title: Birds of Prey**
**Audience:** 3rd-12th
**Program Length:** 45-60 minutes
**Availability:** Year-round

Students and educators will learn to appreciate the ecological significance of predation in natural systems and understand the role of birds of prey in the environment. They will explore predator-prey relationships, life histories and the ecology of birds of prey. Detailed species accounts of vultures, hawks, eagles, ospreys, falcons, and owls will be investigated.
Title: **Habitats**  
**Audience:** K-3rd  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Students learn that all animals and plants need homes where their survival needs (food, water, shelter, and space) are provided. After a brief instructional period, the class will go into the woods and search for habitats.

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Title: **Insectaganza Excitement**  
**Audience:** K-8th  
**Program Length:** 45-60 minutes  
**Availability:** April- October

Insects are in the cracks of the sidewalk, underneath and inside logs in the woods, and even in our houses. They are everywhere. Insects are the most abundant class of animals in the world. They can be the most destructive, as well as, the most productive. This program will introduce students to the insects. Hands-on activities will show the students why these animals are so successful. This program can be adapted to the appropriate grade level.

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Title: **Mammals of Oswego County**  
**Audience:** K-6th  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Students learn about the characteristics that all mammals have in common. Through visual aids, they discover the mammals that live around us in Oswego County. Emphasis is on the similarities and differences between the mammals.

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Title: **Nature Detectives**  
**Audience:** 3rd -6th  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Nature Detectives offers fun and easy indoor and outdoor science activities. It encourages young people to explore while discovering science and their local environment through birds.

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Title: **Pond Life**  
**Audience:** 3rd-6th  
**Program Length:** 60 minutes  
**Availability:** Late April- October

The pond environment is filled with fascinating creatures and their interactions. Students will observe and learn about the pond environment through hands-on activities. Subject material varies due to class needs and grade level.

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Title: **Stream Safari**  
**Audience:** 2nd-6th  
**Program Length:** 45-60 minutes  
**Availability:** Year-round

Students learn that the freshwater community is diverse in animals and plants. Program participants will explore a pond or stream to discover these animals and plants. Pants and shoes that can get wet and muddy are required.

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Title: **Snowshoe Wanders**  
**Audience:** K-12th  
**Program Length:** 60 minutes  
**Availability:** Winter

After an instructional lesson on how to snowshoe, the history of snowshoes, and types of snowshoes, the environmental educator will lead the group into the woods for a hike. Program participants will be able to observe and search for signs of wildlife.
Join 4-H!

Start A 4-H Club!

4-H Classroom Club
Teachers, enhance your curriculum; lead a 4-H Classroom Club! Use research-based educational materials available from Cornell Cooperative Extension to teach a variety of hands-on projects to your students. Student members receive all the benefits of the 4-H Club Program which includes year-end recognition.

Grades: 1–12
Fee: $10 per student member

4-H Community Club
Youth may broaden their 4-H experience by joining a 4-H community club. Adult volunteers receive lesson plans necessary to represent a variety of age-appropriate projects. Topics may include: engineering science, animal science, fiber science, natural resources, and food and nutrition.

Grades: K-12
Fee: $10 per student member

For more information about either opportunity, please contact Oswego County 4-H Program at 315-963-7286.