

# WHAT IS A 4-H PROJECT?

- ◆ A project is a planned series of learning experiences through which youth develop knowledge, skills and/or attitudes.
- ◆ For instance, a member enrolled in a woodworking project might learn the safe and most effective way to use basic hand tools and gain experience in the selection of hardware and finishing materials while making a birdhouse. The knowledge and skills learned can be applied when making other wooden items in the future. It is this transferable knowledge and skill that is the essence of the project - not the finished product.
- ◆ 4-H projects always teach the "whys" as well as the "hows."
- ◆ Some projects such as first aid or public presentation do not result in the production of a tangible item, but are just as important to the overall growth and development of the child.
- ◆ A "well rounded" 4-H club program will include both tangible and intangible projects.
- ◆ A trip to the apple orchard or making brownies is only one activity in a project and one step of the learning process and, therefore, does not constitute a completed project.

4-H project leaders are encouraged to participate in a leader training before teaching a project to 4-H members. Leader training opportunities, including workshops, conferences, and other meetings scheduled for 4-H leaders, are listed in Club Call or may be requested through your Program Assistant. The monthly 4-H newsletter for Oswego County, Club Call, announces specific details and gives leaders an opportunity to register. If you don't see the project you want to teach offered as leader training, **call your 4-H Program Educator. We'll arrange training, or come to your club to help start the project!**

Project leaders are responsible for certifying members' completion of projects by notifying the club organizational leader.

## Guide to Project Selection

This guide is intended for 4-H organizational and project leaders to assist club members in the selection of projects suitable to the needs of your club. Each 4-H project offered in Oswego County is described. The leaders, members and parents are encouraged to plan a program together that is suited to the interests and abilities of the youth.

When selecting a project, the following should be considered:

- 1) What do the members like to do?
- 2) Is there an interested adult knowledgeable in the project area or willing to attend leader training?
- 3) Does the club have, or can it get the necessary equipment and supplies?
- 4) Are enough members interested in the subject to develop the necessary group interest for successful teaching and learning?
- 5) Are the parents interested enough to support the project?
- 6) How will the project be financed?
- 7) Can the project be completed by the end of the current club year?

Many 4-H projects "go together." As you help the 4-H members select the year's projects, why not explore the possibility of combining projects. Some go-together ideas are: Vegetable Gardening and Versatile Vegetables, Vet Science and Rabbits.

## **How Do I Know When My Club Has completed a 4-H Project?**

Many 4-H projects have well defined units or lessons that guide 4-H leaders in what to cover at each meeting. For example, "Be a Food Detective" for 9-12 year olds has six lessons. Each lesson takes 60-90 minutes and spells out what is to be accomplished during the meeting. To say you have completed the project means you covered all six lessons and achieved the objectives of the project.

However, it might be difficult to do that all the time. You might run into some situations that make you ask "What if..." Like what if your members have learned some of the information in school already, or start to lose interest? What if the project doesn't tell me clearly what to do at a meeting or in each lesson? What if some members take longer than others do? Well, the final decision rests with you, the leader. The 4-H office has pulled together the following guidelines to help you make your decision. It's on your honor - no one will ask you for proof.

**ANIMAL SCIENCE:** Fill out and meet project guidelines for each project record booklet offered.

**VET SCIENCE:** Fill out and do project guidelines for each unit.

**CAREER EDUCATION:** At least half the material, or four or more hours.

**CLOTHING & TEXTILES:** (each level should be done more than once)

**Clothing Level I** - straight sewing, pull-on shorts, pants, skirt, pillow, apron, top stitching of hems, waistband, from cutting the pattern out to finish, approximately 10 hours, learn fiber content and fabric care.

**Clothing Level II** - perfecting methods learned in Level I sewing: advanced seam finishes, improved top stitching, slight pattern alterations, an outfit (two piece top and bottom), approximately 10-15 hours, fiber content and fabric care knowledge.

**Clothing Level III** - Continuation from Level II knowledge. Advanced pattern - more complicated such as zipper, collar, set in sleeve, more difficult fabrics such as taffeta, lace. Approximately 20 hours.

1. Participate in learning experiences outlined in the materials.
2. Attend 4-H meetings to learn and practice sewing techniques.
3. Complete a garment or other sewn item.
4. Participation in the county Clothing Revue is recommended, though not required.

**CLOVERBUD PROJECTS:** Many Cloverbud activities can be completed in one meeting. Remember that a project is a planned series of educational activities. To complete a project, you should do three or more activities to qualify as a planned series.

**CONSUMER ED:** Completion of half of units per project.

**DISCOVER 4-H:** Must do a series of four or more activities to receive project completion for "Discover 4-H."

**ENGINEERING SCIENCE:** Woodworking and Rocketry projects are completed when the end product has been finished and at least six hours have been put into the project. Bicycle, Electrical, Energy, Fire Prevention, Fix-It Tips, Small Engine, Wheels & Blue Sky Below My Feet are completed when members spend a total of at least six hours doing at least three different activities.

**FOOD & NUTRITION:** Complete more than half the lessons in the project.

**HOME ENVIRONMENT:** Completion of half the lessons or four or more hours of activities (mini lecture, slides, discussions, role plays, worksheets, observing children, etc.)

**LEADERSHIP DEVELOPMENT:** Requires at least one half hour of training or planning with the 4-H'er and leader, then 4-H'er takes responsibility and follows through on commitment, such as organizing a community service activity, teaching a project to younger members, etc. Must complete Youth Leadership Project Record Sheet.

**NATURAL RESOURCES:** Most projects are based on information and attitudes developed through a series of activities. To complete a natural resources project, members need to spend a total of at least six hours doing at least three different activities.

**PHOTOGRAPHY:** Fill out and meet project guidelines for each unit.

**PLANT SCIENCE:** Fill out and meet project guidelines for each project record booklet offered.

**PUBLIC PRESENTATIONS:** Develop and deliver a public presentation at the club and county level.

# PROJECTS AVAILABLE

## **CLOVERBUD PROJECT MATERIALS**

The following projects were gathered for use with young (5-7 year old) 4-H'ers. They were designed to explore a variety of topics so that Cloverbuds could explore all their interests. These projects also have the younger attention span in mind, and can be covered in brief meetings. Additional materials are added periodically. Check with your program educator or the 4-H Office. Also, regular 4-H projects should be reserved until the member is eight (8) to ensure the youth's ability levels are in conjunction with the project materials.

### **ANIMAL SCIENCE**

Animal Life  
Animal Science Teaching Kits  
Care & Feeding of Large Animals  
Care of Dogs  
Care of Dairy Goat  
Care of Horse  
Care of House Pets  
Care of Meat Goat  
Care of Rabbit  
Exploring Farm Animals – Skills For Life  
Horse Book in a Bucket  
It's All in the Genes Available

### **FOOD & NUTRITION**

Food and Fitness  
Food Fun Bingo  
Gingerbread Houses  
Outdoor Cookery  
Safe in the Kitchen  
Smart Shopping  
Snack Attack

### **EXPRESSIVE ARTS**

Act It Out!  
Exploring Music & Sounds  
Let's Communicate  
Name the Animal  
Photo Fun  
Puppets with Pizzazz  
See & Sketch

### **CLOTHING & TEXTILES**

Clothes Care  
Cloverbuds & Sew On  
Fun with Clothes  
Sew Far, So Good!

### **MECHANICAL SCIENCE**

Airborne  
Bike Rules  
Exploring with Electricity  
Pedal Power

### **NATURAL RESOURCES**

Bark Rubbings  
Birds  
Earth Care Kids  
Kids for Wildlife  
Water: Keep It Clear  
Trees are Terrific

### **HUMAN DEVELOPMENT**

Body Language  
Careers and Me  
Careers Everywhere  
Describing the World  
Exploring the Community  
My Family  
My Friends and Me  
Staying Safe  
The American Flag  
The Faces You Make

### **PLANT SCIENCE**

Great Gardening  
Plant Parts  
Seeds & Sprouts  
Soils! Soils!  
Those Bloomin' Flowers

### **ENGINEERING SCIENCE**

Astrolabe  
Fun and Chemistry  
Weather Wise

## **NIAGARA COUNTY PROJECTS**

A Look at Nature  
Apples/Johnny Appleseed  
Art  
Cloverbud Dog Book  
Dairy Goats  
Foods  
Horse  
Looking at You, Your Family & Your Community  
Mechanical Sciences  
Rabbits  
Safety  
Secretary's Book

## **ASSORTED OTHERS**

Cloverbuds on Horseback  
Cloverbunnies  
Growing with Horses

## **DISCOVER 4-H**

Designed for 6-10 year olds, this material is ideal for independent or beginning 4-H members. Each learning experience is easy to do at home or at a club meeting, led by a 4-H leader or parent. Here are the topics to choose from:

What is 4-H?	Draft Stopper
Build a Bird Feeder	Puppet Fun
Looking Good	Fire Safety
Collect Spider Webs	Build a Wood Trivet
Make Casts of Animal Tracks	Pet Discovery I
Bark Art	Pet Foods
Adopt an Insect as a Pet	How Are Horses Pictured Today?
Draft Detector	Shake a Pudding
Trees Used in Your Home	Make Your Kitchen Safe
Leaf Prints	Exploring Plants
What Is an Insect?	Drawing on Mushroom-Like Plants
Make Bike Ankle Straps	Pet Discovery 2
Keep Your Pet Safe	Create a Color Collage
Information Adventure	Bicycles
What Is a Micro Computer?	Exploring Meats at the Grocery Store
Make Your Own Lunch	Grow Sprouts in Your Kitchen
Grow a Giant Pumpkin	

## EXPLORING 4-H

**Exploring the Treasures of 4-H** - This youth 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. Treasures of 4-H Helper’s Guide provides activities to help groups of youth explore the many treasures of 4-H. Activities are organized into eight categories linked to national education standards with suggestions provided for continued study in related 4-H projects.

## ANIMAL SCIENCE

**Beef**– Complete the annual Beef Project Record Book. **Skills for Life** series has introduced three new workbooks and a helper’s guide to the beef curriculum. Activities included in these books include Halter Breaking Your Calf, Fitting for Shows, and Balancing a Beef Ration. The series includes:

**Level 1:** Bite into Beef

**Level 2:** Here’s the Beef

**Level 3:** Leading the Charge

**Cats** - Skills for Life has introduced three new workbooks and a helper’s guide. The series includes:

**Level 1:** Covers selection, handling, parasites, and home hazards

**Level 2:** Covers breeds, cat senses, emergencies, diets, etc.

**Level 3:** Explores veterinary procedures, diseases, genetics, and behavior

**Dairy Cattle** – Complete the annual Dairy Project Record Book. The Holstein Foundation has introduced a new **Dairy Judging Workbook**. This workbook includes dairy cattle judging and dairy goat judging. This workbook is intended to help develop a system to analyze and select the best individual animal, while acquiring valuable communication and observation skills. Every future judge should have one of these books and every showman also because it helps everyone to select better animals for better shows and better barns. **Skills for Life** has introduced three new workbooks. Examples of activities from the workbooks include Selecting a Calf, Following Feed Through the Rumen, Inspecting a Dairy Farm. The series includes:

**Level 1:** Dig into Dairy

**Level 2:** Mooving Ahead

**Level 3:** Leading the Way

**Dairy Goats** - Complete the appropriate annual goat Project Record Book. See list below:

Pygmy Goat Project

Harness Wether Goat Project

Dairy Goat Project Record Book

The **Skills for Life** series has introduced three new workbooks and a helper’s guide to the goat curriculum. The series of workbooks include:

**Level 1:** Getting Your Goat

**Level 2:** Stepping Out

**Level 3:** Showing the Way

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should have one of these books and every showman also because it helps everyone to select better animals for better shows and better barns.

**Dogs** - Paws I, II and III – Dog program series developed for New York State that covers many areas such as selecting a dog, dog anatomy, dog health, financial records, first aid, genetics, careers in the dog field, plus much more. **Skills for Life** has introduced three new workbooks and a helper's guide. Each of these workbooks introduces something new to the youth, from choosing the right dog to training to service dogs. These books will teach every necessary step a dog owner needs to know. The series includes:

- Level 1:** Wiggles and Wags
- Level 2:** Canine Connection
- Level 3:** Leading the Pack

Dog Care & Training – Includes selecting, feeding and care for a dog. Learn how to train your dog to follow basic commands such as sit, stay and heel. Project materials available. The project can be continued for advanced learning.

Guide Dog – A project covering approximately 14-16 months. The Guiding Eyes for the Blind place a puppy with approved families. The group meets regularly and works on basic care, socializing and obedience. The Guiding Eyes for the Blind takes the puppy after 14-16 months for further training and placement with a blind individual.

**Horse** – Complete the annual Horse Project Record Book.

Horse & Horsemanship – Book covers all aspects of showing and preparation in the equine industry. Discusses topics from color and markings to equitation to safety rules and precautions.

Horse Science – Covers horse behavior, anatomy, reproduction, feed nutrients, health and sanitation, disease and parasites.

Equine: Disaster Planning for You and Your Horse is a book about what to do in case there is an emergency when Mother Nature changes the weather. From fires to snow to earthquakes, it's all listed in the book. Also included are first aid and a preparation-planning guide.

**Skills for Life** series for grades 3-12. Curriculum covers a myriad of topics from horse selection, behavior, riding skills, tack to examining horse-related careers. The series includes:

- Level 1:** Giddy Up & Go
- Level 2:** Head, Heart, & Hooves
- Level 3:** Stable Relationships
- Level 4:** Riding The Range
- Level 5:** Jumping to New Heights

**Llama/Alpacas** – Caring for Llamas and Alpacas is a comprehensive manual of llama care. Covers basic care and management, as well as diseases, treatments, and first aid. Troubleshooting charts for identifying emergencies are included. Detailed illustrations throughout.

Llama and Alpaca Resource Handbook - This resource handbook contains essential information for members taking a llama or alpaca project starting with their uses and selection, ending with training, and including everything in between.

**Meat Goats** – Complete the annual Meat Goat Project Record Book. This series engages youth in activities related to breeds, health care, grooming, production, reproduction, management, showmanship, marketing and careers. There are three new workbooks and a helper’s guide. **Skills for Life** workbooks include:

**Level 1:** Just Browsing

**Level 2:** Get Growing With Meat Goats

**Level 3:** Meating the Future.

**Pigeons** – Project is inexpensive, requires a small amount of space and very easy to get involved with. Suitable for any age group. Material is provided in five lesson plans: Pigeons, Pigeons, Pigeons; Pigeon Breeds; Breeding & Genetics Novice; Breeding & Genetics Advanced; Racing Homers.

**Rabbits** – Complete the annual Rabbit Project Record Book. **Skills for Life** has introduced three new workbooks and a helper’s guide to the rabbit curriculum. Each of these workbooks helps youth to raise the best rabbit. Each book is filled with fun activities like Building a Hutch, Showing and even Designing Your Own Rabbitry. Care and nutrition are included in each book. The series includes:

**Level 1:** What’s Hoppening

**Level 2:** Making Tracks

**Level 3:** All Ears

**Sheep** – Complete the annual Sheep Project Record Book. **Skills for Life** has introduced three new workbooks and a helper’s guide to the sheep curriculum. These books have activities such as Making the Right Choice to Meating the Grade and lastly, Dyed in the Wool. The series of workbooks includes:

**Level 1:** Rams, Lambs and Youth

**Level 2:** Shear Delight

**Level 3:** Leading the Flock

**Swine** – Complete the annual Swine Project Record Book. **Skills for Life** has introduced three new workbooks and a helper’s guide to the swine curriculum. Examples of activities include Designing Your Own Facility, Exploring Swine Diseases, and Maintaining Herd Health. The series includes:

**Level 1:** Growing with Swine

**Level 2:** Becoming Swine Smart

**Level 3:** Entering the Arena

## **POULTRY SCIENCE**

**Chick Incubation & Embryology** - Helps youngsters experience the thrill of participating in the amazing birth process. Daily care of the incubated eggs and chickens is necessary, so clubs wishing to take this project will need to plan for this. **Skills for Life** has introduced three new workbooks and a helper’s guide to the poultry curriculum. Each of these three books helps youth to better understand a bird. The books are filled with activities and also teach about care and nutrition. The series includes:

**Level 1:** Scratching the Surface

**Level 2:** Testing Your Wings

**Level 3:** Flocking Together

**Home Poultry Flock** - Material is divided into four levels, covering beginner to advanced participants.

**In-Touch Science: Fibers and Animals** – Designed to teach youth about fibers and animals. The ten experiments teach youth how science, fibers, and animals all relate to each other. Activities include shaking,



heating, and adding acid to milk to make cheese, building an insulated container from fibrous material, and lastly, pressing together layers of sheep's wool to make felt.

**Pet Care – Skills for Life** series for grades 3-12. This curriculum includes the helper's guide and everything from pet selection, housing, pet behavior, and genetics to starting your own business. The series includes:

**Level 1:** Pet Pals

**Level 2:** Scurrying Ahead

**Level 3:** Flocking Together

## **VET SCIENCE**

**Skills for Life** has introduced three new workbooks and a helper's guide to the vet science curriculum. The series includes:

**Level 1:** The Normal Animal - Learn about the body systems of animals

**Level 2:** Animal Disease - Learn about causes and effects of diseases in animals

**Level 3:** Animal Health & Our World - A self-study course

**Vet Science Skills for Life** has introduced three new workbooks and a helper's guide. The series includes:

**Level 1:** Airedales to Zebras

**Level 2:** All Systems Go

**Level 3:** The Cutting Edge

## **ARTS & CRAFTS**

**Art and Crafts** - This series of projects begins at the 5th grade level (10 to 11 years old) and continues through age 19. Each unit builds upon previous material in teaching the elements and principles of design, developing creativity, and teaching craft techniques.

Unit 1: Creativity

Unit 2: Line Messages

Unit 3: The Shape of Things

Unit 4: Form (The Third Dimension)

Unit 5: Color Magic

Unit 6: Texture

Unit 7: Art & Crafts in Your Future

Unit 8: Independent Study

**Advanced Visual Arts** – Grades 7-12. These two guides provide numerous activities for youth to develop their artistic skills and talents while learning the elements and principles of design. Youth explore art techniques, art history and culture, the science behind the art and artistic challenges.

1: Sketchbook Crossroads - Youth practice drawing, fiber arts and sculpting to develop their artistic skills and talents.

2: Portfolio Pathways – Youth learn painting, printing and graphic design techniques.

**A Palette of Fun** – Grades K-6. 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, out, and after school.

**Scrap Booking** – Scrap Booking is a method of preserving memories that uses photographs, journaling, memorabilia and embellishments to create a layout that can be added to an album. An album can be a method of preserving the past to share with generations to come.

**Theatre Art - Skills for Life** includes a helper’s guide, and focuses on the theatre arts of acting, puppetry, and stagecraft. Activities in each youth guide can be modified for any grade level. The series includes:

**Level 1:** Journey into the Imagination

**Level 2:** Soaring into Action

**Level 3:** Quest for Expression

**Level 4:** Voyaging Beyond

## **CLOTHING & TEXTILES**

**Sewing Expressions** – Youth learn to be smart clothing consumers, and they have numerous avenues to create garments and unique costumes. Skills for Life has introduced three new workbooks. The series includes:

**Level 1:** Refine Design

**Level 2:** Fashion Forward

**Level 3:** Under Construction

**Adventures In Clothing (Level 1)** - This project is designed to introduce 4-Graders to the world of clothing and textiles. The project materials are targeted toward members approximately 8 to 11 years old, with little or no sewing experience.

Skills Emphasized: recognize color and line as design features; identify needs and wants in clothing selection; describe how fibers are made into fabrics; use a sewing machine and basic sewing skills such as pinning, cutting, hand-sewing; select and use a pattern; perform basic clothing care and simple repairs; understand how clothes can protect; recognize the relationship between grooming and self-concept.

Suggested garments/projects: Pull-on shorts or skirt or pillow or apron or simple top (t-shirt or sweatshirt) or any other simple garment or project.

**Challenges In Clothing (Level 2)** - This project's materials are designed to instruct members who have mastered basic clothing construction and selection skills (Adventures), approximately 12 to 15 years old.

Skills Emphasized: understand elements of design and relationship to personal appearance; compare labels, quality, usefulness and fit of clothing to determine purchase options; evaluate factors that influence fabric properties; learn sewing machine care and maintenance; use garment alteration and intermediate sewing techniques such as applying interfacing, matching stripes or plaids, and various fastener types; learn about bleaching, dry-cleaning and pressing; identify properties of flame-resistant fabrics; specific grooming practices; use clothing to establish individuality.

Suggested garments/project features: Top stitching or facings or hems or set-in sleeves or darts or buttons, snaps, hook-and-eye fasteners or collars

**Strategies For Clothing (Level 3)** - Advanced construction techniques and/or more difficult fabrics account for the majority of this project level's learning experiences. Members must have mastered Levels 1 and 2 before attempting the projects outlined in these materials.

**Skills Emphasized:** Utilize design principles and budgets to create garments and plan a wardrobe; understand budgeting and wise consumerism; identify new and unique fabric properties and finishes; develop competence in a variety of sewing skills already learned, and learn possible "shortcuts"; identify tailoring and "designer" construction techniques in garments and learn how to recreate them; use special care processes; identify several types of protective clothing, government standards, and care precautions; recognize the role of advertising in the selection of grooming and other products; help others with special clothing needs; explore cultural and historical uses of clothing; consider careers and job possibilities in the clothing industry.

**Suggested garments/projects:** Lined skirt, pants, jacket or suit or coat or evening wear or garment or project made from wool, plaid fabric, specialty fabric or garment or project using tailoring or other special ("designer," unique) techniques.

**Purchased Clothing Project** - This project is designed for members interested in learning the fundamentals of color, design, and fabrics but not necessarily in garment constructions. It is recommended that youth complete at least one clothing construction project prior to undertaking this project. Member will plan and purchase a complete outfit, integrating budgetary, fashion and existing wardrobe considerations.

**4-H Clothes Horse** - Members learn to construct apparel for use when riding and working with horses. Construction techniques range from beginner to advanced.

**Fabric Flight Connection** - for all 4-H members. It is a natural partner for 4-H Rocketry and it contains a lot of quick activities. The project is three units and has a videotape of the historical use of fabrics in aviation and the present and future uses of composite materials and careers in fiber science.

**Fun with Clothes** - Can be used with Cloverbuds and younger members. The project contains eight units. These units are on creativity, communication, cutting edge, choices, consumerism, care, culture and careers. The project has many clever games and activities.

**Blue Sky Below My Feet – Fibers** - Space technology is used to launch this project's discussion of fibers and properties, the varied uses of textiles, textile research, protective clothing, and textile careers. Includes a video, available from the 4-H Office, in addition to Mission Manuals and Leader's Guide. Suitable for 8-14 year olds.

**In Touch Science - Foods & Fabrics** - In-Touch Science workshops are designed to teach youth about foods and fabrics. The ten experiments teach youth how science, food, and fibers all tie into each other. Activities include the action of enzymes by making gelatin with different fruits, dyeing fabric with vegetable by-products, and examining nutrients as components of foods.

## **COMMUNICATIONS**

**Communications For Life** - Grades 3-12. Express Yourself: Through this dynamic interactive communications curriculum youth interpret verbal and nonverbal information, develop effective public speaking skills, enhance written and spoken communication, defend a point, design a presentation and much more! Communications Helper's Guide: Helpers support youth as they interact, and strengthen personal communication skills through skillathons, communication games, demonstrations and creating advertisements. This series includes:

**Level 1:** Picking Up the Pieces - Youth engage in nonverbal, verbal, and written activities that stretch and strengthen personal communication skills. Encrypting codes, writing songs, giving

directions, dealing with bullies, and making a statement through art are a few of the exciting activities.

**Level 2:** Putting It Together - Youth practice and gain confidence in communicating in a variety of situations. They gain confidence as strong communicators as they present oral reasons, plan and present speeches, communicate assertively, practice making a good first impression and mentor others.

**Level 3:** The Perfect Fit - Youth polish their communication skills and develop a public presence by speaking in public, exploring communication careers, writing resumes, interviewing for a job, developing presentations, dealing with anxiety and much more.

**Public Presentations** - The Public Presentation project offers youth (5-19) the opportunity to enlarge their public speaking skills. Materials are available which cover the skills needed to develop and present a simple to complex demonstration, depending on age and experience. In order to complete this project you must do a formal presentation at both the club and county level, using the public presentation evaluation sheet (Cloverbud or regular) and a qualified judge. Demonstrations, Illustrated Talks, Creative Communications, Speeches and when offered, interviews.

## **COMMUNITY SERVICE/CITIZENSHIP**

**Hunger – It’s Your World, Make A Difference** -This project is a kit offering basic information and activities you can do to help in your efforts to make a difference. This project can be used with members 5–19.

**Public Adventures** - The book is designed to help teens contribute to the world around them and become an active citizen. Teens will find out about issues that are important to them, gain new skills, discover new ideas, and most importantly take what was learned and use it in the real world.

There are many other community service activities. Please contact the 4-H Office or your program assistant for suggestions.

**Service Learning** - Grades 5-12. Service learning engages young people in actively giving back to the community and reflecting thoughtfully on the implications of service. Young people organize personalized journeys into service learning and discover their own abilities to make the world a better place. **Skills For Life** has introduced two new workbooks and helper’s guide. This exciting guide for leaders offers group service learning activities like community mapping, identifying group roles and journaling. The series includes:

**Level 1:** Agents of Change – Appropriate for a middle school-aged audience. Youth follow a series of exciting activities that engage them in their community and allow them to reflect on their experiences. Youth identify community needs, plan a service project and execute their idea using the manual.

**Level 2:** Raise Your Voice – Designed for a high school-aged audience, this no-nonsense guide engages older youth as young leaders. Voices of real young people engaged in service inspire youth and connect them with others who made an impact. Youth plan and implement their service project.

## CONSUMER EDUCATION

The objective of the consumer education projects is to help 4-H'ers become more observant participants in the marketplace. Youth today must make many choices on how to spend the money they have. These projects help youth understand how to make their money work for them.

**Consumer Savvy** – Grades 3-12. Youth consume more than \$175 billion of goods and services each year. Through “Consumer Savvy,” youth will become informed and responsible consumers in today’s dynamic marketplace. The series includes:

- Level 1:** The Consumer in Me
- Level 2:** Consumer Wise
- Level 3:** Consumer Roadmap  
Helper’s Guide

**Entrepreneurship** – Grades 7-12. Helper’s Guide. Youth develop knowledge, skills and mindsets to meet the challenges of work and community in the 21st century. Youth discover the world of Entrepreneurship with this multi-level guide. Activities assist youth in learning what it takes to be an entrepreneur and whether they have the right stuff to meet the challenges. Youth practice the skills needed to function successfully as an entrepreneur and explore types of businesses, products and pricing, marketing, partnership, agreements and contracts. Youth create a business plan and start their own business.

**My Money, Myself** - Designed for youth ages 8-12. Through the use of games and activities youth become aware of the importance of setting goals and making choices. This is a great project for preteens beginning to shop for themselves!



**Reading Makes Cents** – Reading Makes Cents has 53 experiential activities developed around money including saving, spending, sharing, earning, borrowing, and lending. The literature, concepts about money, and activities were selected to appeal to children in grades 3-5.

### **It All Adds Up**

Be Aware & Compare  
Buy Wise  
Checking Out

Credit Savvy  
Effective Complaints  
Money Sense

Shopping at Home  
Understanding Advertising  
Stash Cash – Savings Account

## FOOD & NUTRITION

**Pyramid Of Snacks** - 75 page teaching guide features 16 recipes for youth ages 9-12. Also included are related games, science experiments, food activities, and information sheets, as well as charts and forms to facilitate planning and evaluating cooking sessions.

**Muffins & More** – Is one in a series of publications to help children ages 9-12 acquire food skills and appreciate the science of cooking.

**Fun With Food** - Recipes which emphasize good nutrition and safe food handling techniques while discussing managing time, money and equipment in entertaining. Many good party ideas and recipes.

**Healthy Heart Snack Choices** - The guide contains over 60 easy-to-make snack recipes plus additional information about cooking with children. Pick and choose six or more recipes each year for project completion.

**Food Pizza For A Healthier You** - Cover new food groups, planning healthful meals and building cooking skills. (Could be adapted for younger members.)

**Fantastic Foods** – This curriculum is designed around six major themes: healthy food selection, smart food purchasing, food safety and science, food preparation, food preservation, careers and foods around the world. Helper’s guide includes group activities and answers to the questions posed in the youth guides here and on the website. Developed by Purdue University. **Skills for Life** series include:

**Level 1:** Six Easy Bites - Youth prepare foods, do fun experiments and go on fact-finding missions.

**Level 2:** Tasty Tidbits - Youth learn healthy food selection, food safety and smart food purchasing through exciting and challenging activities.

**Level 3:** You’re the Chef - Youth learn healthy food selection, food safety and smart food purchasing through exciting and challenging activities.

**Level 4:** Foodworks - Youth learn about foods and more advanced food preparation. They have access to the fun new Web site where they can download recipes from across the country and around the world.

**Be a Food Detective** - Replaces the Food, Let's Begin and Food, Let's Explore projects. 4-H'ers become detectives in the search for the food groups and basic food safety/food preparation techniques.

**Target What You Eat** - Designed for children ages 8-10. Contains lesson plans for nine meetings. The content is organized by nutrients. Emphasizes basic food preparation and shopping skills, key nutrients, physical activity and fun.

**Blue Sky Below My Feet** - Blast off with the NASA Space Program and learn about the foods prepared for and eaten by the astronauts. Many popular food products on the market today (juice packs and fruit leather) are available because of space technology. Explore the food video and the fun activities that accompany Blue Sky.

### **Outdoor Cooking**

**Level 1:** Team Up For Outdoor Meals - Contains leaders and members guides with detailed meeting plans and activities. Level I is designed with the young beginning cook in mind. Emphasis is on choosing foods that keep well without refrigeration.

**Level 2: Adventures in Outdoor Cooking** – Leader and member guides with meeting guide and many games, activities and recipes. Designed for outdoor cooks with some experience packing food and cooking with open fires.

**Level 3: Exploring Outdoor Eating** – Leaders and Members Manuals – This project manual is meant to be an idea book. Ideas are provided for cooking in reflector ovens, cooking on a rock, and barbecue pit cookery. Considerations for backpacking foods are also discussed.

Additional Information Sheet: Make and Use a Buddy Burner

**Kitchen Science for Kids** – A series of five experiments helps children learn about physical and chemical properties of food. Each experiment can be completed in one 20-minute session or expanded to include more experimenting or other food preparation or nutrition education activities. Designed for flexible programming with small groups of children, ages 5-12.

**International Food Customs** – Same objectives as the old project “Foods with an International Flavor,” with different recipes (includes Mexico, Germany, Scandinavia, Italy, Japan) with different recipes and discussion of nutritional content as they relate to the new food pyramid.

Related Additional Information:

Guide to Stir-Frying

Chinese Foods & Traditions

Finnish Foods & Traditions

Japanese Recipes

Gourmet Series (contains dated nutritional information, but good recipes and activities on France & China)

**Experimental Foods** – Project to learn multiple roles of ingredients in foods (including sugar, water, thickeners, proteins and fat) through scientific experiments. Recipes include cakes, fondant, ice cream, custard and meats.

**Energy Efficient Edibles** – Emphasis in the relationship between meal planning and conserving energy in meal preparation (saving electricity, etc.). How recipes can be combined to use the least amount of energy. Example: oven meals.

**Fun with Fruits** – Gives us an exciting look at the fruits grown locally, and a chance to taste those that come to us from far away. Youth really like the edible centerpiece section of this project!

**Versatile Vegetable** – A project that explores the color, taste and nutritional variety that vegetables offer to us through salads, soups, side dishes, snacks and main dishes.

**Rice – Grain of the Ancients**

The project is a way for youth ages 9-12 to learn about rice as it spans the subject areas of social studies, science, creative arts and nutrition as it details a method to grow rice in your own home.

Recipe Sheets:

White Sauce & Easy Lasagna

Desserts in the Microwave

Microwave Oven Meals

Intermediate Microwave Cookery (Biscuits –make ahead mix, wheat chips, cakes & breads)

Microwave Magic (next level)

**Breads For 4-H (Red Star Yeast)** – Emphasis to teach the fundamentals of yeast baking in creating bread and nutritious meals, many grains bread, pretzels, pizza, etc. Includes leader book and project sheets, which include many grains bread, taco bake, pretzels, pizza, etc.

**Rising To The Occasion (Fleischmann’s Yeast)** – Guide to teach children all aspects of making bread.

Designed for ages 5-18. Information is given on how older members can work with younger members in a team concept while baking bread.

**Contemporary Pies** – Food and fitness doesn't stop with vegetables and main dishes! This project covers pastry made with white and whole-wheat flour, main dish pies such as quiche and vegetable pies, and no bake piecrusts.

**Meat & Meat Alternatives** – Includes identifying protein foods, meat alternatives and how to prepare them. Recipes and activities included.

**Around The World With Pork** – Project for older 4-H'ers talking about cooking methods, pork cuts, cost per serving, nutrients, fat, cholesterol, etc.

**Cooking Today's Beef** – Project for older 4-H'ers talking about cooking methods, labeling, cuts of beef, cost per serving, nutrients.

### **Preserving Food Sheets**

Food for Health – Canning Fruits, Tomatoes and Vegetables

Food for Health – Freezing Fruits & Vegetables

**The Fitness Team** – A look at the dairy products available to healthy living practices and us today.

**It's Your Move** – Find the facts of food that make you decide your choices in everyday life. How to exercise; get the right body image, and what to stay away from are all parts of this project.

**Teens Entertain** – This guide helps teens to eat properly, have friends over to the house, and manage weight as related to calories.

**Microwave Connection** – This microwave project is designed to capture the natural enthusiasm of 4-H'ers 9-12 years olds as they learn about nutritious food, safe cooking practices, and economical food buying habits.

**Microwave Magic** – Grades 3-12. The microwave Magic Series contains exciting youth activities that focus on using the microwave to prepare everything from simple snacks to complete meals. **Skills for Life** has introduced three new workbooks and a helper's guide. The series include:

**Level 1:** Bags of Tricks – Youth engage in activities to understand how the microwave works, learn to use the microwave safely and prepare foods such as scrambled eggs, apples, popcorn treats, fudge and desserts.

**Level 2:** Micro Magicians – Youth participate in activities on understanding watts and prepare foods such as potatoes, vegetables, pudding bar cookies, beans, upside down cake and brownies.

**Level 3:** Amazing Rays – Through activities youth practice more advanced microwave techniques such as shielding, defrosting and browning.

**Level 4:** Presto Meals – Youth learn techniques such as adopting recipes for the microwave, blanching fruits and vegetables and stacking whole meals.

**Fit It All Together For A Super You** - Exciting project for 9-11 year olds that combines lots of fun fitness activities as well as nutritious, tasty foods. It includes selected parts from the 4-H project "Fit It All Together, Unit I" and from the Dairy Council Project "Super You." The emphasis is on exercise and eating right as a winning combination! Being fit isn't just for athletes; it's important for everybody! **Skills for Life** has introduced three new workbooks. The series includes:

**Level 1:** An attractive magazine style project that explores a variety of foods, provides information on fitness by including exercises, looks at some other cultures and even makes consumer skills fun by going to the store!

**Level 2:** Food & Fitness Choices - Nutrition, food preparation, consumerism and activity come alive! Youth explore calorie intake and burning it off with activity to make for a well-rounded fitness package. Recipes include quiche, dips, salads and tacos!

**Level 3:** The World of Food & Fitness - If sports, eating, dieting or world hunger are of interest to the teens in your club, this is meant for you! Fit It All Together #3 looks at nutrition and fitness, food safety, additives and food supplies (at home and around the world). Teens determine what parts of the project they'll do, and can wrap up by exploring careers in the food industry.



## Teaching Nutrition through Clowning - Reference Guide

**Whole Grains** - Whether you try brown bread, honey oat muffins, alligator bread or pizza, you'll learn a lot about different grains used in flours, casseroles, and desserts! Do you know what we're forming when we knead dough? Do you know what can be developed too much, making a tough muffin? Do you know what wheat flour is best for yeast breads? This answer to all three is gluten! Learn this and more in a fun, new project!

**In-Touch Science: Foods and Fabrics** - In-Touch Science is a hands-on science program developed by the Cornell Cooperative Extension for children in grades 3-5 (aged 8-11). The program helps children: communicate what they are observing and learning, understand the science connection between two fields of study, and recognize those science concepts in daily experience. Includes ten experiments that let children observe how similar science concepts relate to both foods and fabrics. The program emphasizes giving each child an opportunity to manipulate materials and equipment, test ideas, and explore what interests them in a relaxed learning environment.

## HOME ENVIRONMENT

**Home Environment** - A series of project books geared toward 10-19 year olds that discuss design of member's home environment. Units are:

1. My Home
2. Good Design
3. My Space
4. Designed for Study
5. Accessories
6. Design Your Own
7. Furniture & Woodworks Recycling
8. Your First Home Away From Home

## HUMAN DEVELOPMENT

Projects in this area provide 4-H'ers with an opportunity to learn more about children, about themselves, about learning and developing, and about providing safe, quality childcare.

### Learning Experiences:

- 1) Opportunity to observe/interact with young children.
- 2) Learn how to plan recreational activities for youngsters.
- 3) Discover the stages of development young children experience.
- 4) Become competent in the care of young children and their daily activities such as eating, bathing, dressing, etc.
- 5) Get acquainted with the difference between discipline and punishment.

**Preschooler** (Leader and Member) – What are preschoolers like? Youth can learn how preschoolers learn, play, and develop through this seven-unit project.

**Toddler Topics** (Leader and Member) – What are toddlers like? Youth can learn about the physical and emotional growth of toddlers and develop the necessary skills to care for them.

**What Are Children Like?** – Explore the physical, intellectual, social, and emotional development of preschoolers. Designed for 10-13 year olds.

**School Age Child Care** – Includes five topics that take one and a half hours each. Covers child development, discipline, safety and health, planning play activities and general information. Written for volunteers who have a minimum amount of volunteer time.

**Caring For Young Children In The Home** (Leader and Member) – For 4-H'ers before they baby-sit (before age 14, a youth is considered a “Mother’s Helper”). This project is designed to help youth have fun with children, while learning about responsibilities of caring for a child. Explores creative activities, safety and development.

**The Sitter** – A variety of topics for the 14 year-old on up. Covers responsibilities, safety, daily routines, play activities, and dealing with emergencies. (Should be complimented with *Ages and Stages* informational sheets.)

**Fun To Grow On** – For preteens working with 3-6 year-olds. Covers recreational activities to share with young children. Recommended to compliment *The Sitter*.

**Caring For Kids** – Designed for teens and preteens interested in child development and childcare. This project consists of five very informative units: Learning about children, Taking care of babies, Taking care of preschoolers, Becoming a responsible sitter, and Safety.

**Caring** - (Introduction, Leader and Member) – Designed for teenagers as an advanced babysitting project for work in a childcare center. Includes five units on child development, discipline, safety, planning activities for children, and working with children in different settings.

**Child Development - Kids on the Grow** -- Intended for grades 3-12. Youth learn about how children grow and develop and how they can care for themselves, their family and community. This life-skills series includes:

**Level 1:** Growing On My Own – Youth explore how they grown and develop, how to inspect toddler’s toys and make their home hazard-free. They also learn more about their roles in life, how to handle their emotions and accept differences in others.

**Level 2:** Growing With Others – Youth learn about self-care, rules, responsibility and safety and are introduced to babysitting. They learn to work with others and gain awareness of common dangers in their world.

**Level 3:** Growing in Communities – Youth explore development careers, gain experience as a teacher or coach, participate in a community service project and learn that children with different abilities have different needs.

**Creative Career Exploration** - (Leader and Member) – Designed for teens, ages 14-19, to explore their goals, interests, personality, and values in order to identify the career possibilities most appropriate to them and begin steps toward career preparation.

**Gerontology** – A compilation of projects exploring aging and the elderly. Topics include elder abuse, bereavement and grief, career paths in aging, intergenerational issues, and home safety.

**Keeping Fit and Healthy** – Grades 3-12. **Skills for Life** has introduced three new workbooks. The series includes:

**Level 1:** First Aid in Action - Youth practice first aid skills to treat cuts, scrapes, nosebleeds and bee stings. They learn how to respond to someone who is choking or has broken a bone, assemble a first aid kit, and interview members of the medical profession.

- Level 2:** Staying Healthy - Youth use a self-assessment tool to identify personal talent areas; explore hygiene, nutrition and physical activities; and share what they discover with a new appreciation of personal interests and talents.
- Level 3:** Keeping Fit - Youth design their own personal fitness plan and track it using their own fitness file. Through interviews and personal experiences, youth discover the benefits to being fit as they practice making decisions, managing themselves and speaking with others.

**Health Rocks!** – A two part series of leader’s curricula for a healthy living program, with the goal of bringing youth, families, and communities, across the United States together to reduce tobacco, alcohol, and other drug use by youth.

**Other** – For leaders who are interested in a specific human development topic not covered by the listed projects, resources may be available to assist you in putting together a program that will meet the necessary requirements for project completion.

## **LEADERSHIP DEVELOPMENT**

The purpose of the leadership development program is to continue providing youth with the opportunities they need to increase their skills in leading groups and individuals, or following through on responsibilities.

If you have members in your club that are ready to assume a leadership role, refer to the pink section in your leader handbook entitled **YOUTH LEADERSHIP & PROGRAM OPPORTUNITIES**. It covers helpful hints, examples of what youth can do that are considered leadership, and how adults can help ensure the experience is successful!

**Leading By Listening** - Communication skills are essential to leadership development. Learn about feelings identification, non-verbal and verbal communication, reflective listening, and I-messages to enhance your ability to relate to others.

**Teens Take the Lead** - A 4-H project that provides an outline of how adults can help teens assume the leadership role for small, medium and large activities. Everything from calling other members to remind them of a meeting to teaching a project or a club can be included!

**Junior Leadership** - Many 4-H members 11 and older show lots of leadership abilities. To help them develop those abilities, try this training! It covers typical behavior of 5-10 year olds, discipline, leadership styles, planning projects before the club meeting, ways to communicate, etc. All topics accompanied by fun activities.

**Leadership – Skills for Life** has introduced three new workbooks and a Leadership Mentor Guide 1 & 2 Leader Manual. The series includes:

- Level 1:** My Leadership Workbook,
- Level 2:** My Leadership Journal,
- Level 3:** My Leadership Portfolio

# ENGINEERING SCIENCE

**Aerospace - Model Rocketry** - Develop an awareness and understanding of Newton's three laws of motion, rocketry, jet propulsion and flight. Construct a model rocket.

**Aerospace Adventures** - The awesome experience of flying an airplane, launching a rocket, conquering space, and becoming an astronaut or pilot comes alive to youth in this series. Through fun and challenging learn-by-doing activities, youth develop important life skills as they discover the world of kites, hot air balloons, gliders, remote control airplanes and space shuttles.

**Ariel Perspective** - Get to know your county's landscape from a different view, the sky! This project area teaches you how to use ariel photographic maps and learn about the terrain.

**Bicycle – Skills for Life** provides the opportunity for youth to develop skills necessary for safe bicycling. A tour of the neighborhood completes the project. Can be supplemented with a "Bicycle Safety Camp" video available from the 4-H Office. Best for ages 9-11. Other youth can serve as assistants. Four one-hour lessons focus on:

**Level 1:** Bicycle Sizing, Equipment and Skills

**Level 2:** Scanning, Signaling and Turning

**Level 3:** Hazards and Rock Dodging

**Level 4:** Bicycle Route Planning.

**Blue Sky Below My Feet – Forces** - Adventures in space technology. Includes videotapes and activities.

**Computers** - Get to know the computer through this project that not only teaches you the computer itself but also shows you how to program, use them with 4-H and explore the software that corresponds to today's technology.

**Electric – Skills for Life** has introduced four new workbooks and a helper's guide. The series includes:

**Level 1:** Magic of Electricity

**Level 2:** Investigating Electricity

**Level 3:** Wired for Power

**Level 4:** Entering Electronics

**Electric Excitement** - Demystify the "magic" of electric circuits, magnetism, motors, and electronics. From making educated guesses and testing them, to building burglar alarms, to learning how to select consumer items, these guides contain dozens of hands-on, useful, and fun projects that energize and electrify youth.

**Electrical Fundamentals** - For ages 9 and up. A basic introduction to principles of electricity, with simple experiments to perform. Learn about circuits, switches, fuses, currents, voltage and conductors. Use simple electric tools. An electrical science teaching kit provides the equipment needed. Requires three meetings. To supplement this project, there are project idea sheets. They describe materials, tools, and steps necessary to construct the following: anything lamp, extension cord, pin-up lamp, and a model rocket launching system.

**Electronics** - Members who have completed the Electrical Fundamentals Project can learn more about electricity by building an electronic device. Possible projects include: radios, laser simulators, testers, etc.

**Fire Safety** - Learn about how a fire burns, the classes of fires, fire extinguishers, your local fire departments, wood stove and space heater safety, common hazards, emergency planning, fire insurance and community projects.

**Fix It Tips** - This project is designed to help youth develop their knowledge and skills for making simple repairs. Included in the project are single, two-hour lessons on:

- simple screen repair
- plug cap replacement
- soldering copper pipe joints
- replacing window glass
- repairing a leaky flush tank
- socket switch replacement
- wall switch replacement
- adding an outside faucet
- fixing a leaky faucet
- rewiring a lamp

**In-Touch Science: Plants & Engineering** - This is a hands-on science program developed for children to communicate, understand, and recognize science in what they are learning and connecting with. The ten activities allow children to experiment with science and engineering between plants and science. Activities include Chocolate Mudslides, Here Comes the Sun, and Don't Break That Egg!

**Small Engines** - Published by 4-H Cooperative Curriculum System. From lawnmowers to snow blowers, personal water crafts, go carts, model airplanes, and ATV's – these are just a few of the literally hundreds of machines around powered by small engines. With over 60 fun activities, the curriculum helps youth understand how small engines work, and how to keep them working.

### **Woodworking**

The 4-H woodworking program is divided into three units. Each is more difficult than the preceding one. Each of the three is planned as a one-year project. One leader's guide is used for all three projects.

**Unit I - Working With Wood & Tools** - Teaches basic information about wood structures, how to buy and use wood and how to measure, mark, cut, sand, smooth, glue and finish. Beginner woodworking tools are introduced (e.g., hand saws, c-clamps). Plans are included for making simple items.

**Unit II - The Wonderful World Of Wood** - Focuses on more advanced processes and tools than found in Unit I. Teaches about converting trees to wood products, grains and warping, and introduces additional tools. Electric tools and safety rules for using them are introduced (electric drill, jig and saber saws, and sander). Woodworking plans included.

**Unit III - Building Bigger Things** - Covers the physical structure, properties and characteristics of wood, and helps members better understand how these properties affect wood's use. Introduces more tools and machinery. Activities and experiments included.

The following woodworking idea sheets can be used to supplement any of these projects.

- utility tray
- a small tool kit
- paper towel holder
- brush care
- ye olde cabinetmakers finish
- applying a natural finish to wood
- adjustable wooden horse
- wood types
- handy toolbox
- utility stool
- paint brush selection
- wooden trivet
- tool box
- chair stool
- fabric covered footstool
- lumber grading

-portable napkin holder  
-small miter box

-show box  
-wood screws

**Woodworking For Wildlife** - This project area is designed to teach youth about different wildlife and how they live. This book gives a brief description of the animal and then gives the dimensions for a house the wildlife animal to live in. Building houses for wildlife increases survival of the animal and increase the variety of species around your home or town.

**Woodworking Wonders - Skills for Life** has introduced four new workbooks and a helper's guide:

- Level 1:** Measuring Up - Youth will develop the basic skills that woodworkers use such as measuring, squaring and cutting a board, driving nails, and using clamps and screws. The final project may be a picture frame, a letter holder, a box or an airplane.
- Level 2:** Making the Cut - More experienced youth who have used basic hand tools will measure, cut, sand, drill, use advanced hand and power tools, apply paint and use bolts and staples. Woodworking project choices include building a sawhorse, birdhouse, toolbox or stool.
- Level 3:** Nailing It Together - Youth who are competent with hand tools and have used power tools practice measuring angles, cutting dado and rabbet joints; use a circular saw, a table saw and a radial arm saw; smooth lumber with a hand planer, sand and stain wood.
- Level 4:** Finishing Up - Youth who are wood craftsmen and competent with a table saw, radial arm saw, drill press and jig saw, move up to using a router, portable planer and jointer; making a blind mortise and tenon joint; making dovetail joints; and experimenting with adhesives and various chemical wood strippers.

**Fabric Flight** - This handbook teaches the principles of fiber science through the exciting story of aviation. Provides youth, ages 5-19, information about non-apparel uses of textiles, and encourages exploration of careers in science and technology. Suggested hands-on activities teach students how objects move through the air. Patterns and instructions for making boomerangs, windsocks, kites, rockets, hot-air balloons, parachutes, gliders, and more included.

## **ROBOTICS**

**Robotics Helper's Guide** – Designed to provide helpers with additional group activities related to the life skills and robotics skills introduced in the youth guides.

**Robotics 1:** Youth learn what a robot is, how to build one and how to use sensors to interact with its environment. Working collaboratively as members of a team, they make decisions and organize information to complete the 14 activities.

**Robotics 2:** Youth advance their programming techniques, use subroutines and variables to achieve more precise movements of their robots and build their own custom functions. Youth practice and develop creative thinking, decision-making and leadership skills.

**Junk Drawer Robotics** - The goal of *4-H Junk Drawer Robotics* is to make science, engineering, and technology engaging and meaningful in the lives of young people. The activities do this by encouraging youth to use the processes and approaches of *science*, the planning and conceptual design of *engineering*, and the application of *technology* in their personal portfolios of skills and abilities. The *Junk Drawer Robotics* curriculum is divided into three levels or books each around a central theme related to robotics design, use, construction, and control. Each level starts out with background information on working with youth, curriculum elements, and a focus on the concepts to be addressed.

**Two CD's:** Robotics Platforms and Virtual Robotics and a Youth Robotics Notebook

**Book 1:** The theme is robotic arms, hands, and grippers.

**Book 2:** The theme is moving, power transfer, and locomotion.

**Book 3:** The theme is the connection between mechanical and electronic elements.

Modules within each book target major concepts of the theme. The modules each contain five or more activities that help the members develop an understanding of the concepts, create solutions to challenges, and develop skills in constructing alternatives.

## **ENERGY**

**Basic Energy Project** - Ages 9 and up. Learn what energy is, how it is used, and how it can be conserved.

**Advanced Energy Project** - Energy awareness as applied to the design, construction and occupancy of a home.

## **WIND**

**The Power of the Wind** youth and facilitator's guide will teach youth about the wind and its uses while introducing youth to engineering and engaging them in doing and reflecting on the activities. Youth will learn how the energy of the wind is transferred to machines to do work for us.

## **GEOSPATIAL TECHNOLOGY AND GEOGRAPHIC EDUCATION**

Exploring Spaces, Going Places explores the world of geospatial science and goes where no 4-H project has ever gone before! Accessed entirely on one CD, the three youth levels and group guide are valuable resources to anyone interested in geospatial technology, geographic education, Geographic Information Systems (GIS) and Global Positioning Systems (GPS).

# **NATURAL RESOURCES**

## **ASTRONOMY**

**"It's Out Of This World"** – Provides youth the opportunity to explore and learn about the basic of astronomy. Written at an introductory level, ample information is provided so the leader does not need to be an expert in the field of astronomy.

## **ENVIRONMENTAL AWARENESS**

**Building A Weather Station (DBB)** - Make simple instruments that help you monitor the weather.

**Environmental Awareness** –For ages 8 and up. Help youth develop a sensitive awareness of their environment. Youth learn how they are personally dependent upon the condition of the environment. Use of the "discovery method" for learning is important.

**Exploring Your Environment** – Grades 6-8. This environmental science curriculum focuses on water conservation, energy use, climate change, recycling, natural resource stewardship, and air quality.

**Earth's Capacity**: Earth's Capacity focuses on environmental stewardship and issues such as transportation choices, waste management, composting, recycling, and natural resources (64 pages).

**Ecosystems Service**: Ecosystems Service youth will have the opportunity to engage in hands-on activities that focus on our ecosystems, climate change, life cycles, ecological footprints, and living a sustainable life (56 pages).

**Facilitator's Guide**: Will provide training, supplemental activities and resources to help the facilitator deliver the Exploring Your Environment curriculum (68 pages).

**Nature Trails** – Design, construct, and maintain a self-guided nature trail. Learn about ecology, natural history and resource management in the context of community service.

**Field Guides Made Easy** – 4-H'ers learn how to use field guides to identify trees and birds, making it easy to use these and other guides to identify things in nature.

**Understanding Weather** – Learn what makes weather and why.

**Weather Maps & Forecasting** – Learn how to read weather maps and become a weather forecaster.

**In-Touch Science: Chemistry and Environment** – This project brings science concepts and everyday items together for youth 8-11. Ten hands-on experiments allow members to observe the chemistry of the environment and how to change things and make new ones. Activities include Pink? Green? Or in Between?, Making Gloop, and Swirling Colors.

## **SOLID WASTE**

**Composting: Wastes To Resources** - Teaches about composting kitchen and yard wastes, showing youth how they can help to reduce the waste stream. Contains instructions for making compost bins and activities such as using compost to grow healthier plants.

**Recycling: Mining Resources from Trash** - For all ages. Teaches youth the importance of recycling and how it works in their area. Includes 11 activities to choose from.

**What About Waste?** - For ages 9-13. Introduces the concepts of recycling, reusing and composting to show youth how to reduce the waste they produce at home and at school. Contains six, one-hour activities. "Woody's Wastewise" slide set supplements this project.

## **WATER RESOURCES**

**Pond & Stream Safari – A Guide to the Ecology of Aquatic Invertebrates** – 4-H leader's guide that discusses aquatic insects, their identification and how to make an aquatic insect collection.

**Stream Monitoring** – For ages 8 and up. Your 4-H club can adopt a section of stream in your area and monitor its water quality. Hands-on activities include measuring physical characteristics (e.g., depth), sampling, aquatic insects, and chemical tests. Youth gain an appreciation of and sense of stewardship toward water resources. Training, teaching kits and agent support available.

**Water Worlds** – For ages 9-13. This project is designed to provide the opportunity to explore and observe aquatic environments. Participants learn about the physical and biological worlds of water.



**There is No New Water!** – This water conservation and water quality curriculum is grounded in a simple yet powerful concept that water is a finite natural resource whose quantity and quality must be responsibly preserved, protected, used, and reused. The curriculum includes six sequential learning modules (155 pages).

## **WILDLIFE**

**Amphibians and You:** Discover native amphibians and their value to the ecosystem. Students will learn how to identify native amphibians, conduct field research, and aid in the conservation of these magnificent creatures.

**Birds In Your Backyard** – For ages 9-13. Introduces youth to ornithology, the study of birds. Activities include bird identification, attracting and feeding birds, and keeping field records.

**Bluebirds In New York** – For ages 8 and up. Learn about bluebird ecology and monitoring bluebird behavior. Construct, mount and monitor nest boxes. A bluebird videotape can be borrowed from the 4-H office.

### **Endangered Wildlife**

**Part I:** Learn about natural and human caused extinction, why people need diverse plants and animals, ethical values and what people can do to help.

**Part II:** Learn why some species are more vulnerable to extinction than others, wildlife controversies and tradeoffs, and environmental law.

**Workbook:** A valuable supplement to Parts I & II. You will create a journal of what you have learned. Also activities and discussion topics.

**Environmental Awareness: Wildlife** – Youth learn some basic principles for understanding wildlife, learn how to observe wildlife and keep a record of their observations. They also construct, maintain, and monitor a habitat improvement project such as birdhouses. For ages 8 and up.

**Mammals of Oswego County** - Develop an understanding of common mammals (fox, beaver, squirrels, etc.) and their habitat in Oswego County. Members choose from a variety of activities to suit their own desires and needs. Activities include plaster casts, making skins, animal identification projects, wildlife foods, etc.

**Trapping Furbearers** – Learn to trap and skin animals.

**Understanding Birds Of Prey** – Five well-designed activities explore birds of prey in the northeast.

**Wildlife Discovery** – For ages 9-13. Introduces children to the needs of wildlife and gives them the opportunity to search for wildlife and their signs. Hands-on activities include searching for animal tracks, attracting wildlife, dissecting owl pellets, and more. A teaching kit containing all the supplies needed for this project is available for use at Amboy 4-H Environmental Center.

**Wildlife in Today's Landscape** – For ages 12 and up. This project interprets some of the latest research on wildlife ecology and management, with emphasis on suburban and urban environments. Includes plans for developing wildlife habitat improvement projects such as wood duck boxes.

**Woodworking for Wildlife** – This project contains construction plans for virtually every known type of birdhouse. Can also be used as a woodworking project.

**ENTOMOLOGY** – **Skills for Life** has introduced three new workbooks and a helper's guide. Entomology is the study of insects. The series includes:

- Level 1:** Creepy Crawlers
- Level 2:** What's Bugging You?
- Level 3:** Dragons, Houses, and Other Flies

**Teaming With Insects** - Have you ever chased butterflies or caught lady beetles to get a closer look at them? If so, you've been attracted by the largest group of animals on earth—insects! The *Teaming with Insects* curriculum is written for youth who enjoy learning about science and nature by studying insects.

- Level 1:** Introduces the world of insects. Activities focus on how they look and move and provide some background for studying important entomology topics.
- Level 2:** Shows you how to make insect collection tools and expands on the basic concepts of biodiversity, invasive species, integrated pest management, and forensic entomology.
- Level 3:** Delves even deeper into the basic concepts and encourages you to take control of your learning by doing your own research using the scientific method and reference materials.

**Know Your Insects** - Youth learn to identify insects, make an insect collection and to understand the life cycles of insects.

**Project Butterfly Wings** - Through butterfly exploration this curriculum fosters interest, understanding, and long term involvement in science through authentic, hands-on joint research with scientist investigating butterfly biodiversity, distribution, and host-plant preferences.

**Learning About Butterflies** - Butterflies are our most visible insects. Learn the importance behind the beauty by identifying, collecting and attracting them.

**PHEASANT MANAGEMENT & REARING** - Teach youth how to rear day old pheasant chicks for release in the wild. Chicks may be provided free of charge by the NYS DEC. This project requires a considerable investment of time and facilities and should not be entered into without full understanding and consent of parents. Contact the 4-H Office in March.

**GEOLOGY** – Minerals and rocks are all around us. Explore them more here and start a collection of your own.

## **OUTDOOR RECREATION**

**Orienteering** - A basic introduction to the principles of using a map and compass. Project can be done at Amboy 4-H Environmental Center. Compasses are available for loan.

## **OUTDOOR ADVENTURES**

Youth experience the fun and excitement of the outdoors as they explore the activities in the Outdoor Adventure Series. They progress from day hikes to overnight camping trips and finally to extended backpacking expeditions as they hike through the three activity guides and the helper's guide. This guide enables helpers to facilitate the teaching of the three levels of the Outdoor Adventures curriculum. Featured are experiences related to food, shelter, Leave No Trace ethics, safety, navigation, equipment and camp management. Series includes:

- Level 1:** Hiking Trails
- Level 2:** Camping Adventures
- Level 3:** Backpacking Expeditions

## **FISHING**

**Basic Fly Tying** – Learn how to tie flies for fishing. For all ages.

**Let's Go Fishing** – Learn how to fish from hook to frying pan. For all ages.

**Let's Go Ice Fishing** – Suggested for ages 12 and up. Learn ice fishing techniques and safety lessons.

**Sport Fishing - Skills for Life** has introduced three new workbooks and a helper's guide to the Sports Fishing program. Each of these books helps the future fisherman to be better and more knowledgeable once he or she is out in the water. The series includes:

**Level 1:** Take the Bait

**Level 2:** Reel in the Fun

**Level 3:** Cast into the Future

**SHOOTING SPORTS** – This is a program that is taught in the spring. It is open to all youth that have parent or guardian permission. It takes place over a 5-8 week period in which courses include archery, shotgun, black powder and rifle. Fundamentals that will be taught include marksmanship, safety, and ethics. Learn to safely and properly handle a firearm. The program does cost a small fee, which covers eye and ear protection, instruction manuals, ammunition, and the use of the appropriate firearms. At the conclusion of the program there will be a shooting sports field day where the students and parents can try their hand at archery, rifle, or skeet. Parents are invited to come to the meetings as well as participate. This program is not a classroom-oriented program. It is very hands-on. The program is taught by 4-H Shooting Sports instructors that are trained volunteers that have been chosen for their ability to teach and their skills at relating to youth.

## **FORESTRY**

**Know Your Trees** – Learn to identify trees in your neighborhood. Collect and mount leaves and twigs for exhibit. Suggested for beginning clubs.

**Forestry A – Trees** – Suggested for ages 11 and up. Learn what a tree is, how it grows, how they reproduce, how they are identified and the importance of forests to people. Lasts from 6-11 meetings.

**Forestry B – Forests** – Suggested for ages 13 and up. Learn why forests are valuable, the components of a forest ecosystem, and the principles of forest management. Lasts from 6 to 11 meetings.

**Trees Dead or Alive** – Sets an ecosystem stage; shows how both live and dead trees provide homes for animals. Reproducible record sheets allow students to record what they observe.

**Forestry – Forests of Fun** – Suggested for grades 3-12. Youth engage in activities to learn about trees, forests, forest ecology and human reliance on forests. Youth discover forest resources near home and around the world. There are three new workbooks and a helper's guide. The workbooks include:

**Level 1:** Follow the Path

**Level 2:** Reach for the Canopy

**Level 3:** Explore the Deep Woods

**Backyard Maple Syrup** – Learn how to make maple syrup.

## PERSONAL DEVELOPMENT

The development of youth is what 4-H is all about! Through the projects listed below, we can continue to broaden the experiences youth have through 4-H, and further their development toward successful adulthood.

**Clowning** – This project explores the creation of a character, assembling appropriate clothing and accessories to match the characters, clown make up, a clown's code of ethics, and more. Clowning helps people explore and express themselves through a creative outlet!

**Heritage & Horizons** – This series is designed for youth 10 and up to help us relive our past and gain an understanding and appreciation for the history, folklore and ancestors of New York. Each project in this area covers a different topic; you're welcome to choose just one to explore, or any number of subjects! Be aware that the project processes are long and not suitable for younger 4-H'ers.

- |                               |                    |
|-------------------------------|--------------------|
| a) Architecture               | g) Costume & Dress |
| b) Farm Practices             | h) Foods           |
| c) Genealogy                  | i) Home Arts       |
| d) Play & Recreation          | j) Home Crafts     |
| e) Collections                | k) Transportation  |
| f) Folklore & History Mystery | l) Visual Arts     |

**Folk Patterns: A Cultural Heritage Project** – Developed at Michigan State University, this program is for 8-16 year olds interested in learning more about themselves, their families and their communities. 4-H'ers investigate folklore, cultural traditions, and local history.

## PHOTOGRAPHY/FILMMAKING

Young people over nine years of age who have little knowledge of photography, but are interested in learning to take good pictures, will benefit from these photography projects.

- |   |  |                                    |
|---|--|------------------------------------|
| -Exploring Photography                                      | -Darkroom Techniques                   | -Color Printing Techniques         |
| -How to Produce a Slide Show                                | -Making Videos & Movies                | -Fitting a Darkroom into Your Life |
| -Adventures w/ Adjustable Cameras                           | -Investigating Portraiture - Portraits | -Experimenting w/ Your Enlarger    |
| -Making the Most of Your Photo Skills in Your Future Career |  |                                    |

**Focus on Photography** – This curriculum opens the world of photography to youth. With more than 40 fun activities, this exciting all-new curriculum helps youth understand the basics of photography, then apply these skills and build on them to master more sophisticated techniques and take even better photos. Workbooks include:

1. Focus on Photography,
2. Controlling the Image,
3. Mastering Photography.

**The 4-H Filmmaking Workshop** – The 4-H Filmmaking DVD compiles 11 virtual workshop videos designed to teach users about video production & filmmaking! Geared toward youth interested in making Science, Engineering, & Technology (SET) films. This DVD is made for viewing on a computer.

## **PLANT SCIENCE**

**Plant Science** – Material is divided into four levels that cover beginner to advanced participants. Material covers vegetables, fruits, flowers, and pest control.

**Horticulture** – This is a broad range series that includes a leader guide and project activity guides divided into 3 levels. Covers vegetable, herb and flower gardening. Format is different in that the focus is on forming life skills along with horticulture information. Detailed project guides have members select gardening goals and choose activities (challenges) in which to achieve these goals.

**Level 1:** Budding Gardeners

**Level 2:** Branching Out

**Level 3:** Digging Deeper

**Vegetable Gardening** – Growing vegetables is a very rewarding project. Excellent leader and member guides provide step-by-step gardening procedures. Nothing tastes better than fresh vegetables from the garden! Project may be repeated each year. Try new varieties and techniques as you go along.

### Learning Experiences:

1) Planning a garden and filling out garden map record sheet

2) Preparing a garden site

3) Planting the vegetable garden

**Garden Series** – Includes leader handbook and vegetable gardening divided into four levels. Each level gives detailed information arranged in a two-year plan and expands on the basic skills of planning, planting, gardening, caring, harvesting and storing vegetables. Gardening careers are also discussed.

**Level 1:** See Them Sprout

**Level 2:** Let Get Growing

**Level 3:** Take Your Pick

**Level 4:** Growing Profits

### **Additional Project Materials Available:**

**Garden in the City** – Leaders Guide - Designed for members and leaders with little gardening experience. Step by step guide to beginning garden. Set up in 11 lessons.

**Gardening with Children Step-by-Step** – Excellent resource to use with 4-H'ers as they plan, implement and harvest their garden.

**Container Gardening** – Gardening in pots.

**Windowsill Gardening** – Gardening in a windowsill planter.

**Heirloom Vegetable Garden** – Explores gardening in the 19th century, the development of the seed industry, vegetable varieties and their preparation, use and storage.

**The Humble Potato** – Project explores 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 stack up nutritionally.

**The American Peanut** – Project explores peanuts, stories about the peanut history, suggested activities, how to grow them, and their nutritional value.

**The Three Sisters: Exploring An Iroquois Garden** – Guide to help you explore the Iroquois gardening method so that you will gain a better view of Native American culture exploring the foods, the customs and the stories that evolved from the planting of corn, beans and squash. The Three Sisters will help you understand the values that surround these crops.

**Radishes to Riches** – Leaders and member's guides are available on this Produce Marketing Project. This is a good project for young people who would like to raise and market a fruit, vegetable, or flower crop and get paid for doing it. The project is unique because it combines disciplines that influence both a grower and a marketer.

**Grow With The Flow** – This project is a 10-week curriculum that is built around a hydroponics growing unit consisting of a fish tank, a pump, PVC pipe, hose and rock wool. This basic of plant growing, stresses of plants, the physics of water flow, plant marketing, world food supply, nutrition, and horticultural careers will be covered.

**Herb Gardening Project** – (Michigan 4-H Guide). Project book is divided into three levels – beginning, intermediate and advanced. Each level is divided into 3 main groups. It covers growing different kinds of herbs, preserving and related crafts and food preparation activities. Mentions theme gardens such as Pizza, Stuffing, Butterfly, Vegetable Spaghetti garden, etc.

#### **Additional Related Herb Materials:**

1. Plain Made Fancy – chart to illustrate the culinary uses of herbs.
2. Cultivation and Culinary Uses of Herbs (Onondaga County) – Includes more detailed information on herb garden planning, especially herbs hearty for New York State.
3. Healthy Herbs: From Seeds to Seasonings (Polk County) – Includes crafts, herb vinegars, recipes for fresh herbs from the garden.

**Rice – Grain of the Ancients** - The project is a way for youth ages 9-12 to learn about rice as it spans the subject areas of social studies, science, creative arts and nutrition as it details a method to grow rice in your own home.

**Flower Gardening** – Flower gardening is a popular project that can begin in early spring by sowing seeds indoors and may continue until autumn with the planting of hardy bulbs. Project may be repeated each year by expanding garden and growing new varieties.

#### **Learning Experiences:**

- 1) Planning a flower garden and filling out flower garden record sheet
- 2) Participate in the Garden Program
- 3) Care of the flower garden
- 4) Planting spring-flowering bulbs
- 5) Exhibiting at County Fair

**Fabulous Flowers** – Leaders Guide - Covers annuals, perennial flowers, spring and summer flowering bulbs.

**Flower Gardening Fun** – This is a member projects guide that covers growing annual and perennial flowers. Detailed instruction on growing from seed, transplanting and preparing flowers for exhibit.

**Terrariums & Dish Gardens** - Assembling dish garden and terrariums is most popular in the fall. September and October are good times to collect the wild plant materials. Terrariums and dish gardens make attractive decorations for your home. Project is suitable for all ages and slides are available.

**Learning Experiences:**

- 1) Assemble and care for one terrarium or one dish garden
- 2) Visit a garden center to identify good terrarium and dish garden plants
- 3) If native wild plant material is used, take field trips to collect plants.

**Flower Arranging, Corsages & Holiday Decorations** - Add beauty to your home and social occasions by making flower arrangements, corsages and holiday decorations. Slides are available.

**Bloomin' Ideas for Arranging Flowers** - (member & leader) Christmas Decorations.

**Know Your Weeds** - Learn to identify, collect and exhibit weeds. Slides and weed samples are available.

**Exploring Urban Plant Life** – Details the importance of plants found growing naturally in the city. Includes collection and identification of plant life and effects on the environment.