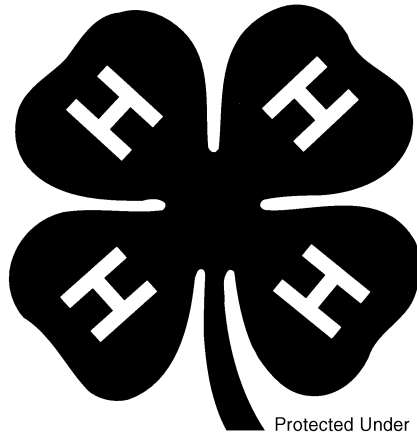


4-H

PROJECT

SUMMARIES



Protected Under
18 U.S.C. 707

Fulton and Montgomery Counties

*Cornell Cooperative Extension in Fulton and Montgomery Counties
provides equal program and employment opportunities.*

Revised 9/14

**New Project Materials for the
2017-2018 4-H Year!**

Backyard & Beyond: page 13

What's On Your Plate? : page 19

Project Butterfly Wings: page 31

(AB) CITIZENSHIP



CITIZENSHIP PUBLIC ADVENTURES

Teens channel their energy toward solving real problems in their community. Youth change a piece of the public world, discover the possibilities of democratic citizenship and build a commitment to taking action in new and exciting ways. They plan and conduct a project that will create change or improve something that is valuable to many people. The program includes a passport to record achievements, postcards with project tips and a travel log.

NEW YORK BARNES

Old barns throughout NYS are important and threatened icons of our rural heritage. They are some of the most finely crafted buildings still in existence today. This project familiarizes readers with the history of barn construction and use, the different materials used in barn construction and how to conduct a historical survey which would be applicable to other fields.

Ages 8-12
Leader/Member Guide



(AC) CULTURAL EDUCATION

**THE THREE SISTERS: EXPLORING AN
IROQUOIS GARDEN**

By using an Iroquois gardening method, youth will gain a better appreciation of Native American culture. Exploring the foods, customs, and stories that evolved from the planting of corn, beans, and squash - The Three Sisters - will help youth understand why these crops are valued. By planting these three native crops using traditional methods,

youth learn basic plant breeding concepts, about the need for plant diversity and about several types of corn. Guide also includes uses for corn and corn husk doll instructions.

Grades 3-12
Leader Guide
"Cooking With The Three Sisters" bulletin

THE GREAT AMERICAN PEANUT

The peanut is used as the focal point for learning about life in the South in the 1800s. While learning about how peanuts grow and about the people who grew them, youth will discover that the peanut traveled a long way before coming to this country. Youth also will learn about the challenges of growing warm - weather crops in northern climates.

Grades 9-12

Leader/Member Guide

THE HUMBLE POTATO - UNDERGROUND GOLD

Help children explore a food crop from the perspectives of science and socioculture. Explore potatoes through the eyes of three imaginary children who lived in different places and at different times. By reading their stories and doing the suggested activities, children will learn about the history of potatoes, how to grow them, and how they stock up nutritionally.

Grades 3-8

Leader/Member Guide

RICE: GRAIN OF THE ANCIENTS

Explore rice growing through the letters of an imaginary pen pal named Lanlan Chen in northern China. By reading her stories and the stories and poems of others and by doing the activities, youth will get to know more about rice and come to understand why it is so important to the people of Southeast Asia. Believe it or not, rice can be grown outside in our area-in a small plot, using appropriate seed or indoors in pots. Activities range from writing, to growing rice, to cooking different types of rice and then making recipes with rice. Finish with shadow puppets and paper from rice straw.

Grades 3-7

Leader Guide

THE APPEALING APPLE

In this 28-page publication you'll go on the apple's incredible journey. After reading and doing the activities, everyone will know about the apple's original home, will be able to identify the major apple producing countries today, and will

learn what these regions have in common. Other activities include making apple doll puppets, exploring apples in literature, playing historic games using apples and trying unusual apple recipes. You'll also learn about what makes an apple an apple, how apple trees grow, flower, and produce their fruit.

Grades 4-7

Leader Guide

HERITAGE PROJECTS:

FOLK PATTERNS

Investigate folklore, cultural traditions and local history. This is a project that will explore all the different traditions - or life patterns of people. Folk traditions are passed from one person to another, and from one generation to the next, usually by word of mouth, as an example. This is a project that will explore all the different traditions or life patterns of people. We don't learn folklore from books, but from being with people. Through this project learn to interview and transcribe tapes to explore family traditions. Get to know traditions in your community by finding individuals with interesting experiences to share - such as artists, cooks, musicians, storytellers. Explore your community by using the library, doing a cemetery study, demonstrating a family tradition.

Grades 6+

Leader Packet

FOODWAYS

One of several "Folk Patterns" projects. An opportunity to explore the various factors and influences that have affected and continue to affect the objects, traditions, and organizations that exist in their communities. Through this project youth will explore food-related traditions (folk food ways) which are learned by watching or hearing others. Youth will play games, do art activities, explore kitchen equipment, prepare old family recipes, look at holiday foods.

Grades 6-9

This is a self-determined project

Leader Packet

EXPLORING OUR FOOD HERITAGE

Members have the opportunity to learn about the historical and cultural factors that affect food choices. They will explore the historical progression of settlement in the United States that led to the diverse population that exists today.

The second part of the project has members explore past and present influences on their own actions, likes and dislikes.

Members will prepare recipes which have roots with Native Americans, the Colonists, African immigrants, and European immigrants. Activities are included to help them investigate their food heritage.

Grades 4-12

Leader/Member Guide

HEIRLOOM VEGETABLE GARDEN

This project is for 4-H members and leaders who are particularly interested in horticulture, folk art, foods and nutrition and other related projects. The goals of the Heritage Gardening Project are: to develop an awareness of our plant heritage by the cultivation of heritage vegetable varieties, introduce gardening folklore information as it pertains to vegetable gardening, promote and stimulate interest in preserving heritage vegetable varieties. This project will give youth and leaders the experiences to: Identify heritage vegetable varieties cultivated by early settlers, describe heritage gardening methods and tools, develop skills and attitudes to collect and interpret oral and visual history materials.

Grades 3+

Leader/Member Guide



(AD) GLOBAL EDUCATION

Unit II - Peoples and Customs of the World

AND MY WORLD

This project series aims to bring better understanding of what it means to be a citizen of a global society. Through hands-on activities, youth explore the current issues challenging the international community today.

This project builds on concepts gained in Unit I. Youth learn about family relationships and cultures around the world. Youth will discover how people are alike around the world - and how they are different. Activities include greetings around the world, traditions, food, clothing, art and games.

Grades 4-7

Unit I - The World Around Me

This project provides basic information about both the physical properties of the world and the people who live here. Youth will explore maps, world ecosystems, water, weather, energy resources, and availability of food. Activity ideas and sheets are included.

Grades 3-5

Unit III - What's Happening in Our World?

Discusses Food, Water, Environment, Overpopulation and other current issues challenging the international community today.

Grades 8-12



(AE) INTERGENERATIONAL PROGRAMMING

PROJECT EASE

Project EASE (Exploring Aging through Shared Experiences) is a model for developing intergenerational programs. Its goal is to bring groups of early adolescents (ages 9-13) together with senior citizens for meaningful, goal-oriented interaction. Three different types of project options are included: Joint Service, Shared Group Activity, or One-on-One Matching. Activities are included to help youth become familiar with senior citizens.

Grades 4-8

Leader Packet, Member Guide

USING PLANTS TO BRIDGE THE GENERATIONS

Horticulture Intergenerational Learning as one step further, making use of the energy and imagination of young people and the experience and maturity of senior citizens. The advantage of HILT is that it can continue over a long period of time and provide opportunity for youth to interact with the elderly on a personal, individual level. Through the activities presented in this manual, young and old work together toward common goals. Small children can learn simple tasks from the elderly, and senior citizens can serve as models of adulthood and mentors for the kids they work with. This program helps young and old alike to break preexisting stereotypes and fears about the other generation as they see the positive contributions each can make to the programs.

Grades K-12

Leader Guide

(AF) UNDERSTANDING PHYSICAL & MENTAL LIMITATIONS

WALK IN MY SHOES

Youth learn to understand older people better by sharing their experiences. Through many activities youth learn what it feels like to grow older and what happens with the aging of our bodies. Myths and

truths about aging are explored. Youth interact with older adults in their own family settings and also in the community.

Can be adapted for any age.

Leader Guide

(AH) SERVICE LEARNING

SIMPLE GIFTS

Simple Gifts produces age-appropriate recreational items for persons with Alzheimers disease. This book contains projects that youth can make for people with Alzheimers disease.

The program encourages youth and adults to learn about the disease and to become more involved in inter-generational opportunities within their communities.

Grades-3-12

Leader Guide

(AI) COMMUNITY SERVICE

Youth may perform community service through many venues within the 4-H year. The club community service project is designed to be a group effort. Youth should be encouraged to perform acts of service on their own on an individual basis as well. The latter is one of the goals of this project.

CLUB COMMUNITY SERVICE

Community Service Learning strengthens the skills and knowledge 4-H'ers are acquiring by actively combining their learning with service to help meet real community needs. Every 4-H participant is encouraged to take part in community service that fits his/her areas of learning, as an important feature of 4-H youth development. Being part of a community service project allows youth to:

- take responsibility for their lives in the community
- learn about social change and commitment
- make a difference
- improve their self-esteem and confidence

- improve their public speaking skills
 - develop their organizational skills
 - develop the ability to take risks and accept challenges
 - open the opportunity to work cooperatively with others
 - improve their leadership skills
 - feel good about a task they have taken on and completed
 - better understand the community in which they live
 - demonstrate they have a positive role to play in their communities
- Grades K-12

(AJ) GENEALOGY

TRACING MY FAMILY TREE

Have you ever wondered about your ancestors? Who they were and where they lived? This project gives youth the opportunities to research these questions and find the answers as they participate in the 4-H Genealogy project. Genealogy, the tracing of one's family history, can be a fascinating project. This manual will help youth start on a never-ending journey which they will enjoy even after their 4-H career ends.

(BA) COMMUNICATION ARTS

PUBLIC PRESENTATIONS

4-H members have many opportunities to practice their public speaking skills. Through preparation for their speaking, they learn organization skills, to present their point of view in a convincing way, to teach others their special skills, and gain confidence in their abilities.

Materials and a workshop training are available to assist 4-H members who are new to the 4-H Public Presentation program and for those who would like to brush up on their skills in preparation.

Grades K-12

Time Required: according to event

*Club meetings and events

*Public Presentation Day - Cloverbuds and 4-H members give presentations on a topic they choose. Cloverbuds give their presentation in front of a "Happy Listener" and receive positive feedback on their talks. 4-H members are evaluated to encourage growth and learning and to reinforce strong points. Takes place in March. Regional Level Competition usually takes place in April and NYS Public Presentations occurs in October at Cornell.
* Fonda Fair - opportunities exist at fair to practice presentation skills.

Resources:

Public Speaking Made Easy- *A step-by-step guide to make a presentation.*

4-H Public Speaking Handbook – *One of the Building Bridges series, concentrates on speech preparation, but is applicable to any kind of presentation.*

A Parent's Guide to Public Speaking – *A companion piece from the Building Bridges series, this guide helps parents help their child plan, prepare, and practice speeches and presentations.*

COMMUNICATIONS: EXPRESS YOURSELF

Stretch and strengthen youth's communication skills through verbal, non-verbal and written activities that include encrypting codes, writing songs, giving directions, dealing with bullies and more. Youth practice and gain confidence, learn to present oral reasons, plan and present speeches, and practice

make a good first impression. More advanced pieces of the series help more experienced youth polish their skills and apply them to real life uses such as job interviews, resume writing, and workforce skills.
Level 1: Picking Up the Pieces-Grades 3-5
Level 2: Putting It Together-Grades 6-8
Level 3: The Perfect Fit-Grades 9-12
Helper's Guide-Communication Group Activities

BUILDING BRIDGES: REACHING PEOPLE THROUGH COMMUNICATION SERIES:

(Intended for all ages)

Communications Activities For 4-H Club and other Youth Groups – a manual that contains games, activities, and learning experiences designed to teach youth a variety of communication skills.

It's All in the Family – Source Book of Communication Activities, Projects and Other Things To Do Together. – specifically developed for families because of the crucial role parents play in helping their sons and daughters develop communication skills.

Voices From the Past – Listening to People with Stories to Tell – developed to encourage youth to listen to the wisdom of older adults in their families and communities.

Crazy About Books – Having Fun with a Reading Circle – intended to emphasize the role good reading skills play in the communications process.

Creative Wordworking – Fun Ideas for Writers – designed to encourage youth to find creative ways of expressing themselves in writing.



(BB) PERFORMING ARTS

4-H CLOWNS, CLOWNS

Through a series of eight lessons, youth learn the history of clowning and its applications in many different situations and settings, the clown code, facial expressions and emotions, building a clown character, make up application, using and creating

props, "bits", acts and routines in addition to the discipline of acting. Youth develop and make a presentation. Along the way, youth develop a Clown Notebook.

Ages 12 & up
Leader/Member Guide

THEATER ARTS ADVENTURE SERIES

Play the Role! – Acting - Through creative dramatics activities, youth bring imagination to life. The guide emphasizes movement, voice and speech, characterization, play building and playing a scene. Activities range from warm-ups to improvisation, from pantomime to monologue making, from clowning to theatre visits.

Become a Puppeteer! – Puppetry - Youth learn types of puppets (e.g., hand, rod, marionette, shadow, etc.); how to create a puppet and puppet

stage; development of their puppet character; how to create and present a puppet skit; and puppetry therapy.

Set the Stage! - Stagecraft - Youth learn stagecraft options which tap into their unique skills and talents behind the scenes, including costumes, sound, lighting, props, set design, makeup and stage management.

(BC) VISUAL ARTS



The word “art” is derived from the Renaissance words “arti” and “arte”. Arti was the word for the craft groups of the 14th, 15th, and 16th centuries. Arte means craftsmanship.

Many people are confused by the words art and craft. In the past, crafts were often thought of as functional (useful) items – chairs, tables, woven blankets, candleholders, etc. Art meant non-functional (decorative) items, such as paintings and sculptures. After a while, the meanings of art and craft overlapped. Chairs had pictures painted on them, and sculptures were used as hat racks. In the 4-H Arts & Crafts Project, both arts and crafts are defined as “visual art” (works that consist of patterns of line, shape, and color). In 4-H visual arts, emphasis is put on the creative process, the employment of design elements and principles, and workmanship. The creative process is defined as giving form and personal expression to an art object through exploration and experimentation with materials, tools, and/or practical skills.

In the 4-H Visual Arts program, Needlearts is considered an art form and is therefore listed in this category under Visual Arts.

A PALETTE OF FUN

Youth will enjoy many artistic experiences and develop skills for a lifetime through activities focusing on the elements and principles of art. Children will learn art through cutting and pasting, painting, sculpting, drawing, printing, construction with fibers and other materials. A Palette of Fun connects the art experience to careers, culture, science, technology and more. This helper’s guide can be used with groups of children in any setting in, out and after school.

Grades K-6

Helper’s Guide

SKETCHBOOK CROSSROADS

Explore drawing, fiber and sculpture projects, learning elements and principles of design and encouraging development of skills for a lifetime.

Grades 7-12

Member/Helper Guide

PORTFOLIO PATHWAYS

Focus is on learning painting, printing and graphic design. May be more suitable for youth who have completed ample drawing experience. Cultural and historical art experiences are interwoven through the activities.

Grades 7-12

Member/Helper Guide

EXPLORING IDEAS IN ART

Youth become acquainted with drawing and painting tools and materials, acquire techniques, and discover an independent attitude toward art. Youth experiment with what they want to express and improve their of method expression. Youth work to find their own personal expression of their personal gift of creativity.

Member/Helper Guide

ART APPRECIATION

Touch With Your Eyes is a guide to art activities that will open youth's eyes, minds and hearts to the enjoyment found in art. Objectives include encouraging youth to become informed viewers at ease with art of the past and present, helping youth become aware of what art is and what artists do, encouraging youth to use their eyes to perceive, interpret, analyze and evaluate original works of art.

Also, helping youth read art like a language by having knowledge of art process, subjects, medium, style and composition used in producing art and encouraging youth to participate in expressive, creative art activities.

Ages 9-12

Helper's Guide

LEATHER CRAFTS

The project covers types of leather and their uses, purchasing, string, designing leather, tools and modeling, assembling, and finished piece.

Grades 3-12

Member Guide

NEEDLE ARTS:

COUNTED CROSS STITCH

Youth will learn the basic stitches involved, understand the differences of fabric sizes and to apply what has been learned to make articles.

CROCHETING

To learn elementary stitches, how to read directions and to apply these skills into making an article. Guide booklets are available for both right and left-handed crochet learners.

CHICKEN SCRATCH

Youth will learn the basic stitches, understand the differences in fabric and the sizes of squares and to apply what has been learned to make an article.

HUCK WEAVING

Youth will learn the 2 basic stitches, understand the fabric used in huck weaving and make articles using what has been learned.

KNITTING

To learn elementary stitches, how to read directions and to apply these skills into making an article. Guide booklets are available for both right and left-handed knitters.

NEEDLE POINT

Youth will learn the various stitches in needlepoint, become aware of the importance of color and design; become aware of the history of needlepoint, develop hand-eye coordination, and express one's individuality and creativity.

N.Y. Needlepoint Project Guide

NEEDLE ARTS SUPPLEMENTARY MATERIALS:

Stitch in Time Leaflets by Coats & Clark:

ABC's of Applique

ABC's of Candlewicking

ABC's of Counted Cross Stitch

ABC's of Cross Stitch

ABC's of Embroidery

ABC's of Gingham Embroidery

including Chicken Scratch

PHOTOGRAPHY

Open the world to photography with more than 40 fun activities. This curriculum helps youth understand the basics of photography, then apply these skills and build on them to master taking brilliant photos. Youth will focus on lighting and flash, taking sharper pictures, shutter speeds, different views, photo composition, sequencing, evaluating photographs and much more.

Level 1- Focus on Photography

Level 2- Controlling the Image

Level 3- Mastering Photography ABC's of Needlepoint

ABC's of Shadow Stitching

ABC's of Strip Piecing & Strip Quilting

How to Finish Needlecrafts

Braided Rugs

Macrame

Soft Sculpture Guide Book

Stenciling

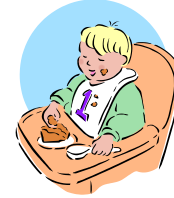
Tie Dye with Your Group – a Guide from Rit Dye Weaving

4-H SCRAPBOOKING

Learn about the art of scrapbooking to preserve memories using photographs, journaling, memorabilia and embellishments. Youth will learn how to save memories in an organized and creative

way. Lesson includes What You Need, Designing a Page, Cropping and Matting Photos and the Importance of Journaling.

(CA) CHILD DEVELOPMENT



KIDS ON THE GROW SERIES

Youth learn how children grow and develop, how to handle emotions, how to accept differences, self-care, rules, responsibility, and safety. Youth learn how to inspect a toddler's toys, make a home hazard free, and gain experience as a teacher and coach. Youth are introduced to baby-sitting, working with others, and they gain awareness of common dangers in their world plus much more. The Helper's Guide features 9 enhanced group activities. Youth are encouraged to work with younger youth in various settings.

Level 1: Growing on My Own Grades 3-4

Level 2: Growing With Others Grades 5-6

Level 3: Growing in Communities Grades 7-10
Helper's Guide
Member Workbook

BABYSITTING SAVVY

Youth learn the do's and don't's of babysitting from professional caregivers, parents, teachers and friends with the help of these fun and creative manuals. Youth can join in projects and activities and learn how to make money while doing the job right.

Leader Guide and Member Guide



B) CLOTHING AND TEXTILES

CLOTHING CONNECTIONS

In this book youth will find several sewing projects that will be easy to make for the beginner. Tips are also added to provide background information about particular projects. This book is an uncomplicated introduction to sewing. Added fun includes sewing crosswords and fun facts on sewing.

SEWING EXPRESSIONS SERIES

There are three guides designed sequentially and are targeted to specific reading levels. Participants may work at the level most appropriate to them-beginner, intermediate, or advanced-no matter what the youth's age.

The books include an achievement program to encourage youth to learn more about the field of sewing and textiles, while developing important life skills. Each chapter emphasizes a particular life skill rather than specific subject-matter information.

Although this approach may seem strange at first, the experiences of the participants will lead to some very good discussions beyond sewing or textile-related content. Most of the materials in the manuals can be completed as a group or individually with a minimum of adult assistance, depending on reading/comprehension ability.

Level 1: Under Construction

Level 2: Fashion Forward

Level 3: Refine Design

Helper's Guide

STYLE OF YOUR OWN

A STYLE Of YOUR OWN is a clothing decision project. Along with the helper's guide, there are two books; **Discovering Choice** for grades 6-8 and **Managing Choice** for grades 9-12.

This project is designed to help youth discover what their clothing preference is, how to shop the smart way, what looks good on them, clothing trends, and

that's not all! These books are full of fun ways to teach young shoppers how to make informed decisions about clothing. **Discovering Choices:** Grades 6-8
Managing Choice: Grades 9-12

LET'S SEW

This book contains the sewing essentials to get youth on their way to being successful sewers. Some of the things youth will learn in this book include selecting patterns, stitching and serging seams, adding facings, hemming, darts, making collars,

zippers, sleeves, and buttons. This beginner's sewing guide is user-friendly and provides easy steps to learn how to sew. Youth will even learn all the basic parts of the sewing machine and how it works. **Highly recommended as a life-long resource for everyone learning to sew.**



(CC) CONSUMER EDUCATION

IT ALL ADDS UP

The "It All Adds Up" project prepares teens for their current and future roles as consumers in the marketplace. It helps teens to develop decision making and money management skills and provides them with information which will teach them to function more effectively and efficiently as consumers. Each of the 12 units consists of a leader's guide and a number of teen sheets. The leader's guide includes an introduction to the unit, a list of expected outcomes, what teens should gain by participating in the activities, suggestions for using the unit, details about conducting each activity, and recommended supplemental resources to enrich the activities. Youth can choose any one or several lessons to investigate during the year.

A brief description of each unit's contents is as follows:

"EFFECTIVE COMPLAINTS" - offers teens the opportunity to develop skills in exercising consumer rights and responsibilities to gain satisfaction.

"UNDERSTANDING ADVERTISING" - examines the effect of advertising on our consumer buying decisions. Activities are designed to acquaint teens with the techniques of advertising and to identify potential advertising problems as part of the marketing of consumer goods and services.

"THE MONEY SENSE" - unit is developed to help teens begin to identify and clarify their values and goals related to money. They have an opportunity to keep track of how they spend money and to evaluate

their spending. They can make plans to adjust how they use money.

"BUY WISE" - acquaints teens with strategies for shopping. As part of becoming "buy wise", teens will clarify their wants and needs as they consider consumer information, increase their awareness of sales promotions and the types of retail establishments and they will plan the purchase of a good or service.

"CREDIT SAVVY" - is a must-do unit!! In NYS, youth aged 18 years old are legally able to apply for credit on their own. They may have difficulty obtaining it and all teens could benefit from the activities in this unit designed to increase their understanding of credit and its use.

"BE AWARE AND COMPARE" - involves teens in simple product tests, observations and sampling. The unit relies on objective product data from Consumers Union and principles from introductory foods and consumer sciences courses. It's a fun way to practice comparative skills.

"SHOPPING AT HOME" - offers important insights into consumer rights and skills needed for effective use of mail order, door-to-door, catalogue, and party sales buying opportunities. This consumer marketplace, outside of retail stores, is often overlooked in consumer education programs. Teens enjoy the role-playing and market search activities in the unit.

"CHECKING OUT CHECKING ACCOUNTS" - this is a way for teens to learn the many changes in the banking system since deregulation. Obtaining and using a checking account effectively requires consumer decision making and management skills.

"STASH CASH" - this unit gives teens the opportunity to explore methods of saving. It will also help them understand the basic concept of savings and how to compound interest on savings. Grades 8+
Leader Guide, Teen Sheets - a separate one for each unit

CONSUMER SAVVY

Activities emphasize saving, spending and sharing in learning about independent shopping decision-making. Guide books introduce youth to the influence of peer pressure, the power of advertising and the web market. Older youth navigate the marketplace enroute to becoming savvy consumers.
Level 1: The Consumer in Me Grades 4-6
Level 2: Consumer Wise Grades 7-9
Level 3: Consumer Roadmap Grades 10-12
Helper's Guide
Member Workbook

YOU'RE ACCOUNTABLE

The main emphasis is on decision-making, improving economic understanding and improving the financial competence of the teens. Students will analyze situations, evaluate information, and make generalizations based on topics covered in the project (saving, spending and borrowing).

Grades 11-12
50 minute video plus Leader's Workbook and eight camera-ready activity sheets.

MY MONEY, MYSELF

Youth learn about being good consumers through a variety of fun activities, determining values, exploring money as a tool, practicing evaluation of the quality of consumer products, exploring the influence of advertising on consumer decision making and increasing your understanding of the concepts of income, spending and saving. The project uses games, worksheets, and hands-on activities.

Grades 3-7
Up to 8 sessions-can mix and match activities.
Leader's Guide contains lesson outlines and member activity pages.

READING MAKES CENTS

Youth learn about money concepts through this financial literacy and reading curriculum. Each lesson can be done as a stand alone lesson and features a children's picture book. The seven money themes are history of money, managing money, earning money, spending money, saving money, sharing money, borrowing and lending money. Lessons include coin rubbings, I spy a dollar, allowances, money games and much more.

Grades: 3-5
Curriculum includes all activities and lessons.

(DA) ENVIRONMENTAL STEWARDSHIP

ENVIRONMENTAL AWARENESS

This Northeast publication takes a discovery approach to the core concepts of life in five types of environments: forests, inland waters, farms, towns and cities, and marine waters.
Grades 3-12

Leader expertise in natural sciences is not necessary. Ample support is provided by the Leader Guide.
Leader Guide

EXPLORING YOUR ENVIRONMENT SERIES

Youth are excited and challenged by exploring the ecology, science and technology of the environment. Three levels present basic ecological concepts to help develop scientific thinking and processing skills. Concepts include the four elements of life, connections among living things and how all plants and animals are affected. A Helper's Guide includes useful information and activities for volunteers to plan, manage and teach an environmental education program and outdoor activities.

Level 1: Eco-Wonders Grades 5-7
Level 2: Eco-Adventures Grades 8-10
Level 3: Eco-Action Grades 11-12
Helper's Guide
Member Workbook

FISHING FOR ADVENTURE SERIES

Youth develop angling skills, create fishing tackle and practice skills while they learn concepts of aquatic education and the dynamics of people and fish. They develop an awareness and understanding of environmental stewardship as they use public waterways for their own enjoyment.

Level 1: Take the Bait Grades 3-5
Level 2: Reel in the Fun Grades 6-8
Level 3: Cast into the Future Grades 9-12
Helper's Guide
Member Workbook

ENVIRONMENTAL AWARENESS: WILDLIFE

Youth will learn about some basic principles about wildlife and some ways to study. Youth will observe wildlife; improve habitat; build houses, feeders and baths; preserve animal signs; photograph animals and learn census methods.

Grades 4-12
Leader Guide

NATURE TRAILS DEVELOPMENT

This environmental education project is designed to present youth with both a challenge and an opportunity to help not only themselves, but others to understand some of the subtleties of environmental interrelationships. A step-by-step program for planning, construction, and maintenance of self-guided nature trails is presented. Detailed instructions are included for constructing a variety of attractive, inexpensive, durable, interpretive trail signs. The project helps youth learn about ecology, natural history and resource management and to acquire various craft skills while involved in a public service project. The project lends itself to be carried on over a long period of time.

Grades 3-12. Is an excellent project to be conducted by teen leaders. Applicable to urban, suburban and rural areas of the state.
Leader Guide

BACKYARDS & BEYOND

The Backyards & Beyond Curriculum is designed as a network of neighborhood "nature trails" with outdoor activities that are led by the Neighborhood Nature Club Leader. It includes four units with eight trails that progressively advance the connections youth make with the outdoors
Club Explorers Journal
Organizational Guide & Toolkit

FIELD GUIDES MADE EASY

Youth learn how to use field guides to identify trees and birds. The tree guide represents a type of field guide that uses a key. Bird guides use a different method of identification based on grouping things with similar characteristics.

Grades 3-12
Leader Guide

CYCLING BACK TO NATURE-FOOD PRODUCTION AND PESTICIDES

This environmental stewardship curriculum gives youth a chance to use critical thinking skills and new knowledge gained to debate issues of pesticide use for themselves. Each chapter contains leader/teacher background information and age-appropriate games and activities. Youth learn all about the basics of agriculture, food production, pesticides and the environment through such activities as Habitat Habit, Garden Grubs, The Perils of Peanut Butter and more.

Grades K-12-Leader Guide

CYCLING BACK TO NATURE-SOILS ALIVE! FROM TINY ROCKS TO COMPOST

The overall goal of this environmental stewardship curriculum is to explore ways that organic materials such as food scraps, soiled papers, animal bedding and yard trimmings can end up back in the soil rather than in landfills. Youth can engage in interactive activities that examine how nature turns rocks into soil, what's in organic matter, effects of fungi on decomposition, how composting works and how to make their own vermi-composter.

Grades 6-9
Leader guide

ENERGIZING YOUR FUTURE WITH ENERGY, ECONOMICS AND ENVIRONMENT

This environmental stewardship curriculum helps youth understand nearly every environmental issue faced today (from global climate change to habitat preservation) is directly related to the conservation

and consumption of energy. Many of the energy use choices made are economically-driven. Each chapter contains leader/teacher background information and related age-appropriate activities that reinforce the topics covered. Youth can keep energy diaries, determine what a wilderness area is worth and learn about the tennis shoes blues.

(DB) EARTH, WATER & AIR

LASTING IMPRESSIONS

This project is for several groups of young people-natural history buffs who want to know more about fossils found locally and general explorers trying to understand more about past and present life on earth. Sixteen activities are described which help the member investigate and explore fossils. The project guide provides many pictures and a great glossary. Targeted for youth aged 10-15
Project guide

***SUPPLEMENTAL RESOURCES:** A Dig Kit which includes a collection of actual local fossils and rocks.*

WEATHER

Designed to help youth develop an awareness and a basic understanding of weather and the relationship of man to his atmospheric environment.
Unit 1 - Grades 3-6 - "Understanding Weather"
Unit 2 - Grades 5-7 - "Building a Weather Station"
Unit 3 - Grades 7+ - "Weather Maps and Forecasting"
5 to 7 sessions each
Leader Guide, Member Manual

THERE'S NO NEW WATER!

Youth will learn about water as a finite natural resource that must be responsibly preserved, protected, used and reused. The curriculum includes six sequential learning models
Grades: 9-12

EXPLORING YOUR ENVIRONMENT

This environmental science curriculum focuses on water conservation, energy use, climate change, recycling, natural resources stewardship and air quality. Youth will have the opportunity to engage hands-on with how living and non-living organisms interact in an ecosystem and provide benefits for

humans and other living beings.

Level 1: Ecosystem Services

Level 2: Earths Capacity

Leaders Guide

Grades 6-8

WATER WORLDS

A series of "hands-on" activities to assist teachers and club leaders in teaching about the world of water. Explore water temperatures, water depth, current speed and turbidity of a local stream. Observe plant & animal life in that stream.
Grades 4-7
Leader packet, 13-page Member Manual
Water Worlds Video

POWER OF WIND

The Power of Wind activities involve young people in the engineering design process as they learn about the wind and its uses.

WATER WISE: LESSONS IN WATER RESOURCES

The overall goal of this all-encompassing project is to increase the awareness and knowledge of youth about the nature of water, and to suggest ways that they can take part in preserving this essential resource. The content focuses on the water cycle, the aquatic environment, and the causes, effects, and prevention of water pollution.
Grades 5-6

Each chapter of this 87-page Leader Guide contains an overview, background for instructors, and suggested learning activities. The guide also includes definitions of new vocabulary, student information sheets and worksheets.

POND AND STREAM SAFARI

Features natural history and ecology of freshwater invertebrates. Youth activities include sampling for and collecting aquatic invertebrates, learning about invertebrate adaptations, food webs, and water quality.

Grades 5-12

This project has a 57-page Leader Guide.

GEOLOGY

Level 1 (Gr. 3-5):

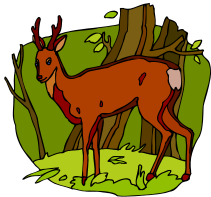
Youth learn about rocks, fossils and minerals. This project helps youth keep records of their rock-collecting, develop an understanding of the Earth science, and present results of their work to others. Each manual comes with a removable, full-color bookmark which shows 15 common rocks often found by first-time collectors.

Level 2:

A 4-H manual which helps youth learn more about rocks, fossils, and minerals. This manual also includes information about glaciers and Indiana geology. Youth will keep records of their rock-collecting, develop an understanding of earth science, and present results of their work to others.

Level 3:

Builds on experiences which youth had in Geology 1 and 2. Youth will continue to go on field trips and to collect and study specimens of rocks, fossils and minerals. Youth will specialize in one area as they continue collecting and teach others through action demonstrations.



(DD) FORESTS AND WILDLIFE

FIREWOOD: FROM WOOD LOT TO WOODPILE

A comprehensive firewood selection, preparation, and sales project for older 4-H youth. The project integrates woodlot management and economics within a strong safety orientation. Includes considerations of alternative energy sources. Nine lessons are included. Advanced youth where firewood preparation of sales are being considered. Leader Guide

FORESTS OF FUN

The Forests of Fun curriculum opens the world of forests to youth. Level 1 explores different types of trees and tree parts, characteristics of different forests, what forests need to grow and thrive plus the

different products people get from trees and forests. Youth take a closer look at the inner-workings of trees in Level 2 as they investigate forest change, learn about forest health concerns and discover the health benefits trees give to people. In Level 3, youth examine and distinguish different types of trees, look at forests on a global scale, learn to care for trees and explore how to conserve forests.

Level 1: Follow the Path

Level 2: Reach for the Canopy

Level 3: Explore the Deep Woods

Grades 9-12

Helper's Guide

Member Workbooks

KNOW YOUR TREES

The project aims to impart a great appreciation of the value of trees to man. Tree identification is the basis of the project. A member's guide and record book consists of seven parts including directions for collecting and mounting leaves and twigs, suggestions for field trips, several identification quizzes and recording of progress.

Grades 3-12. May be taken as a project for several years. Applicable to urban, suburban and rural environments throughout New York State.

Leader Guide,
Member Manual
Tree Identification Key

KNOW YOUR TREE DISEASES

Ten activity sections help members learn about tree diseases that can reduce trees' value for wood products, slow their growth, mar their appearance in the landscape and even kill them. Activities include field trips and the use of microscopes.

Grades 4-12

Know Your Trees Diseases Bulletin

4-H WOOD SAMPLE COLLECTION

The purpose of this project is to teach youth to identify native New York trees by their characteristic bark, grain, and color of wood.

Project includes construction of a display board for at least 15 sample wood specimens.

The project requires a limited ability with hand tools.

Recommended for Grades 8-12.

No printed materials. A natural follow up to other forestry projects.

TREES: DEAD OR ALIVE

Youth discover the fascinating world of trees and forests. Activities emphasize careful observation of trees and the living things associated with them. The three sections of activities cover how trees grow, plants and animals that live in and on trees, and how a forest will look many years in the future.

Grades 4-12

Leader Guide

UNDERSTANDING FOREST ECOSYSTEMS

An advanced forestry project which includes forest ecology and management. Forest inventories and stand evaluations are included as exercises. The project introduces forestry and forest management in an understandable and active fashion without sacrificing the science of forestry. For older youth with some understanding of forestry or natural resources.

Leader Guide

BACKYARD MAPLE SYRUP

A late winter, short-term, do-it-yourself activity which provides fun, education and possibly even profit. A simple fact sheet provides youth with information to produce maple syrup from sugar maple trees. It is a relatively simple operation and can be a fascinating educational experience for young and old alike.

Suitable for grades 3-12 in any part of New York State where sugar maple trees can be found. An excellent activity for teen leaders to conduct with young children.

WILDLIFE PROJECT

May take one or all 50 units, which vary in amount of time needed for completion and in the age for which they are appropriate. The following topics are available: (See list below).

Grades 3-12

Manual for each topic sheet.

WILDLIFE TOPICS

SW 403 Quail
SW 404 Mourning Dove
SW 405 Wild Turkey
SW 406 Non-Game Birds
SW 407 Birds of Prey
SW 408 Waterfowl Management
SW 409 Wildlife Careers
SW 410 Birdhouses & Bird Furniture
SW 411 Minor Game Birds of the Southeast
SW 412 Cottontail Rabbits
SW 413 Raccoon
SW 414 Squirrel
SW 415 White-Tailed Deer
SW 416 Minor Game Mammals of the Southeast
SW 417 Fish Identification Display
SW 418 Bass and Bream Pond Management
SW 419 Fish Culture
SW 420 Raising Earthworms
SW 421 Raising Crickets

- SW 422 Learning About Snakes
- SW 423 Learning About Lizards
- SW 424 Learning About Turtles
- SW 425 Ponds and Lakes
- SW 426 Beaver Ponds
- SW 427 Streams
- SW 428 Providing Needs of Wildlife
- SW 429 Beach
- SW 430 Estuary
- SW 431 Urban & Backyard Wildlife
- SW 432 Wildlife Foods
- SW 433 Making A Wildlife Resource Map
- SW 434 Wildlife Ecology
- SW 435 Fur bearers and Trapping
- SW 436 Taxidermy
- SW 437 Tanning Skins
- SW 438 Animal Tracks
- SW 439 Making Artificial Lures
- SW 440 Archery
- SW 441 Firearms and Hunter Safety
- SW 442 Fishing
- SW 443 Suggested 4-H Wildlife Activities by Month
- SW 444 Record of Wildlife Observations
- SW 445 Wildlife Laws & Enforcement
- SW 446 Hunting and Fishing Sportsmanship
- SW 447 Making a Fresh Water Aquarium
- SW 448 Economic Importance of Wildlife
- SW 449 Wildlife Damage Control
- SW 450 Learning About Amphibians
- SW 451 Handling and Care of Game And Fish

WILDLIFE HABITAT ENHANCEMENT

The purpose is to teach the importance of habitat improvement for the maintenance and management of wildlife resources. Three types of practices are included: shrub planting, food plot plantings and improvement of existing habitat.

Grades 3-12. Not limited to rural audience.

Suburban or urban areas could accommodate this type of project. This is especially true when one considers that "wildlife" includes non-game species such as songbirds.

Leader Guide

WILDLIFE IN TODAY'S LANDSCAPE

This project interprets some of the latest research of wildlife ecology and management, with emphasis of urban and suburban environments. It also includes plans for developing wildlife habitat improvement project in urban areas.

Grades 7-12

Leader Guide

WILDLIFE DISCOVERY

The aim of this project is to introduce youth to the needs of wildlife and their signs. Activities include interpretation of animal tracks, habitat investigation, owl pellet dissection and plaster casts of tracks. Also includes supplemental materials on wildlife photography, wildlife foods, and urban wildlife.

Beginner youth, grades 3-8

A packet contains short Leader Guide and a 19-page member's manual. It is assumed that youth and leaders have had no prior experience with wildlife. "Wildlife Discovery" video

EXPLORING FRESHWATER FISHERIES

The approach of this project is to encourage youth to explore fishery resources by participating in activities designed to enhance their interest in fisheries. Units include: fish identification, fish photo collections, preserved fish collections, Japanese fish printing, plaster casts of fish, and fish ecology and observation.

Most appropriate for advanced youth. Also usable with intermediate age group.

Leader Guide

BIRDS IN YOUR BACKYARD

By enrolling in this project, youth will be introduced to ornithology, the study of birds, by constructing and erecting bird feeders at close range that will allow them to learn basic identification skills and use them in observations of birds in their locality.

Grades 3-12

Leader/Member Guide.

BLUEBIRDS IN NEW YORK

A population study of the state's songbird.

Evaluation of limiting factors of wildlife populations and some specific suggestions of activities which may be undertaken by youth to encourage the bluebird in New York State. Included is information on the bluebird and its biology, construction of bluebird houses and location of bluebird houses and suggestions for field study of this songbird.

Grades 3-12. Younger children may need assistance in the construction of the bluebird boxes, however, they should certainly be able to accomplish the remainder of the project.

Member Manual

PHEASANT REARING

The purpose of this project is to teach youth how to rear day-old pheasant chicks for release in the wild as seven-week-old quality game birds. Project provides opportunity to learn a great deal about the ring necked pheasant and its management in the Northeast. Pheasants released provide excellent recreation in the form of upland game bird hunting. Pheasant chicks are provided free of charge by the New York State Department of Environmental Conservation. They are ordered through the Cornell Cooperative Extension Office in March and arrive in early-May.

Grades 3-12. This project requires considerable investment in time and facilities and should not be entered into without full understanding and consent

of parents. Primarily for rural audiences. Should have some experience raising birds such as poultry. Member Manual, Pheasant Rearing Charts

UNDERSTANDING BIRDS OF PREY

This project is designed to aid youth in understanding predators, predation and raptorial birds. Several suggested activities, e.g. owl pellet analysis, migration counts and hawk observation, make the project strongly activity oriented. Youth in grades 4-12, but older youth or those who have completed "Bird Study" might be better able to handle the project. Some leader adaptation may be necessary for younger groups.

Leader Guide



(DE) OUTDOOR EDUCATION/RECREATION

OUTDOOR ADVENTURE SERIES

Youth will enjoy acquiring a keen awareness of their environment and an appreciation for the outdoors through many activities. Activities include risk management, trip planning, healthcare planning, menu planning, and camping ethics. Level 1 includes shelter selection, "Leave No Trace" camping skills and outdoor cooking. Level 2 focuses on hiking for a day and includes clothing needs, packing daypack, reading topographic maps and orienteering skills. Level 3 focuses on being on the trail for extended periods of time and includes clothing needs, tent set up, using backcountry

stoves, nutrition & menu planning for multi-day hikes, personal hygiene & first-aid. Helper's Guide targets technical, organizational, problem-solving, safety and communication skills.

Level 1: Hiking Trails Grades 3-5

Level 2: Camping Adventures Grades 6-8

Level 3: Backpacking Expeditions Grades 9-12

Helper's Guide

Member Manual



(DF) WASTE MANAGEMENT

COMPOSTING: WASTE TO RESOURCES

Youth will learn how to compost kitchen and yard waste and how they can help to reduce the waste stream. Includes instructions for making compost bins, and activities such as using compost to grow healthier plants.

Grades 3-12

Leader Guide

WHAT ABOUT WASTE?

This project introduces the concepts of reducing, reusing, recycling and composting to show youth how they can reduce the waste they produce at home and at school. Activities include papermaking, trash bag investigations and a trash trivia game.

Suitable for beginners, grades 4-8

Six one-hour activities plus vocabulary list. A background in environmental sciences is not necessary to work on these activities with youth.
Grades 4-6

RECYCLING: MINING RESOURCES FROM TRASH

This packet details what's in the trash can, what's

made of recyclable materials, and where it should go. Recyclable materials such as paper, glass, metal, plastic, organic waste, and motor oil are examined, and a series of eleven activities are described. Intermediate and advanced, grades 7-12. Builds upon and incorporates some of the activities from the What About Waste project. Packet includes a 33-page Leader's guide and five posters



(EC) FOODS AND NUTRITION

FOOD CURRICULUM SERIES:

Developed to be taught sequentially, this series includes a wide variety of food related experiences. Information covered includes food guide pyramid and nutrients, consumer education, kitchen skill building, food safety and preservation, and food-related career options. Activities provide learning experiences from basic measuring to meal planning, shopping and preparation and presentation.

Level 1: Six Easy Bites

Level 2: Tasty Tidbits

Level 3: You're The Chef

Level 4: Foodworks

Helper's Guide

Member Workbook

COOKING UP FUN! SERIES:

Developed at Cornell University, this project series offers project leaders much information and flexibility in teaching the curriculum. The guides include planning strategies and tools to formulate effective learning meetings, recipes, food activities, suggested literature books related to food life lessons, and background information.

A Pyramid of Snacks – Ages 9-12

Muffins & More – Ages 9-12

Yeast Breads – Grades 6-9

Leader's Guides

FOOD MYSTERIES

A project that supports a science and technology approach to foods and nutrition. Focuses on food experiments to teach youth about the science and mysteries of food. Five lessons booklets: grains,

fruits, vegetables, protein and dairy. Each lesson is a treasure-trove of experiments waiting to be made into public presentations. Because of the science-based activities, boys and girls alike enjoy taking this foods project.

Grades 5-8

5 meetings of 1 to 2 hours each

Leader's Guide

Member's Manual

SPORTS NUTRITION

This project uses group activities to teach healthy lifestyles, nutrition, and fitness. Youth learn about fitness myths and physical development, as well as the structure and functions of the human body. The presence of a project leader will greatly benefit group experiments and the processing of learned information. Healthy food choices, not preparation, are the objective, and Power Snack recipes are given to accentuate that goal.

Grades 4-12

Leader/Member Guide

KITCHEN SCIENCE FOR KIDS

Youth explore the sensory, physical and chemical properties of food as well as nutrients as chemical components of food that the body needs to function. Five easy experiments are described. Also provided are simple snack recipes and appropriate youth books. Provides excellent topics for public presentations.

Ages 5-12

Project Guide (*Uses USDA Food Guide Pyramid – Has not been updated to include the new My Pyramid*)

WHAT'S ON YOUR PLATE? EXPLORING FOOD SCIENCE

What's on Your Plate? Exploring Food Science is a comprehensive curriculum set with a tasty collection of hands-on experiments-you-can-eat that help learners discover the science behind the foods they eat. Each unit contains activities for beginner through advanced learners. Ages: 9-18

Level 1: The Secrets of Baking

Level 2: The Power of Protein Chemistry

Level 3: The Inner Mysteries of Fruits/Veg

Level 4: Be a Food Scientist

(Facilitator Guide & Youth Science Journal)

FOOD PRESERVATION

This is a self-determined project

Because of continued research in appropriate preservation techniques, youth/leaders should request bulletins in the area they wish to pursue – i.e. canning, freezing, pickling, jams, drying.

Approved USDA Recommendations, check the Cooperative Extension Office for up-to-date materials. Complete Guide to Home Canning, a USDA bulletin, is available for review in the office

The following materials are available:

Preserving Food:

Pickled Products

Flavored Vinegars

Horseradish

Chestnuts

Walnuts & Filberts

Seeds

Freezing Animal Products

Jams & Jellies

Freezing Prepared Foods

Food For Health:

This nutrition education curriculum uses a wide variety of experiential activities to help youth recognize healthy foods within each MyPyramide food group, taste new foods, explore the similarities of foods, and develop an understanding and appreciation of different cultures.

(ED) PHYSICAL HEALTH

KEEPING FIT AND HEALTHY (First Aid)

A series of project books designed to assist youth in making informal lifestyle choices. In level 1 youth practice first aid skills to treat cuts, scrapes, nosebleeds and bee stings. In addition, they learn how to respond to someone who is choking, and assemble a first aid kit. In Level 2 youth explore hygiene, nutrition and physical activities while identifying personal talent areas. Youth conclude the project series by designing their own fitness plans and track them using their own fitness file and discover the benefits of being physically fit and active in level 3.

Grades 3-12

Level 1- First Aid in Action

MICROWAVE MAGIC SERIES:

Four levels teach youth how to use a microwave oven and apply its uses to more than making microwave popcorn or heating up soup. The curriculum is designed around four major categories: techniques and equipment, healthy food selection, food preparation, and mealtime magic. Workbooks have been designed to be used sequentially.

Level 1: Bag of Tricks Grades 3-4

Micro Magicians Grades 5-6

Amazing Rays Grades 7-9

Presto Meals Grades 10-12

Helper's GuideMember Workbook

CONFECTIONS

Note: Youth should take a basic Foods & Nutrition project prior to embarking on the Confections project.

The confections project, developed in Fulton & Montgomery Counties, includes the following materials:

FOOD CULTURE AND READING

1.) Cake Decorating, Levels 1, 2 & 3

2.) Candy Making, Levels 1, 2 & 3

3.) Special Cookies

4.) Party Favors, Popcorn Balls & Edible Party Decorations

The required number of meetings for each category is included with the materials.

Level 2- Staying Healthy

Level 3- Keeping Fit

4-H FIRST AID PROJECT

Developed in Fulton & Montgomery Counties, this project features a simple guide for leaders to use to teach basic first aid to youth. The guide covers avoiding hazards and preventing accidents as well as first response action and getting help.

Leader's Guide

HEALTH ROCKS

A healthy living curriculum aimed at 8-16 year olds, with the goal of bringing youth and families together to reduce tobacco, alcohol and drug use by youth. This project will help youth build life skills, help youth understand influences and health consequences of tobacco, drug and alcohol use and do build positive, enduring relationships with youth. Curriculum for 8-16 year olds

(EE) SAFETY



CLUB BICYCLE SAFETY

Lesson 1 - Bicycle Sizing, Equipment and Basic Skills

Lesson 2 Scanning, Signaling and Turning

Lesson 3 - Hazards and Rock Dodging

Lesson 4 & 5 - Organizing Rides and Trips

Boys and girls in Grades 4-12

Leader Guide, Member Record

Youth purchase a designated manual and study in classes prior to completing a competency test at the conclusion of the course. Information covered includes safety and accident prevention, tractor operation on and off road, responding to accident situations, and safety standards. Restricted to youth who are age 14 as of January 1 of the current 4-H year. This program includes a required 14 hours of instruction and when satisfactorily completed by 14 and 15 year old youth, provides an exemption to certain portions of the Federal Hazardous Occupation in Agriculture Order and permits legal employment on the farm by certificate holders. This course is taught on a counties-wide basis when enough interest (at least 5 participants) warrants.

(EEF) TRACTOR SAFETY CERTIFICATION

A counties-level project taught in spring time to certify youth who wish to be employed by a farm.



(FA) CAREER EXPLORATION AND EMPLOYABILITY

WOW! WILD OVER WORK: A HELPERS GUIDE TO WORKFORCE ACTIVITIES FOR GRADE K-6

This guide focuses on skills that youth will need to succeed in the work world today and in the future. It contains background materials about workforce preparation, life skills, experimental learning and things to consider when working with youth ages five to twelve. Major themes include Work Around Me, Work in My Community, Work Around the World and Work in My Future. Supplemental fun games and activities are included to help reinforce the information covered.

Grades K-6

Leader Guide, mini-posters and activities

sheets

RISING TO THE OCCASION

A leader's guide to help teach youth how to make bread and prepare for careers in the food industry. The guide integrates workplace competencies with the art and science of bread making. Includes cooking and science activities, fact sheets, and handouts.

Grades 6-9. Can be adapted for grades K-12

Leader Guide

GETTING INTO A FOOD MOOD

This curriculum is a leaders guide, presenting objective learning experiences on activities and information about the food industry. The curriculum integrates work place competencies and foundation skills with food industry issues.

Grades 9-12

Leader Guide



(FC) ECONOMICS, BUSINESS AND MARKETING

RADISHES TO RICHES

Radishes to Riches is a good project for young people who would like to raise & market a fruit, vegetable or flower crop, or who already completed a project in horticulture and would like a new challenge. The project is unique because it combines disciplines that influence both the grower and the marketer, such as entomology, plant pathology, marketing, consumer economics and business and money management.

Grades 8+

Leader Guide, Member Manual

FINANCIAL CHAMPIONS

Personal finance skills are often not emphasized in a standard school curriculum. Youth will find this curriculum both practical and valuable information they can put to use immediately. In Book 1, youth will examine their own thoughts about money, discover money motivators in themselves and others, learn goal setting, the difference between wants and needs, communication skills and how to budget. In Book 2, financial skills will evolve. Teens learn about financial institutions, the pros and cons of credit and how to select financial services as well as check-writing, advertising, comparisons hopping, and judging possible financial choices.

Book 1: Money Fundamentals Grades 7-8

Book 2: Money Moves Grades 8-9

Helper's Guide

Member's Workbook

ENTREPRENEURSHIP

Youth take part in planning experiences that give them the skills to succeed as an entrepreneur. Using the 120-page member guide, youth learn about types of businesses, products & pricing, marketing, partnerships, agreements and contracts. Youth go through the process of creating a business pan and starting a business, doing market surveys, budget forecasting, exit strategies, business ethics, projecting and controlling cash flow, satisfying the customer, and developing, presenting and implementing a business plan.

Grades 7-12

Member's Guide & Helpers Guide

GET IN THE ACT

This innovative project is designed to help middle school youth explore what it takes to get their first paying job. Activities reinforce and extend learning with emphasis on personal qualities, working with others, and thinking skills. Youth will create their own work plan by applying what they learned to get that first job and attaining future career goals. A CD will compliment the youth guide.

Grades 6-9

Youth Guide-Get in the Act

Leaders Guide

CD

(FD) EXPLORING 4-H



EXPLORING THE TREASURES OF 4-H

The activity guide provides a treasure hunt for youth to explore the joys of 4-H by discovering their interests, potential 4-H projects, and finding 4-H where they live with the guidance of parents or other adult helpers. Activities in eight different categories are linked to national education standards with suggestions for continued study in related 4-H projects.

Grades 2-4

Leader Guide

Member Workbook

(FE) HOBBIES AND COLLECTIONS

COLLECTABLES

Youth can use this project to help them select items to collect and then learn how to make it into an ongoing hobby. Youth learn what to look for in collectables as

well as how to display and care for their collections.

Grades 3-12

Member Guide



(FF) LEADERSHIP SKILLS DEVELOPMENT

STEP UP TO LEADERSHIP

Youth of all ages will share in the fun as they learn the dynamic process of leadership. Mentor guides include background information, interactive activities and real life experiences in relationship building, communication, group process and planning and organizing. All activities offer a cross-cultural perspective. Young children and teens can lead in many ways - at home, in clubs, youth groups, school

and the community. The fun continues with an interactive web site to enhance and support learning.

Unit 1 - My Workbook Grades 3 - 5

Unit 2 - My Journal Grades 6 - 8

Unit 3 - My Portfolio Grades 9 - 12

Mentor Guides 1 & 2

Member Workbook

(GB) ANIMALS



There may be other animal species youth are interested in learning about. When this is the case, please contact the Animal Science 4-H educator to learn what 4-H project materials may be available for that species.

BEEF

The 4-H Beef Project is designed for youth to learn

about beef cattle husbandry. Youth will assume responsibility for the care, feeding and management of a healthy, productive animal. Complete and accurate records of animal, feed and equipment costs will be maintained. The assumption of these responsibilities will provide education to the club member in biology, economics and the basic fundamentals of the beef cattle industry.

Beef 1 - Bite into Beef

Beef 2 -On the Moove
Beef 3 - Leading the Charge
Beef Helper Guide
Grades 3-12. Older youth should increase scope of project and/or take part in activities such as exhibiting, judging, livestock auction and aiding younger members and demonstrating.
Year-round project for breeding animals. 10+ months for steer feeding project.
Leaders Guide, Member Manual

SUPPLEMENTAL RESOURCES:

Beef Learning Lab Kit

POULTRY

This project is designed to teach youth responsibility through caring for their own small poultry flock. Project animals may include chickens, ducks, geese, turkeys, exotics, quail or pheasant.
Poultry 1 - Scratching the Surface
Poultry 2 - Testing Your Wings
Poultry 3 - Flocking Together
Poultry Helper Guide
Grades 3-12
Leader Guide, Member Manual

SUPPLEMENTAL RESOURCES:

Poultry Learning Lab Kit

CATS

Project materials focus on broadening knowledge of cats and acquiring basic cat care skills.
Cat 1 - Purrfect Pals
Cat 2 - Climbing Up
Cat 3 -Cat Connections
Cat Helper Guide
Grades 3-12
Leader Guides, Member Manual

DOG

Project materials focus on broadening knowledge of dogs and acquiring basic dog care skills.
Dog 1 - Wiggles'n Wags
Dog 2 -Canine Connection
Dog 3 - Leading the Pack
Dog Project Helper Guide
Grades 3-12
Leader Guide, Member Manual

NYS 4-H DOG PROGRAM PAWS PROJECT

This is a curriculum that when it is completed will have 4 levels. The content and ideas have been developed by the New York State 4-H Dog Advisory Committee. It may be used to supplement other dog project materials.

PAW I-This material is geared for the first and second year member in the dog project. Material includes considerations in selection of a dog, breeds, health requirements, financial considerations, glossary of dog terms, demonstration evaluation, parts of the dog, nutrition and record keeping.

PAW II-This material is geared for the third and fourth year member in the dog project. Material includes anatomy and physiology, basic genetics and reproduction, glossary of terms, health check forms and detailed project record.

PAW III-This material is geared for the fifth and sixth year member in the dog project. Material includes advanced topics in anatomy and physiology, disease, careers in the dog industry and worksheets related to topics and a detailed project record.

SUPPLEMENTAL RESOURCES:

Dog Learning Lab Kit

DOG OBEDIENCE/DOG AGILITY

Taught as part of Canine Constellation, a counties-level special interest project. A purebred dog is not required.
Grades 3-12

DAIRY CATTLE

The dairy cattle project is designed to help youth develop to their fullest potential as they foster an appreciation for dairy cattle and the dairy industry. The dairy cattle project offers all aspects of care and management. Additional activities include: public presentations, dairy quiz bowl, dairy judging, fitting and showmanship.
Dairy 1 - Dig Into Dairy
Dairy 2 - Mooving Ahead
Dairy 3 - Leading the Way
Dairy Helper Guide

SUPPLEMENTAL RESOURCES

Level I - "Dairy Project Workbook ...Calves and Heifers" Care of calves and heifers, dairy products, nutrition, selection, reproduction and breeds of cattle (project usually done over a 3 year period).

Level 2 - "Dairy Project Workbook ...Cows and Management" Herd management, feeds and feeding, sire selection and breeding, reproduction, milking and milk marketing, and dairy herd record keeping.

Fitting & Showing Dairy Cattle - Getting cows ready for shows, sales, and portraits. The project record is the animal. Showing the animal at county fair is the culmination of this project.

Dairy Cattle Judging Made Easy - Evaluation of dairy cattle according to functional type clinics, and judging tours are a part of this project.

Dairy Cow Unified Score Card - dairy cattle type evaluation criteria

Dairy Learning Laboratory Kit

GOATS

The Goat project is designed to help youth develop to their fullest potential as they learn the care and management of a dairy or meat animal. The dairy goat is an ideal youth project animal, as it allows young people to learn about dairy production and/or meat goat production with an animal that requires much less investment than the dairy cow.

The 4-H Goat project offers all aspects of care and management, plus an understanding of the workings of a living creature. Activities include public presentations, judging, fitting and showing.

Dairy Goats

Goat 1 - Getting Your Goat

Goat 2 - Stepping Out

Goat 3 - Showing The Way

Meat Goats

Meat Goat 1: Just Browsing

Meat Goat 2: Get Growing with Meat Goats

Meat Goat 3: Meating the Future

Grades 3-12

Members Manuals, Leader's Guide, and Fact Sheets

SUPPLEMENTAL RESOURCES:

4-H Goat Manual - Ohio State

New York State 4-H Dairy Goat Project Fact Sheets

Dairy Goat Blanket Activity

Goat Learning Laboratory Kit

HORSE

The primary objectives of this project are for members to acquire increased knowledge of safety precautions to prevent injury to themselves, others and other horses; to develop an appreciation of horses as a healthy wholesome form of recreation and to have the member gain a greater love for animals.

The projects teach proper care, training and use of the horse and equipment. This is done through slides, films, subject matter material and personal knowledge of leaders.

A great deal of emphasis is placed on participation in a wide variety of competitive events involving individuals and teams. These include safety clinics, horse shows, horse bowl, hippology, horse judging, and horse demonstrations and public speaking.

Horse 1- Horsing Around

Horse 2 - Galloping Ahead

Horse 3 - Blazing Trials

Helper's Guide

Member Workbook

Grades 3-12

Older youth (14 and over) have more opportunities than pre-teens for some competitive events.

Ownership and/or regular contact with horses is not required.

SUPPLEMENTAL RESOURCES

4-H Horses and Horsemanship

4-H Horse Science

5-Star Program

Horse Learning Lab Kit

NYS 4-H Horse Educational Events Rule Book

NYS 4-H Horse Show Rule Book

Judging slides

Visible Horse Anatomy Model

Safety Videos:

Every Time . . . Every Ride . . . A 20-minute educational video demonstrating the need for protective head gear as well as the consequences of riding without a helmet. Required viewing for all first-time riders in the 4-H horse program. IT IS highly recommended for every horse project member to see EVERY YEAR. (2 copies)

Ground Handling Horse Safely - By understanding life from the horse's point of view, youth can learn to anticipate and safely react to your horse's natural instinct. This video demonstrates safe and proper methods for approaching, haltering, leading, tying and general handling. (1 copy)

Books:

The Illustrated Veterinary Encyclopedia for Horsemen- This book has excellent illustrations and photographs to help youth to understand each topic thoroughly.

Composite Horsemanship Manual

Equine Science: Basic Horse Knowledge for Horse People of all Ages

The Horse: Second Edition, by Evans, Borton, Hintz and Van Vleck - This is an outstanding book used as a reference for Hippology and Horse Bowl in 4-H and as a text book in some college courses. Covers all aspects of horse knowledge.

Horse Industry Handbook- A notebook style guide that is continually being updated.

Horses and Horsemanship: Seventh Edition, by M.E. Ensminger - This book covers a broad spectrum of Equine topics, an old standard updated for the seventh time.

Feeding and Care of the Horse, by Lon D. Lewis - Includes detailed sections on horse nutrition, feeds and feeding, and an atlas of poisonous plants.

Youth Leaders Manual: An American Youth Council Publication - A great resource for teaching youth about horses.

Horse Anatomy - A Coloring Atlas: A wonderful text with detailed illustrations of horse anatomy.

HORSELESS HORSE PROJECT

This beginning project is designed for youth in 3rd through 12th grade. Because of its unique workbook design, this resource may be used by 4-H advisors with groups of members, or at home on an individual study basis. Younger members must take this project under the guidance of an adult. Horseless horse members should have access to a horse to complete this project and are encouraged to help out at a 4-H sponsored horse show, qualifying show or county fair horse show to learn more about this aspect of the horse program. Individuals will be encouraged to participate in other horse educational events such as 4-H Horse Quiz Bowl and 4-H Hippology and Horse Judging.
Grades 3-12

LAMAS

Youth will learn the first steps in getting to know and care for lamas, which include identifying the various species, how they originated, lama care, grooming, building trust, training and much more. The later levels build up on what youth have learned and introduce topics about showing, judging, fiber types, careers etc.

Level 1-Gr. 3-5

Level 2-Gr. 6-8

Level 3-Gr. 9-12

RABBITS

This program is designed for youth with an interest in rabbits. Lesson plans cover selection and management of rabbits, feeds, feeding, breeds and breeding and health care. Through these lessons and their associated activities, youngsters will develop personal skills and abilities as well as a knowledge of rabbit husbandry.

Other activities include rabbit judging clinics and rabbit shows.

Rabbit 1 – What’s Hoppening?

Rabbit 2 – Making Tracks

Rabbit 3 - All Ears

Rabbit Helper Guide

NYS 4-H Rabbit Project - Member Guide

NYS 4-H Rabbit Project - Leader Guide

Rabbit Showmanship

Judging Rabbits

Grades 3-12

Leader Guide, Member Manual

SUPPLEMENTAL RESOURCES

Rabbit and Cavy Learning Lab Kit

CAVIES

This beginning level project is designed as a one-time experience for 9-12 year old youth, and older youth having no experience with guinea pigs. The project covers history of guinea pigs, getting started, breed selection, general husbandry, record keeping and showing. Activities in the project include cavy shows and clinics.

4-H Guinea Pig Project Book

Grades 3-12

Member Guide

SHEEP

The 4-H Sheep projects involve the care and management of one or more sheep by the 4-H members. Members must have space and facilities to properly care for the animals or must make arrangements with area farmers who will help house the sheep. A sheep project is particularly well adapted to the rural family home with a small plot of land.

Other activities related the sheep project include Lead-line competition, livestock bowl, livestock judging, livestock auction and fitting and showmanship.

Sheep 1 - Lambs, Rams and You

Sheep 2 - Shear Delight

Sheep 3 - Leading The Flock

Sheep Helper Guide

Grades 3-12

Leader Guide, Member Manual

SUPPLEMENTAL RESOURCES

SID Sheep Production Youth Guide

Sheep Learning Laboratory Kit

PETS

This project is designed to teach youth how to feed and care for their pets. Pets that may be included in this project are: cats, tropical fish, rabbits, birds, gerbils, hamsters and guinea pigs, ferrets or reptiles.

This project offers the opportunity for a youth to have some meaningful responsibility and take pride in caring for a living creature.

Level 1 is designed for youth with or without pets of their own.

Pet 1 - Pet Pals

Pet 2 - Scurrying Ahead

Pet 3 - Scaling the Heights

Grades 3-12

Helper's Guide, Member Manual

SWINE

This project involves caring for one or more head of swine. The 4-H member must have space and facilities to properly care for the animals or must have an arrangement with an area farmer to house the project animal.

Swine 1 - Growing With Swine

Swine 2 - Becoming Swine Smart

Swine 3 - Entering The Arena

Swine Helper's Guide

4-H Pork Production (No. 215)

Grades 3-12.

Leader Guide, Member Manual

INCUBATION & EMBRYOLOGY

This project focuses on the living, growing chicken embryo. The study of development until birth is a fascinating and stimulating achievement. This

project relates to life and self and the 4-H theme "learning for living".

From Egg to Chick

Brooding and Rearing Baby Chicks

Hatching Classroom Projects (Grades 2-5)

This level explores embryology from incubation to hatching.

Hatching Classroom Projects (Grades 6-8)

This level incorporates several experiments that focus on reinforcing the scientific method.

Grades K+. Older members should delve into the more complex topics of Incubation & Embryology.

Leader Guide.

SUPPLEMENTAL RESOURCES

Poster set, video for loan.

Limited number of incubator rentals available.

Related Projects: Pheasant Rearing and GBC - Poultry

VETERINARY SCIENCE

A counties-level project series is taught annually by 4-H animal science educator and resource volunteers, rotating between classroom setting and veterinarian offices. Level 1 and 2 are offered on alternate years.

Below is a series of learning manuals that are suitable for youth in a small group setting or for individuals interested in studying Vet Science.

Vet 1 introduces youth to the normal animal, basic anatomy and systems, elementary principles of disease and careers with animals.

Vet 2 allows youth to examine health and disease topics, normal and abnormal conditions and veterinary careers.

Vet 3 involves youth in in-depth investigation of normal and abnormal systems, preparation for college and exploration of the diversity of the veterinary profession.

Helper's guide provides supplemental resources that help adult volunteers facilitate learning situations.

Level 1: Airedales to Zebras

Level 2: All Systems Go

Level 3: On the Cutting Edge

Helper's Guide

Member Workbook



(GC) PLANTS

KNOW YOUR PLANT'S DISEASE

People first recognized plant disease thousands of years ago because it destroyed or damaged their food crops. In addition to food crops, diseases also damage fiber plants such as cotton, trees used for lumber & firewood, agronomic crops used to feed livestock, ornamental plants and wild plants. The science that studies the nature, cause and management of plant disease is plant pathology. This project explores the symptoms, causes, management of plant disease and includes several activities to enhance each topic.

Grades 4-12. Older, more experienced members may be expected to do more in-depth project activities.

Member Manual

KNOW YOUR WEEDS

Youth have the opportunity to identify, collect and exhibit specimens of the more serious vegetable and flower garden and lawn weeds. Recognition of weed types and understanding their methods of growth will lead to more effective weed control.

Grades 4-12

Member Manual

FABULOUS FLOWERS

The guide is divided into three sections: "Annual Flowers," "Perennial Flowers," and "Spring and Summer-flowering Bulbs." Each section presents general information about the subject for the leader, followed by one or two lessons to be conducted with group members. Each lesson contains a list of materials, a full description of the activities, and suggestions for simple experiments that extend what members have learned.

Grades 3-12. Youth should have some outdoor garden space available. Older members should plant more varieties and/or larger area if space is available. May through September; earlier when starting seeds indoors

Leader's Manual

INDOOR GARDENING

An excellent horticultural project designed to teach youth to enjoy and appreciate the many ways plants and cut materials can be used in the home. Using separate project sheets on selected topics, youth learn to grow indoor plants from cuttings and how to care for them, create terrariums and dish gardens, create holiday decorations, learn flower arranging and corsage making, make pressed flower pictures and dried flower plaques, force bulbs indoors. A minimum of six to ten lessons are required to complete the project for one year. May be taken for several years, building on the previous year's experiences. Older youth should broaden their selection of topics to increase their learning and concentrate on more in-depth learning of the subject matter.

Grades 3-12

GARDENING WITH MINIATURE PLANTS

Many people in the U.S. live in mobile homes, small apartments or housing development where indoor & outdoor space may be cramped for growing plants. This project explains what groups of miniature plants should be used to improve indoor/outdoor environments, what is needed for plant growth and varieties of plants that may be available.

Grades 3-12

Leader Guide

GROW WITH THE FLOW

A ten-session curriculum built around a hydroponic growing unit - a system for growing plants in water. In this project, youth will construct and set plants in a hydroponic unit, watch the plants grow, and harvest them. Although the primary focus of the project is hands-on learning about plant science, sessions also deal with entomology, social studies, marketing, human nutrition and careers in horticulture.

Grades 6-12

Leader/Member Guide

GARDENING WITH CHILDREN STEP BY STEP

So you would like to begin a gardening project with youth? Perhaps, you've worked with plants before, but don't quite know which activities are best for kids. Or, you feel that you lack gardening experience and need to find out about the basics. This guide provides the fundamental elements of gardening. Easy to understand and use activities concerning everything from land needs, equipment and crop choices to how to plant, space and care for.

Grades 3-12

Leader Guide

VEGETABLE GARDENING

Four sequential activity guides feature exciting activities in six major categories: Garden Planning, Planting a Garden, While You Wait, Garden Care, Harvesting & Storage, and Careers. A Helper's Guide offers activities and ideas to help leaders with their challenging and exciting role.

Level 1: See Them Sprout

Level 2: Let's Get Growing

Level 3: Take Your Pick

Level 4: Growing Profits

Helper's Guide & Members Manual

SUPPLEMENTAL RESOURCES

Vegetable Fare - displaying vegetables at their best bulletin

Various bulletins on specific related topics

GARDEN IN THE CITY

The Garden in the City project is designed for club leaders and members who have had little experience with gardening. The project begins in early February with indoor gardening activities and ends in June with an outdoor garden plot. Most of the vegetables planted will grow relatively quickly, so the last project meeting can feature a harvest party. This publication does not cover summer gardening activities.

Grades 3-12

Approximately 14 meetings to complete project

Leader Guide

HEIRLOOM VEGETABLE GARDEN

This project is for 4-H members and leaders who are particularly interested in horticulture, folk art, foods and nutrition and other related projects. The goals of the Heritage Gardening Project are: to develop an awareness of plant heritage by the cultivation of heritage vegetable varieties, introduce gardening folklore information as it pertains to vegetable gardening, promote and stimulate interest in preserving heritage vegetable varieties. This project will give youth and leaders the experiences to: identify heritage vegetable varieties cultivated by early settlers, describe heritage gardening methods and tools, develop skills and attitudes to collect and interpret oral and visual history materials.

Grades 3-12

Leader/Member Guide

HERB GARDENING

Herbs are plants grown for a variety of practical uses such as to flavor foods, to provide fragrance in the garden, and for ornamental, craft and medicinal purposes. This project contains a wealth of information and activities. Topic areas include growing herbs, designing gardens, harvesting and preserving, crafts, games and decorating with herbs.

Grades 3-12

Leader Guide

YOUNG PEOPLE'S GUIDE TO LANDSCAPING

Landscaping has been described as fitting the home yard for human use and enjoyment. It doesn't happen over night which might make this a three to four year project. The four areas covered in this project are: Designing the Home Grounds; Landscaping the Public Area; Landscaping the Backyard and Construction - The Finishing Touches.

Grades 5-12

Member Manual

THE STRAWBERRY PROJECT

Learn ways to grow your own strawberries, how to pick berries for exhibit and experiments for 3rd year and advanced participants.



(HA) SCIENCE/TECHNOLOGY LITERACY

IN TOUCH SCIENCE: CHEMISTRY AND THE ENVIRONMENT

Through 10 experiments youth observe how similar science concepts relate to the world of chemistry and how chemistry relates to the environment. In the session on dispersion, youth disperse fat droplets in milk to create swirling colors. They then consider whether dispersion is desirable when cleaning up an oil spill. Most non-perishable supplies included in the kit, you can borrow from the CCE office.

IN TOUCH SCIENCE: FOODS AND FABRICS

Through 10 experiments youth observe how similar science concepts relate to the food they eat and then clothes they wear. For instance, in the session about water, youth will see how different fabrics absorb or repel water and also learn that water is a major component of food. Most non-perishable supplies

are included in the kit you can borrow from the CCE office.

IN TOUCH SCIENCE: PLANTS AND ENGINEERING

Through 10 experiments youth observe how similar science concepts relate to the natural plant world and man-made engineering world. Each session has an activity exploring plants, one investigating engineering discussion tying them together. For example, youth will build marshmallow and spaghetti bridges to test strength through engineering and then make leaves with flat and round stems to test plant strength. Most non-perishable supplies included in the kit, you can borrow from the CCE office.



(HB) BIOLOGICAL SCIENCES

THE AQUATIC MAESTRO

This project is designed to teach youth about fish, the water they live in and other living things in the water. Using an aquarium set-up youth create a habitat where they can observe and learn about their fish.

Unit 1- Keeping Fish Alive-

Unit 2 - Special Aquarium Set-Ups

Unit 3 - Aquatic Plants

Grades 3-12

Leader Guide, Set of 3 videos

Member Manual

ENTOMOLOGY- THE INSECTAGANZA OF EXCITEMENT

Youth explore the fascinating and amazing world of insects and their arthropod relatives. Fun and educational hands-on activities provide youth opportunities to learn valuable life skills using insects found in soil, on plants, in homes, on pets and in other secret places! The helper's guide provides helpful hints and group activities.

Grades K-6

Level 1: Creepy Crawlies

Level 2: What's Bugging You?

Level 3: Dragons, Houses & Flies

Helper's Guide & Members Workbook

KNOW YOUR INSECTS

A three-year graded project that can carry a young person through 7 to 8 years of work in entomology. The basic material explains how to make an insect collection and identify specimens to order level; gives brief directions for making necessary collecting equipment; and lists references, films and other aids which are available. After 2 or 3 years of basic work in this project area, a young person may wish to:

- specialize in the study of one order or insect group
- make a collection of insect photographs
- study insect life cycles by raising them in captivity
- make a general regional insect collection for eventual donation to a museum
- make a special study of one species of insect
- make a collection of insects specific to a certain habitat, such as a bog
- or many other advanced projects, depending on the person's interests and imagination

Unit A (Beginner) - grades 3-8

Unit B (Intermediate) - youth who have completed Unit A or who are in grades 7-11

Unit C (Advanced)-youth who have completed Unit B or who are in grades 9-12

Member Manual

"Labeling and Storing an Insect Collection" bulletin
Insect Collection Record"

"Male or Female" sheet

"Hatching and Rearing Directions" sheet

Wasps of New York State and Some Relatives"

"Some Architects of the Insect World" bulletin

"Some Beetles of New York" bulletin

"Insect Traps" bulletin

PROJECT BUTTERFLY WINGS

Youth will explore butterfly habitats, learn how to identify common butterflies, become a citizen scientist and contribute data as they enter their findings on the website. Youth create investigations to answer questions or solve problems and share their finding with others.

Facilitator Guide Available

Grades 4-8

ENTOMOLOGY

Introducing the world of insects, youth grades 3 through 12 will explore how insects look and move, make insect collections while learning about biodiversity, invasive species and pest management. Three levels are available and in addition to a facilitators guide.

VETIRINARY SCIENCE

Various veterinary science project skills will be practiced as youth learn to be knowledgeable and responsible caregivers. Youth will cover topics such as anatomy, health and diseases, the investigation of normal and abnormal systems and careers with animals.

Grades 3-12

Level 1- From Airedales to Zebras

Level 2- All Systems Go

Level 3- On the Cutting Edge

Leaders Guide

BASIC BEEKEEPING

Learn about honey bees, the reasons for keeping bees and how to get started in beekeeping. Youth will also learn the parts of the beehive, how to assemble it, about valuable tools and where to look for more information.

Grades 5-12

Member Manual

LEARNING ABOUT BUTTERFLIES

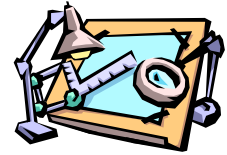
Butterflies, because of their beauty and mystique, are a most visible insects. Learning about butterflies is not difficult. The guide provides lots of information about kinds of butterflies; their life cycle; habitats, ecology and behavior; conservation; and special projects habitats, ecology and behavior; conservation; and, special projects.

Grades 5-12

Member Manual

SUPPLEMENTAL RESOURCES:

(HC) TECHNOLOGY AND ENGINEERING



AEROSPACE ADVENTURES

Through fun and challenging learn-by-doing activities, youth discover the world of kites, hot air balloons, gliders, remote control airplanes, and space shuttles, as they develop important life skills.

In Stage 2 youth begin with a straw rocket, then build their first simple rocket from a kit. Paper airplanes, jobs, kites, and Morse code are also included. Stage 3 starts with a balloon rocket, rocket launch, using the control panel, kites and more. Stage 4 helps youth build an altitude measuring device, learn what it's like to be a pilot, make a box kite and consider careers.

Stage 2-“Lift-Off”-Grades 3-5

Stage 3-“Reaching New Heights”- Grades 6-8

Stage 4-“Pilot in Command”-Grades 9-12

“Flight Crew”-Group Activity Guide

Member Manuals

ROCKETS AWAY

Three interest areas are explored in this project - Rockets and How They Move, How Rocket Parts Affect Lift and Launching a Rocket. Household materials such as two-liter bottles and aluminum cans are used to experiment with the various forces and reactions involved in launching a rocket.

Grades 5-12

Leader Guide

START YOUR ENGINES

Youth learn about basic small engine knowledge, engine parts, tools of the trade, safety issues and what makes small engines work. In Level 1, youth study external engine parts, discover tools of the trade and learn about the concepts behind what makes small engines work. Level 2 teaches about engine size, compression ratios, seasoning their engines and safety issues. In Level 3, youth spend time tearing down and rebuilding an engine. They learn about diagnostic tools, rules and regulations related to small engine machines and about selecting a replacement engine.

“Crank It Up!” - grades 3-5

“Warm It Up!” - grades 6-8

“Tune It Up!” - grades 9-12

BICYCLE ADVENTURES

Youth activity guides are designed to be completed in succession and can be undertaken on an individual basis. Guides contain creative hands-on activities and connections to DVD and WWW resources.

Learnings concentrate on safety, rules of the road, bicycle selection and proper maintenance, accident prevention. The activities in the helper's guide are designed for group learning and may be used at any time during the series. Answer keys are also included.

Grades K-6

Level 1: Bicycling For Fun

Level 2: Wheels in Motion

Helper's Guide

Don't Get Stuck: Fix it DVD/Video

Member Manuals

COMPUTER MYSTERIES

Multimedia curriculum helps youth develop skills to confidently use their computers to design professional-looking printed materials, animated presentations, and interactive websites.

Level 1: Booting Up: Interacting with Computers (includes CD)

Level 2: Adding Hardware and Software Magic (includes website password)

Level 3: Reaching Beyond: The Advanced User (includes website password)

Grades K-12 depending on level of comprehension – must be adapted for Cloverbud ages

Helper's Guide

Member Workbook

ROBOTICS: Engineering Today and Tomorrow

This curriculum focuses on basic physical science concepts related to robotic systems, the scientific inquiry process, the engineering design process where youth build robots, technology tools used for learning and communications, and the exploration of science, engineering and technology careers.

Level 1: Give Robots a Hand
Level 2: Robots on the Move
Level 3: Mechatronics
Youth Notebook
Virtual Robotics Track DVD
Robotics Platforms Track DVD

COMPUTER POWER UNLIMITED

Youth will gain experience and develop skills in computer building, repairing, and networking. This project is for beginners with little or no experience to more experienced youth who would like to teach others.

Newbie Know-How- Activities for Computer Beg.
Level 1- Inside the Box
Level 2- Peer to Peer
Level 3- Teens Teaching Tech

ELECTRIC EXCITEMENT

Energize and electrify youth with this series of project guides. Youth demystify the “magic” of electric circuits, magnetism, motors, and electronics. From building burglar alarms and learning how to select really good stereo equipment, this curriculum contains dozens of hands-on, useful, and fun projects for kids.

Level 1-“Magic of Electricity”-Grades 4-5
Level 2-“Investigating Electricity”-Grades 6-7
Level 3-“Wired for Power”-Grades 8-9
Level 4-“Entering Electronics”-Grades 10-12
Grades 4-12
Helpers Guide
Member Workbook

4-H ELECTRICAL SCIENCE PROGRAM

Developed at Cornell University, the written materials are designed to present an entire project in a concise, three-meeting format. The project is divided into two levels – Beginner: Electric Fundamentals and Advanced: An Introduction to the Volt-Ohm Meter Project. Each have the 3-meeting format. A teaching tool kit is available for leader’s use when teaching this project.

Leader Notebook (loan)
Member Hand-out Guide Sheets

SUPPLEMENTAL RESOURCES:

Electricity Teaching Kit

WOODWORKING WONDERS

These materials supply youth the opportunity to rediscover the natural curiosity and creativity of their preschool years by building and constructing items using wood and a wide variety of woodworking tools. The curriculum is designed to improve youth’s scientific and technical literacy through hands-on learning while also helping them develop life skills such as decision making and communications.

4-H youth under the age of 14 are prohibited from using power tools. The use of hand tools to complete these projects is a valuable experience for youth and complies with the NYS insurance requirements.

In Level 1, youth learn to identify basic woodworking tools, be safe, use a variety of tools, and construct a basic woodworking item such as an airplane, a box, a letter holder, a picture frame or a rabbit puzzle. In Level 2, youth begin to learn about careers, check out wood options, try new techniques, and build a wood whistle, birdhouse, sawhorse, tool box, or foot stool. In Level 3, youth learn to enlarge scale drawn plans, build joints, use a variety of saws, consider finishing options, and build a boomerang, a belt buckle, a puzzle book or a book case. In Level 4, youth are encouraged to share their talents to help others in the woodworking project. They design a woodworking shop, use a router, make dove-tail and other joints, compare adhesives, and build a model car, table-top hockey game, stepstool/chair, doggie toy or door knocker.

Level 1-“Measuring Up”-Grades 2-4
Level 2-“Making the CUT”-Grades 4-6
Level 3-“Nailing it Together”-Grades 6-8
Level 4-“Finishing Up”-Grades 9-12
Grades 2-12
Helper’s Guide
Member Manual

SUPPLEMENTAL RESOURCES:

Direction sheets for numerous building projects are available:

4-H Sign Board
Box Hockey Game
Swiggle Stick
Life-Saving Device for Ponds
Portable Napkin Holder
Reverse the Pegs Game Brainteaser
The Shifting Pyramid Game

All-Type Memo Pad Holder
4-H Key Holder
Memo Pad Holder
4-H Boot Jack
Whiskbroom Holder
Shifting block Game
Poultry Feeder
Shoe Rack
Tool Box
Show Box
Sheep Trimming Stand
Magazine File
Small Tool Kit
Foot Stool
Book & Magazine Storage Shelving Unit
Poultry Catching Hook
Small Miter Box
Utility Tray
Trivet
Utility Stool
Hanging Paper Towel Holder
Chair Stool
Fabric Covered Foot Stool

Reference Sheets available:
Identification & Use of Tools
Paint Brush Selection
Care & Use of Paint Brushes
Ye Olde Cabinet Makers Finish
Sharpening Knives
Sharpening Shears

GEOSPATIAL **“EXPLORING SPACES, GOING PLACES”**

Explore the world of geospatial science and go where no 4-H project has gone before! Youth will be introduced to navigational tools such as GPS units, compasses, maps and globes. Future map-makers will learn how to collect data, combine the data with geographical positions and then make their own maps. Activities include As the Ring Turns, Navigational Skillathon, Letterboxing, and GPS Search and Rescue. Grades 4-12 **All 3 levels are on one CD**
Level 1- Getting Out
Level 2- On the Trail

(HD) PHYSICAL SCIENCES

IT'S OUT OF THIS WORLD

Designed to provide youth with hands-on opportunities to explore the basics of astronomy. The leader need not be an expert in the field of astronomy, and by participating together, both adults and youth can enjoy learning about astronomy. Nine areas of interest are represented, most have accompanying activities, and some have more than one. They include: constellation matching, mythology, connecting the dippers, finding certain constellations, exploring the Summer Triangle, moon phases, understanding and making a sundial, and more. The project covers the solar system using telescopes and tips to make the most of night viewing. By using these easy, but very informative, hands-on ideas youth and adults will have fun, retain what they learn and have a better appreciation of astronomy.

