

Teaching Tools for Educators

Engaging Minds, Meeting the NYS Standards

The Cornell Cooperative Extension Curriculum Connection for Westchester County Schools, Camps and Afterschool Programs



4-H Connects Kids to Cornell...



-Life Cycle Studies

-Incubation and Embryology

-Support your school garden

-Science Skills Development

-Science Skill Development

-DNA Explorations

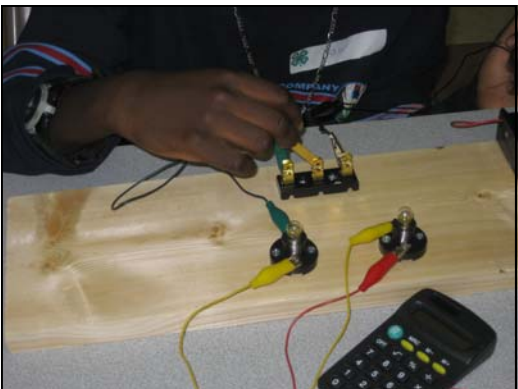
-Urban Ecology

-4-H Robotics, Engineering for Today and Tomorrow



-Power of the Wind

-4-H Youth Development



School Year 2011-2012

HEAD, HEART, HANDS, HEALTH

Teaching Tools

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No endorsement of commercial products or companies is either intended or implied. The enclosed material is part of the educational efforts of Cornell Cooperative Extension of Westchester 4-H Youth Development Program. The mission of the Cornell Cooperative Extension Youth Development Program is to create supportive learning environments in which diverse youth reach their fullest potential as capable, competent and caring citizens.

Cooperative Extension provides equal program and employment opportunities. Please contact CCE of Westchester if you have any special needs.

Teaching Tools for Educators

July 2011

Dear Colleagues:

The 4-H Youth and Family Development staff and volunteers at Cornell Cooperative Extension-Westchester County (CCE/WC) are pleased to present to you our 2011-2012 *Teaching Tools for Educators*.

The 4-H Youth and Family Development Program, the youth component of Cornell University Cooperative Extension, helps young people become self-directing, productive and contributing members of society. Programs conducted by Cornell Cooperative Extension at schools, libraries and other community sites all emphasize "learning by doing."

The School and community based programs included in this booklet have been specifically designed to augment school classroom instruction. Special attention has been given to integrating program content and curriculum requirements in the area of science, social studies, math, health, language arts and leadership development. Programs are age appropriate and tailored to meet the needs and abilities of participating youth. Please keep in mind that these programs have been developed by Extension Educators and Cornell University faculty to enrich classroom and after-school learning. You are welcome to call to learn about other ways to bring the tradition of 4-H learning to your school or community.

CCE/WC is committed to developing our educational partnerships and we look forward to your participation in our programs. We are pleased to have the opportunity to provide programming at Hilltop Hanover Farm Environmental Education Center in Yorktown Heights, NY, and other sites such as your school. Classes are scheduled upon request.

Please contact Nancy Caswell at (914) 285-4632 or nmc23@cornell.edu for more information regarding program content.

What is 4-H?

The 4-H Philosophy

4-H is the youth development education program of Cornell Cooperative Extension. 4-H is committed to assisting youth, and those adults working with them, in acquiring the knowledge, life skills, and attitudes that will enable them to become self-directing, contributing and productive members of society. The central theme of 4-H education is "learn by doing."

4-H youth are all youth, ages 5 to 19, taking part in programs provided as the result of actions planned and initiated by Extension personnel in cooperation with volunteers. 4-H is characterized as being community centered, volunteer led, extension staff supervised, research based, home and family oriented, publicly and privately funded and responsive to change.

- Hands-on and experiential learning that encourages learning by doing.
- Growth through successes and challenges.
- Exploring a wide range of opportunities.
- Providing supportive and nurturing environments, and relationships that empower people to voluntarily help themselves and each other.

- **Why 4-H School Enrichment?** Youth involved in 4-H Enrichment Programs (ages 5-19) are youth in learning experiences not involving organized club activities. Enrichment programs may be coordinated with school personnel serving as volunteer teachers of 4-H curricula meeting the standards of learning or may be a special interest group in which youth complete six or more learning activities. 4-H lessons offered through school enrichment link university research to 4-H's experiential learning model allowing youth to do, reflect and then apply what they've learned. The purposes of enrichment programs are to teach youth subject matter in a short time frame, expose new youth to 4-H, and to involve those youth in 4-H for further programming opportunities--moving them toward club participation.
- **What is 4-H Afterschool?** For young people...4-H Afterschool provides opportunities to participate in fun, exciting programs while developing valuable skills with lifelong benefits.
- **For parents and family members...**4-H Afterschool creates safe, healthy, enriching environments that enhance young people's social, emotional, physical and academic success.
- **For volunteers...**4-H Afterschool offers an opportunity to share a special skill with young people.
- **For youth-serving organizations...**4-H Afterschool offers extensive resources to help train staff, implement sound youth development practices, create new after-school programs and strengthen existing programs.
- **For communities...**4-H Afterschool is a partner that builds unique, customized programs around the diverse interests and needs of youth.

4-H Afterschool works with communities to identify their areas of need and interest and then build customized programs to meet those needs.

The innovative "learn-by-doing" curricula 4-H offers an impressive array of topics, including: Citizenship and Civic Education; Communication and Expressive Arts; Environmental Education and Earth Science; Healthy Lifestyle Education; Personal Development and Leadership; Plants and Animals; and Science and Technology.

These research-based, ready-to-use curricula set 4-H Afterschool apart and help young people to achieve social, emotional, physical and academic success. Each curriculum provides youth with valuable skills such as leadership, collaboration, decision-making, civic responsibility and critical thinking.

- **What are 4-H Clubs?** A 4-H Club is an organized group of youngsters (ages 5-19) with elected officers and a planned program that is conducted throughout the year or the majority of the year. Clubs are led by volunteer leaders and may focus on one or more project areas. Club officers conduct organizational meetings (as established). Members also participate in a variety of learning experiences in their organizational meeting as well as within their project meetings. Project meetings may be held as often as deemed necessary, but at least once a month. Club officers, made up of youth members, are elected each year and serve in the various leadership positions at each meeting. The officers conduct the meeting using parliamentary procedures.

4-H clubs may meet as neighborhood clubs, as after school clubs, or as within school clubs. The "key" is that all clubs should have officers, be managed by volunteers, meet over a sustained period of time and are focused on positive youth development.

4-H Clubs require a minimum of five young people 5-19 years old and one to three adults who are willing to help. Research shows that young people who choose to be part of a 4-H Club are more likely to be educationally motivated, have higher self esteem and communicate more maturely than their peers. Recruitment can be done through your school, religious organization, or community setting. All clubs are formed through the 4-H office. If you are interested in starting a 4-H Club, please contact Nancy Caswell at (914) 285-4632 or nmc23@cornell.edu.

Gardening With Youth

Cornell Cooperative Extension will direct you to useful gardening websites, CCE curricula, lesson plans, fact sheets and catalogs. If you are interested in starting a school or community garden, please contact Nancy Caswell at (914) 285-4632 or nmc23@cornell.edu or Anna Snider at (914) 285-4617 or als227@cornell.edu. They will be able to help you define the goals of your gardening project.

Kids Growing Food (KGF), K-12th Grade

The main goals of the KGF are to increase appreciation and understanding of agriculture, nutrition and the food system by getting youth involved in food gardening at school or in a community setting. Garden classrooms provide an authentic experience for youth and help educators meet state and national Learning Standards.

Teachers in grades K-12 are invited to submit garden mini grant proposals to KGF to help establish or maintain a food garden. Grant recipients also receive professional development training at sites throughout the NYS region. Visit <http://www.nyaged.org/aitc/programs/kids-growing.htm> for more information. Grant deadline is November 11, 2011.

School Gardening Mentor Program

Growing a Garden Together: The ABC's of School and Youth Gardening is a mentoring program for educators by the Horticulture Department's Master Gardener Volunteers and 4-H Youth & Family Development Program of Cornell Cooperative Extension of Westchester County. Lets face it...sometimes even teachers need a helping hand...especially in the world of horticulture. That's how this innovative new program can help.



The Master Gardener Volunteers of Cornell University Cooperative Extension have a long tradition of imparting research-based information to the gardening public. Now, in partnership with 4-H Youth and Family Development, they are venturing into local schools to guide teachers on how to use horticulture to meet New York State educational goals in nutrition, history, math and science.

Site Visits

Master Gardener Volunteers will conduct a school site visit and, together with the teacher, help define the purpose of the school garden, set goals and offer advice on proper siting, plant selection and maintenance. No designs or renderings will be included.

Upon request, Cornell University Cooperative Extension fact sheets pertinent to the site visit will be made available.

Master Gardeners can offer suggestions to get your gardening projects started. Among the options are garden themes like:

- ☼ butterfly gardens
- ☼ vegetable gardens
- ☼ alphabet, herb or sunflower gardens
- ☼ raised beds
- ☼ colonial gardens or Native American 'Three Sisters Gardens'

Master Gardeners can guide you even if indoor gardening is your only option. Ever heard of growing corn in containers? Let Master Gardeners show you it can be done with great results.

Fee

\$50 for a one hour consultation with two Master Gardener Volunteers. Further consultation will be based on a sliding scale.

Other Services

CCE's 4-H resource room is a lending library of curricula, videos and learning kits on many gardening subjects including composting and Integrated Pest Management .

Periodically, after-school workshop and in-services are offered for educators and other interested individuals. These provide an opportunity to meet with other educators and CCE staff to learn about new programs and share ideas.

Contact Information

Anna Snider als227@cornell.edu or 914-285-4617 to set up an appointment or for additional information.

New

Students engage in hands-on investigation working with peers and scientist mentors. Find plant science research mentors online at www.plantingscience.org



Gardening...continued

Garden Mosaics, 5th - 12th Grade

Garden Mosaics is a youth and community education program that combines science learning with mentoring and multicultural understanding. Garden Mosaics provides diverse learning opportunities for youth ages 10-18.

The goals and objectives of this program are:

- Inquiry: Youth will interview, observe, record data, present their findings and apply what they have learned.
- Science concepts: Youth will gain a better understanding of plants, insects, soil, maps, planting and the ecosystem.
- Partnerships with mentors: Youth will develop positive relationships with adult gardeners and learn to appreciate their knowledge and culture.

For more information visit: www.gardenmosaics.cornell.edu

My First Garden, 4th Grade

This program designed for fourth grade youth. Youth will learn the basics and details to start their gardens. Visit: <http://www.urbanext.uiuc.edu/firstgarden/tg/index/index.html> for more information.

Cornell University Garden Based Learning Program

The Garden Based Learning Program is located in the Dept. of Horticulture at Cornell University. The goals of the Garden Based Learning Program are to develop activities, projects and other learning materials relating to youth gardening and youth development. Visit <http://blogs.cornell.edu/garden/> to find ideas, support and data to include in your garden based grant proposals. For instance: <http://blogs.cornell.edu/garden/get-activities/signature-projects/seed-to-salad/>

Garden Wizard

Excellent guide to starting a school garden and best step by step instructions to design the garden. Get out the pencils and graph paper to create the "base map." www.schoolgardenwizard.org/wizard

NEW

Dig Art! Cultivating Creativity in the Garden

<http://blogs.cornell.edu/garden/get-activities/signature-projects/dig-art/>

Hydroponics

**additional fees for workbooks and materials may apply*

Hydroponics is a technology for growing plants in water. CCE will supply and set up a hydroponics unit, as well as the grow light system. An Extension Educator will introduce the youth to hydroponics. This 10 session unit meets Math, Science and Technology Learning Standards.

- Loan of unit/set up/solutions/1 teacher guide/1 student guide.....\$130.00

The Three Sisters Garden

In a three sisters planting, the three partners benefit one another. Corn provides support for beans. Beans, like other *legumes*, have bacteria living on their roots that help them absorb nitrogen from the air and convert it to a form that plants can use. (Corn, which requires a lot of nitrogen to grow, benefits most.) The large, prickly squash leaves shade the soil, preventing weed growth, and deter animal pests. The three sisters also complement each other nutritionally.

Cultivating these companions in your school garden, a small patch near the building, a barrel, or even indoors, can inspire studies of Native American customs, nutrition, and folklore. As youth dig in, investigations of plant growth and relationships also will flourish.

Gardening Grants Available

Visit the National Gardening Association grant page at www.kidsgardening.com/awards.asp for opportunities.

Window Farm

Many of you were very interested in the window farm that you saw either at a school gardening training, at an Incubation and Embryology training or when you picked up the hatching eggs. In mid-October CCE will be offering a 3 hour workshop for you to attend and build your own window farm.

We will supply many of the materials, but participants need to bring some materials including four 2-Liter bottles and one 1.5 liter bottle. The fee will include the cost of all other materials including the pump. In order to know whether we need to schedule one or two workshops please contact us at 285-4620 to let us know that you would like to attend and receive the registration form.



Agriculture in Your Life

Discovering Our Food System, Middle School-High School, 6th - 12th Grade

This guided experiential learning program is primarily designed for youth ages 12 to 18. Many of the activities are suitable for grades 6 and 7 as well.

Discovering Our Food System provides a basic understanding of the food system and our connection to the system through the choices youth make every day. They explore the differences between a “community” and “global” food system, and learn ways in which the food they eat and the food system are interrelated. For more information visit: <http://blogs.cornell.edu/garden/get-activities/signature-projects/discoveringfoodsystems/>

While this program was designed primarily for use in the classroom setting, several of the activities are compatible with a variety of non-formal educational settings. You may download the pdf at <http://blogs.cornell.edu/garden/files/2011/05/cgbl-dofs-curriculum5.pdf>.

New York Agriculture Literacy Week - 2nd Grade

National Agriculture Week, March 19-23, 2012

Each year volunteers visit various schools throughout the county to promote New York Agriculture by reading a book with an agricultural theme to second graders. The volunteer will lead a hands-on lesson with the class and teachers will receive follow up activities. This year's selection is SEED SOIL SUN , Earth's Recipe for Food by Chris Peterson.

The main objective of Ag Literacy Day is to promote a better understanding and appreciation of agriculture and the food and fiber system. If you are interested in participating in this program, please contact Nancy Caswell @ (914) 285-4632. To see information regarding last year's event click in:

<http://www.nyaged.org/aitc/programs/index.htm>

I LOVE NY Agriculture-Contest for youth, Pre-K-6th Grade

The Be Aware of New York Agriculture Contest is a great way to expose youth to agriculture and the food system and to meet the New York State Learning Standards in your classroom. Youth will learn more about where food comes from and gain a better understanding of agriculture in New York State. Different grades are assigned specific projects to produce drawings, paintings, posters, poems or short stories. The contest is divided by grade level categories and statewide winners (1st, 2nd, 3rd and 2 Honorable Mentions) are selected for each grade level. Prizes

are awarded to those who place. Submissions must be mailed or brought to the Cornell Cooperative Extension-Westchester County 4-H Office, 26 Legion Drive, Valhalla, NY 10595. Dates, themes and grade level guidelines can be found at: <http://www.nyaged.org/aitc/programs/contests.html>

The Science of Life: Exploration through Agriculture: 4th - 5th Grade

IPM/Agriculture curriculum for elementary school youth
The Science of Life: Exploration through Agriculture curriculum consists of a yearlong series of classroom lessons and activities for fourth and fifth grades with extensive teacher support materials. The objective of this program is to teach children agricultural and environmental concepts through an Integrated Pest Management (IPM), science based approach. Lessons are designed to get children thinking and discussing concepts that enhance their natural curiosity. All aspects of curriculum needs are addressed in lesson activities-not just Science, but Language Arts, Mathematics, History and Creative Arts. Lessons also correspond with the school year and seasons. Lesson activities can be completed individually or in a group setting. Many lessons have take home activities and encourage student-family interaction. Completed lessons can be viewed and downloaded at: <http://www.nyaged.org/aitc/resources/lesson.htm#sole>

Ornithology

Bird Sleuth: 6th - 9th Grade

The Bird Sleuth is a curriculum designed to give youth experience with the entire scientific process. Observations, data collection, questions and conclusions are achieved through research and observation. Youth actually become practicing scientists! The curriculum consists of multiple modules, each containing six or more investigations. These can be completed sequentially or used alone in single units. As youth are engaged they develop a greater understanding of biological science concepts. For more information visit: <http://www.birds.cornell.edu/birdsleuth.net>



Agriculture in Your Life...continued

Entomology

Monarch Butterfly Life Cycle: K - 6th Grade

Explore the lifecycle of the Monarch Butterfly through the study of entomology, geography and ecology. Learn why Monarchs migrate to Mexico and why their continuity of life is connected to global seasonal cycles. Youth will create a lifecycle wheel and map the migratory routes of the Monarch Butterfly. For more information on this program, or to borrow curriculum contact Nancy Caswell at (914) 285-4632.

*additional fees may apply. <http://www.monarchwatch.org>



Ladybugs-Inside, Out and All About: K - 4th Grade

This curriculum is supported with a comprehensive Insect Unit Resource Trunk which contains curricula and lessons to meet the NYS standards and age appropriate learning objectives. Youth will learn the lifecycle, ecology, and "world history" of the ladybug, as well as beneficial and invasive insects. Pre-order the larvae to observe the three week metamorphosis. For more information, contact Nancy Caswell at (914) 285-4632.



The Lost ladybug Project - K - 4th Grade

Ladybugs are essential predators that keep us from being overrun with pests. In many areas native ladybugs are being replaced by exotic ones. This has happened quickly and we don't know how, what impact it will have and how we can prevent other native species from becoming so rare. We need you to be our legs, hands and eyes. Help us gather the information we need by looking for ladybugs and sending us pictures of them on email. Check out our website <http://www.lostladybug.org>.

Cornell Cooperative Extension Educators Will Come to Your School

One Million New Scientists. One Million New Ideas.™



The United States is falling dangerously behind other nations in developing the future work force of scientists, engineers, and technology experts. To

ensure global competitiveness, we must act now to prepare the next generation of science, engineering and technology leaders.

The 4-H Youth Development Program, with its direct connection to the research and resources of the

Cooperative Extension System's 106 land-grant universities and colleges is strategically positioned to strengthen US global competitiveness and leadership.

4-H will address our nation's critical challenge by preparing 1 million new young people to excel in science, engineering and technology by 2013. Currently 4-H Science, Engineering and Technology programs reach more than 5 million youth with hands-on learning experiences to encourage young minds to fill the pipeline with young leaders proficient in science. Please consider adding your school and after school students to this endeavor.

All programs are 45 minutes long. You may consider having us come for a "Science Day" with three stations for three classrooms to visit in rotation.

CCE Educators Will Come to Your School...continued

IN-TOUCH SCIENCE

In Touch Science: 3rd - 5th Grade

- **Elastic Plastics (polymers):** Youth are introduced to the nature of chemical bonds and properties of substances. Youth will use chemical reactions to create polymers and compare properties.
- **Color Or Not:** This workshop explores how color is part of food and fabric by using natural dyes from fruits. Youth will experiment by dyeing different fabrics followed by testing some chemical color reactions.
- **Acids and Bases:** Explore acids, bases and neutral solutions. Youth will test household products to determine acids and bases. Discussion will lead into the influence of these reactions on organisms living in lakes/streams, and how acid rain affects fish and other aquatic life.



ENERGY AWARENESS

Energy awareness is something we all need to develop. These sessions lead youth to realize how quickly we are using sources of energy that took thousands of years to form. Alternative sources of energy are presented as well. The goal is to empower youth to be aware of their own daily use of energy and ways to make changes to conserve energy every day.



Sun or Wind, Which Gives More Power To You? 3rd - 6th Grade

Solar Power

Participants will begin by taking a look at their personal energy use. They will learn how photovoltaic cells provide electrons. Youth will try their hands at design using photovoltaics and solar cookers.

Put Wind to Work

Participants will take a look at their personal energy use before we explore alternative ways to supply their needs with a renewable energy source. We will look at how motors work, then engineer and design blades to capture some wind power.

Incubation and Embryology

Incubation and Embryology (I & E)

This program is designed to provide youth with life cycle knowledge about the chicken's egg, its sequence of embryonic development, and the incredible nature of birds. Eggs will be available only by pre-order during weeks of April 18 and 25th.

Training Workshops - March 2012

Registration is limited

Course content is oriented to train teachers to conduct classroom incubation. Suggestions on how to use classroom incubation and embryonic development projects to enhance programs in science, language arts, mathematics and social studies will be offered.

The principles of incubation. Instructions highlights the role of temperature, humidity, and turning because these all influence the success of the hatch. The class will set up and adjust the humidity in their own incubator. The class will practice using a



candler to view the progress inside the egg. A video of embryological development is presented and a dvd is available for purchase.

Brooding. Daily care and handling of a dependent chick is presented as an important part of this project. Requirements for growth and health of the chick include providing warmth and cleanliness.

Suggested Sequences for After School Programs

Why not use some 4-H After School Science in your after school programs? We can provide programming one day each week, in 6 or 8 weekly sessions or as one special afternoon. We can tailor an afterschool program using our research based “learning by doing” curricula on a wide variety of topics. This can open the door to other Cornell connections whether the youth decide to form a 4-H Club or ask for other short programs. These activities develop the skills of observation, prediction, inference, thinking critically and problem solving.

Each activity will take 45 minutes to 1 hour
K-5th Grade

Topics for After School Science Enrichment

Kindergarten - 2nd Grade

1. Seed dissection, make Turtle Sprouts
2. Hydrogel experiment with diapers
3. Gloop-a simple polymer
4. Colorful Chromatography
5. Life cycle of a ladybug
6. Life cycle of a dandelion
7. Making Soy Ink
8. Papermaking

Topics by category

3rd - 5th Grade

Forms of Energy

Chemical energy- batteries to lights; powerful fruits

Wind energy

- 1. Use wind power to lift a load
- 2. Blade design and wind turbines

Energy transfers - follow energy moving through a system

Explore solar cells

Solar Smores

Biofuel blast! (ethanol from corn syrup)

Engineering and physics

Balloon powered cars

Physics of flight

helicopters vs. foam plate gliders vs. butterfly wings

Soda straw rockets

Build a dome

Kinetic energy of a meteor

Kinetic energy: balls and tracks

Fibers are Fun for Everyone

Mat weaving—cinnamon sticks or other natural fibers

Paper making

Rope machines

Cold air and fuzzy mittens

Recycled Tee-Shirts

Chemistry

Make soy ink

Elastic plastics- compare 2 polymers

CSI - Use Chromatography to find the culprit

Changing Colors—Changing natural plant pigments with acids and bases

Clean up an oil spill-just try it

Acids and Bases, testing household supplies

Identify mystery powders

Hydrogels and how we use them

Environmental

Invasive species

How many bears can live in this forest

Ladybug food web

Ecosystems—Farm & Forest Life Cycles

Water Pollution: The Enviroscape

Water Pollution: Clean up—water treatments!

Biology and Health

What’s in a seed? What’s in an egg? Let’s compare.

Testing for nutrients in food

How much sugar is in that beverage?

One bite nutrition- People Pellets

Build a model of DNA

Isolate DNA from fruit

Turtle Sprouts

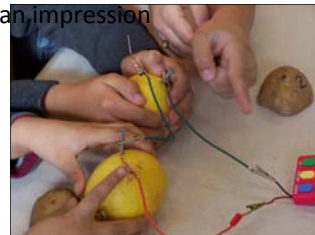
Living Things

Animal senses: smell, sight and hearing

Entomology: Hunting for the Lost Ladybug, sampling activity

Life cycle and migration of the monarch butterfly

Fossils- make an impression



For more information or to register, contact:
Nancy Caswell (nmc23@cornell.edu - 914- 285-4632)



4-H Choose Health

Choose Health is an initiative of the Cornell Cooperative Extension 4-H Youth Development Program intended to help all of us confront and take action to change the statistics of childhood obesity.

Learning to make healthy choices is at the core of 4-H youth development's basic values. "Health" is, after all, the 4th H, following Head, Heart and Hands.

Families today are busier than ever, with more work, school and after school activities and scheduling issues. Couple these things with more sedentary lifestyles and more access to quick, sometimes less healthy meal choices and you can easily see the reasons for today's childhood obesity statistics.

There are, however, many good, simple and fun ways to overcome the statistics and stay healthy together.

Choosing health is simpler

It only takes 100 steps a day to lose a pound a year.

Treat yourself with occasional sweets and high fat foods.

Eat because you are hungry, not for other reasons.

Choose water or milk instead of sweetened beverages.

Eating meals as a family helps everyone to eat more healthfully and to communicate better.

Play actively for an hour a day — riding bikes, walking, swimming, hiking, or whatever you like.

Eat 5 or more fruits and veggies each day.

Learn More

<http://4hchoosehealth.blogspot.com/>
<http://www.healthychildrenhealthyfutures.org/>





Cornell University
Cooperative Extension
Westchester County

26 Legion Drive, Valhalla, NY 10595
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Why 4-H Clubs?

The 4-H Pledge

I pledge my **HEAD** to clearer thinking.

I pledge my **HEART** to greater loyalty.

I pledge my **HANDS** to larger service.

I pledge my **HEALTH** to better living for my club, my community, my country, and my world

4—H Clubs have lasting impacts on youth

Youth today have an unprecedented array of sports, clubs, activities, lessons and entertainment options to choose from in their free time.

And for many youth, these activities will provide the **foundation** on which they develop their personalities and life skills.

For young people who choose to be part of a 4-H Club, research shows they are more likely to be **educationally motivated**, have **higher self-esteem** and **communicate more maturely** than their peers.

A 2003 study of 4-H alumni showed that club membership improved responsibility, confidence, leadership, project and presentation skills. Members also learned to handle competition; feel more at ease in relating to new people and developed good sportsmanship skills.

Subject matter skills taught in projects are the **foundation** for the youth development that occurs in 4-H. Learning to prepare meals, give a presentation, repair machinery, and care for



4-H Clubs offer the opportunity for life skill development, learning and friendship. Through hands-on experiences, youth gain skills they will use their entire life.

others are just a few of the skills taught in 4-H that can be of economic, social and/or personal value to youth in their future.

Youth and early adolescence is a time of rapid change in young people. 4-H Clubs have the **opportunity** to strengthen family ties and create good citizens.

How 4-H Clubs Meet the Basic Needs of Youth

The four H's (head, heart, hands and health) represent four basic human needs: independence, belonging, generosity and mastery. Research indicates that youth whose basic needs are met in positive ways are likely to grow into active citizens and contributing members of their families and communities.

By combining project activities with opportunities to go to camp, publicly show their work, travel, host international youth and attend meetings and events at Cornell University, 4-H

provides a framework on which young people can build self-confidence, responsibility and generosity.

Members of 4-H clubs are involved in a long-term relationship with caring adults, who help them learn new skills and grow in ways traditional educational experiences aren't designed to do.

A positive 4-H Club experience can turn life around for an at-risk youth or bring a shy child out of their shell. It can also strengthen leadership skills or teach the importance of community service.

4-H Clubs Connect Kids to Cornell

Last year in New York State, more than 15,800 4-H volunteers helped over 458,788 young people gain leadership experience, learn new life skills, and give back to their communities through 4-H Clubs.

All of these clubs used resources created by staff from Cornell University and many members also visited campus for various club tours, programs and events.

Cornell research is the basis for lesson plans and curriculum for the more than 150 projects areas offered to New York State 4-H clubs, on subjects as varied as video game design and sheep shearing.

For more information:

To learn more about 4-H Clubs, contact:

Nancy Caswell
Phone: 914-285-4632
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nmc23@cornell.edu

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<http://counties.coe.cornell.edu/>



About Cornell University Cooperative Extension

CCE of Westchester County is a community-based organization linked to Cornell University and the nationwide Land Grant Extension University system. This system was established by President Lincoln in order to provide "education to the masses". Today there is an Extension University in every state, with an office in most counties. This connection enables educators and volunteers to provide you with hands-on information based on current research.

We offer classes, train volunteers, and work with leaders across the county. Our primary goal is to bring knowledge and resources to Westchester County residents, and to build strong and vibrant communities.

Funding is provided by both public and private sources, including county, state and federal governments, contracts, grants, fees for service and private donations.

4-H is a **community**
of **young**
people
across **America**
who are **learning**
leadership,
citizenship and
life skills.

Visit our Website
at <http://cce.cornell.edu/westchester>
for a complete listing of the
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