

Columbia County 4-H Project Guide

This is your guide.... A 4-H project is an area you want to learn more about during the year. There are projects on just about any topic you would like to study and explore, from art to woodworking, from computers to rabbits, from clothing to small engines.

The projects listed in this 4-H project guide are all offered in Columbia County.

Do not forget to check out the project pages on the Wisconsin 4-H Web Site. On these web pages, you will find descriptions for statewide projects, internet resources and links of interest, county fair exhibit suggestions, state specialist contacts, and other suggested 4-H resources. Go to: <https://4h.extension.wisc.edu/opportunities/projects/>.

Remember, you will learn more than “subject matter” as you complete your projects. You will learn many “life” skills that you will use every day of your life, such as understanding yourself, communicating better, solving problems, making decisions, and working with others. Good luck in your project selections. Have a great 4-H year!

How to Select 4-H Projects

4-H members . . . First, make a list of the things you like to do or want to learn more about. Talk over your list with your parents, leaders and friends. They may recognize some special things you are good at that you do not even realize you do well.

Then compare your list with the projects described in this project guide. Ask yourself if you have the equipment, informational materials, money and time to do the projects that sound interesting. Note that many projects also have grade recommendations based on skills required for success; however, these are only recommendations.

If this is your first year in 4-H, concentrate on doing only two or three projects well. Spend as much time as you want in a project. ***This is your 4-H experience. ENJOY!***

4-H leaders . . . If there are several units within a project and you are a leader for only one, then choose that unit. For example, if you are a Shooting Sports leader for archery, choose Archery. You will need to make more than one entry if you are a leader for more than one project unit. For example, if you are a Shooting Sports leader for archery *and* air pistol, choose both. Also, if you are a 4-H adult leader, please make certain that you enroll as a leader in the projects you are interested in supporting and not in the project themselves.



UW–MADISON EXTENSION

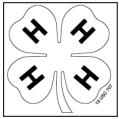


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Find more 4-H project details at <https://4h.extension.wisc.edu/opportunities/projects/>

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LET'S GET STARTED!

Welcome to a new 4-H program year! We hope this will be a fantastic year of learning and fun for your family. One of the most unique things about 4-H is it allows members to develop expertise in areas of study which interest them. It then provides them with opportunities to pass their knowledge on to other kids!

Columbia Co. 4-H Enrollment Deadlines

**Re-Enrolling 4-H
members:
November 30th**

**New Enrolling 4-H
members:
March 1st**

**Individuals who meet the above
deadlines are eligible to exhibit as
a 4-H member in the Junior
Division at the
upcoming Columbia County Fair.**

WHO MAY ENROLL and WHEN?

Youth may enroll in 4-H from kindergarten through grade 13 (the next 4-H year following graduation from high school). Youth and adults enroll either online or via paper form through the 4-H membership management program, "4-HOnline." 4Honline gives instructions for new youth and adult enrollment as well as returning youth and adult re-enrollment at:
<https://v2.4honline.com/#/user/sign-in>

New enrollments will be taken any time of the year. The November 30th and March 1st deadlines are for determining eligibility for exhibiting as a Columbia County 4-H member in the Junior Division at the Columbia County Fair. March 1st is the deadline for adding or dropping a project. When wishing to add or

drop a project, go to 4Honline to complete this process. The "Add or Drop Project Form" is no longer required.

Help may be needed if:

- you have trouble getting into or understanding enrollment in 4HOnline;
- you are not sure what project to enroll in; or
- you have an issue which may come up during the enrollment period.

PLEASE DO NOT WAIT UNTIL THE LAST DAY TO ENROLL! Set yourself a deadline so that any problems can be addressed **prior to** November 30th and contact the Columbia County Extension Office 608-742-9680 or 608-742-9685.

NEW ENROLLMENTS

Begin with a valid email and then follow the instructions at <https://4h.extension.wisc.edu/4h-resources/4-h-online-2-0-family-enrollment-guide/> Adult volunteers MUST use different, valid email addresses – no duplicate

RE-ENROLLMENTS

Using your previous log-in credentials, youth and adults may re-enroll. For more information, follow the instructions at <https://4h.extension.wisc.edu/4h-resources/4-h-online-2-0-family-enrollment-guide/>

V2.4HOnline Changes

SPECIAL NOTES REGARDING CHOOSING PROJECTS and LITERATURE FOR ALL MEMBERS and LEADERS

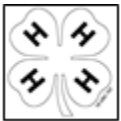
- Youth will not enroll in units for a project. Rather, youth will choose a project and not need to be concerned with which unit they have completed (i.e., Choose "Beef" and **NOT** "Beef 1" or "Beef 2").
- Youth Leaders do **NOT** choose a Beef Youth Leader project. Rather, youth will choose a project to enroll in and then 4HOnline will ask if they want to be a youth leader in that project. Except for the Cloverbud project, youth leaders will need to choose the Cloverbud youth leader project.
- Literature: A separate 4-H literature guide is available for ordering 4-H literature to support Columbia County 4-H project work. To order 4-H project literature, please complete the Project Literature Request form for your family.

4-H CLUB DUES and OTHER CLUB-REQUIRED PAPERWORK

4-H club dues – If your 4-H club requires them, you will need to pay your *4-H club dues*. Check with your 4-H Club Leader for details about these fees or additional club-required paperwork.



Confused? Call the Columbia County Extension office at 608-742-9680. We'll try to help.



YOUTH LEADERSHIP

YOUTH LEADERSHIP

What you can do in this project:

Grades 3 - 5

- Assess your leadership skills
- Practice effective communication skills
- Set goals and resolve conflict
- Plan a group event

Grades 6-8

- Explore how leaders are different
- Develop a multi-media presentation
- Set and achieve team goals
- Practice teamwork

Grades 9-13

- Build trust in a group
- Assess your own strengths and weaknesses
- Write vision and mission statements
- Contribute to a group project



YOUNGER MEMBERS

CLOVERBUD

What you can do in this project:

- Learn about your 4-H club or group, activities and events
- Begin developing different skills, e.g., working with others
- Explore your community and working together
- Discover areas of project interest
- Share with others what you have learned

Grade: K-2 ONLY

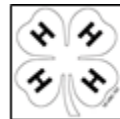
CLOVERBUDS YOUTH LDR

EXPLORING

What you can do in this project:

- Learn about the 4-H program
- Sample a variety of projects offered in 4-H
- Learn about yourself and others

Grade: 3-4



CITIZENSHIP & SERVICE LEARNING &

CITIZENSHIP

What you can do in this project:

- Discover and discuss public issues
- Plan project to change/improve your community

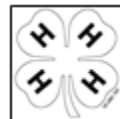
Grades: 3-13

SERVICE LEARNING

What you can do in this project:

- Learn to give back to your community
- Reflect on your experiences
- Identify community needs
- Plan a service project and execute the idea
- Conduct an evaluation of your project

Grades: 3-13



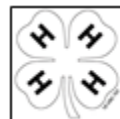
SELF-DETERMINED

SELF-DETERMINED

What you can do in this project:

- Create your own project or expand on an old one
- Select a project, develop a plan, identify resources
- Carry out and evaluate your plan

Grades: 3-13



ANIMAL SCIENCES

BEEF

What you can do in this project:

- Identify various beef breeds and parts of an animal
- Halter-break, fit and show a calf

- Judge beef cattle – live/carcass
- Market your beef

Grades: 3-13

CATS

What you can do in this project:

- Select a cat and care for its health
- Identify cat breeds
- Name the parts of a cat
- Handle and groom a cat

Grades: 3-13

DAIRY

What you can do in this project:

- Identify dairy breeds and parts of a dairy cow
- Learn how to select quality dairy calves
- Fit and show a calf
- Identify stages of calving and care
- Learn about housing and feeding
- Observe animal behavior and health

Grades: 3-13

DOGS

What you can do in this project:

- Learn skills for dog care and training
- Learn different dog breeds and body parts
- Explore dog health and nutrition and grooming

Grades: 3-13

DAIRY GOAT

What you can do in this project:

- Gain hands-on experiences in the goat project
- Select, manage, feed, fit and show goats
- Learn responsible goat ownership
- Develop judging skills
- Learn how to milk a goat properly

Grades: 3-13

MEAT GOAT

What you can do in this project:

- Identify meat goat breeds and parts
- Select, manage, feed, fit and care for meat goats
- Develop a budget for a meat goat project

Grades: 3-13

HORSE (includes Clothes Horse)

What you can do in this project:

- Learn horse behavior, terms and training
- Study breeds and identify body parts
- Saddle, groom and bridle your horse
- Practice horse safety and selection
- Learn proper care and feeding

- Practice horsemanship, equitation and judging
- Learn how to make riding apparel and equipment for your horse

Grades: 3-13

HORSELESS HORSE

What you can do in this project:

- You do *not* need a horse in this project
- Learn terms, breeds and body parts
- Learn grooming, saddling and bridling
- Explore horse behavior and learn safety

Grades: 3-13

PETS

What you can do in this project:

- Select a pet and design a safe space for it
- Identify pet body parts
- Learn to properly feed and care for a pet
- Shop for pet supplies
- Study pet behavior and communication

Grades: 3-13

POULTRY

What you can do in this project:

- Identify poultry breeds and how to select birds
- Learn parts of the bird and the egg
- Learn to properly handle, fit and show poultry
- Prevent poultry diseases
- Explore poultry behavior

Grades: 3-13

POULTRY - BANTAMS

What you can do in this project:

- Discover bantam breeds and breed characteristics
- Learn how to get started raising bantams
- Select and mate bantams
- Incubate and rear their young
- Learn to feed and house birds
- Fit and show bantams

Grades: 3-13

POULTRY - PIGEONS

What you can do in this project:

- Learn about buying, banding and feeding
- Understand about proper housing and behavior
- Learn about grooming and exhibiting

Grades: 3-13

POULTRY - TURKEYS

What you can do in this project:

- Learn about buying poultry
- Prepare a brooding area

- Raise range turkeys
- Feed and water turkeys
- Identify diseases

Grades: 3-13

POULTRY - WATERFOWL

What you can do in this project:

- Learn about waterfowl breeds and parts
- Handle waterfowl properly
- Select and prepare waterfowl for market
- Incubate and exhibit waterfowl

Grades: 3-13

RABBITS

What you can do in this project:

- Learn about selecting and handling rabbits
- Identify rabbit breeds and body parts
- Explore health issues and feeding
- Learn about disease prevention
- Learn about rabbit registration and tattooing

Grades: 3-13

SHEEP

What you can do in this project:

- Identify sheep breeds, feeds and body parts
- Explore sheep health and safe use of medications
- Observe sheep behavior
- Identify uses of wool and other by-products
- Manage, fit and show sheep

Grades: 3-13

SWINE

What you can do in this project:

- Identify swine breeds, feeds and animal parts
- Practice fitting, showing and judging swine
- Identify pork meat cuts and diseases
- Make a swine health care plan
- Learn herd breeding and culling procedures

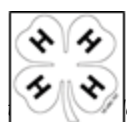
Grades: 3-13

VETERINARY SCIENCE

What you can do in this project:

- Study different species of animals
- Describe animal life stages and systems
- Create health records for your animal
- Understand how contagious diseases spread
- Discover importance of immunity and bio-security
- Consider animal welfare, behavior and ethics

Grades: 3-13



COMMUNICATION ARTS

COMMUNICATIONS

What you can do in this project:

- Engage in non-verbal, verbal and written activities
- Strengthen your personal communication skills
- Learn to become a confident communicator
- Plan and present speeches
- Practice making good first impressions

Grades: 3-13

CREATIVE WRITING

What you can do in this project:

- Explore language and creative expression
- Stimulate your creativity and self-expression
- Enrich your joy of book reading

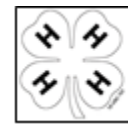
Grades: 3-13

SPEAKING

What you can do in this project:

- Plan, practice and present an effective speech
- Gain confidence in public speaking

Grades: 3-13



PERFORMING ARTS

CLOWNING

What you can do in this project:

- Discover the history of clowning
- Develop your own character
- Design your own makeup, costume and props

Grades: 3-13

MUSIC

What you can do in this project:

- Gain a greater appreciation for music
- Explore different ways to participate
- Listen, perform and compose various types of music
- Teach others and make instruments

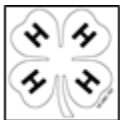
Grades: 3-13

THEATRE ARTS

What you can do in this project:

- Study acting, sound, movement, voice and speech
- Learn different ways to play a scene
- Try pantomime, clowning and improvisation
- Investigate puppets and become a puppeteer
- Study costumes, makeup, stage sets/props and sound

Grades: 3-13



VISUAL ARTS

Find more 4-H project details at <https://4h.extension.wisc.edu/opportunities/projects/>

ART

What you can do in this project:

- Learn art through cutting, pasting and drawing
- Explore sculpting and constructing with fibers
- Paint and print using different materials
- Explore art techniques, culture and history of art
- Try different media--drawing, fiber arts and sculpting
- Develop graphic design techniques

Grades: 3-13

BLOCK PRINTING

What you can do in this project:

- Design and cut blocks from different materials
- Print designs on cloth and paper
- Create your own original designs

Grades: 3-13

DRAWING & PAINTING

What you can do in this project:

- Learn to draw with pencil, chalk, crayon, etc.
- Learn to blend and shade
- Make surface rubbings
- Paint with watercolor, oil and acrylics
- Mix colors
- Mat and frame your artwork

Grades: 3-13

LEATHERCRAFT

What you can do in this project:

- Learn about the characteristics and uses of leather
- Use tools and equipment
- Make patterns and original designs
- Explore various leathercraft techniques

Grades: 3-13

METAL ENAMELING

What you can do in this project:

- Try enameling earrings, pins and other jewelry
- Learn to attach fasteners
- Create original designs and patterns

Grades: 3-13

PHOTOGRAPHY

What you can do in this project:

- Explore the camera and learn to use it properly
- Learn the basics of lighting and composition
- Learn the use of different light sources
- Shoot photos that tell a story
- Learn about camera adjustments

- Learn about shutter speed, aperture, lenses
- Take silhouettes, candid, action shots and others
- Experiment with special effect photos

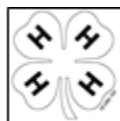
Grades: 3-13

VIDEOGRAPHY

What you can do in this project:

- Learn storytelling, editing and lighting
- Experiment with camera handling and editing
- Learn to plan a project with the use of sound and titles
- Show and review your production

Grades: 3-13



FAMILY, HOME & HEALTH

CHILD DEVELOPMENT

What you can do in this project:

- Find out how you grow and develop
- Learn the stages of development of babies, toddlers, teens
- Learn to make toys safe for small children
- Explore being an effective parent
- Develop family rules and check for hazards
- Make babysitting and first-aid kits

Grades: 3-13

HEALTH

What you can do in this project:

- Practice first-aid skills to treat basic injuries
- Learn how to respond to someone who is choking
- Assemble a first-aid kit
- Explore hygiene, nutrition and physical activities
- Design your own fitness plan
- Track your plan and review your progress

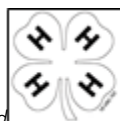
Grades: 3-13

HOME ENVIRONMENT

What you can do in this project:

- Learn about home care
- Learn to sand and finish a simple wood item
- Make small decorative items for the home
- Explore the world of home interior design
- Learn scale, balance and proportion in design
- Use design principles to arrange your home
- Refinish wood furnishings and make other home items

Grades: 3-13



CONSUMER EDUCATION

Grades: 3-13

CONSUMER SAVVY

What you can do in this project:

- Learn your shopping style, wants and needs
- Write a spending plan and start savings account
- Use media resources to find goods and services
- Identify your personal spending values
- Understand advertising appeal and its affects
- See how peer pressure influences your purchases
- Understand risks of shopping on the Internet
- Define consumer responsibilities and ethics
- Understand your consumer rights
- Use comparison shopping techniques

Grades: 3-13

ENTREPRENEURSHIP

What you can do in this project:

- Practice skills needed to be an entrepreneur
- Explore businesses, products, marketing, pricing
- Create a plan and start your own business

Grades: 3-13

PERSONAL FINANCE

What you can do in this project:

- Learn money management skills
- Learn about wants, needs, values and goal setting
- Explore ways to use and save money
- Develop a personal budget
- Understand benefits and drawbacks of credit
- Survey and select financial services

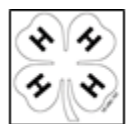
Grades: 3-13

WORKFORCE READINESS

What you can do in this project:

- Explore what it takes to get your first job
- Discover how to assess job possibilities
- Create job scenarios
- Recognize personal qualities and learning styles

Grades: 3-13



FOODS AND NUTRITION

BREADS

Grades: 3-13

CAKE DECORATING

FOOD PRESERVATION

What you can do in this project:

- Learn the basics of preserving food safely
- Use Extension Safe Food Preservation Series

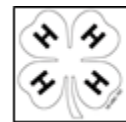
Grades: 3-13

FOODS & NUTRITION

What you can do in this project:

- Learn what is good to eat and how to prepare it
- Explore why calcium is important to our bodies
- Learn to make basic muffins and biscuits
- Learn to change recipes and reduce fat content
- Learn to evaluate nutrition information of food
- Discover how to store fruit and vegetables
- Develop your own exercise program
- Learn how to cook different cuts of meat
- Use large-quantity packages for families
- Learn to divide recipes and make substitutions
- Plan menus on a budget

Grades: 3-13



CLOTHING AND TEXTILES

CLOTHING

What you can do in this project:

- Identify sewing tools / sewing machine parts
- Thread a sewing machine and identify fabrics
- Select and purchase a pattern and fabric
- Sort clothes for laundry and remove stains
- Sew different buttonholes and seam finishes
- Use pressing tools and thread a serger
- Research different laundry products
- Use specialized sewing tools or equipment
- Combine patterns to create a design
- Design and embellish a garment

Grades: 3-13

CROCHETING

What you can do in this project:

- Learn to select / purchase yarn and equipment
- Explore crocheting and finishing techniques
- Understand care instructions for crocheted items

Grades: 3-13

KNITTING

What you can do in this project:

- Discover what to consider when buying yarn or tools

- Learn knitting and finishing techniques
- Correct knitting errors
- Learn how to care for your knitted items

Grades: 3-13

QUILTING

Grades: 3-13



MECHANICAL SCIENCES

BICYCLES – ENG & TECH 1

What you can do in this project:

- Learn the essentials for getting started safely
- Explore the basics toward lifelong cycling
- Learn safety, road rules and planning for a great ride
- Choose a bike that's right for you
- Practice bike maintenance
- Learn road rules

Grades: 3-13

COMPUTERS

What you can do in this project:

- Explore how computers work
- Learn about components—hardware and software
- Learn the various programs and their features
- Build and repair a computer
- Learn to upgrade and create connections
- Discover how to create and manage networks
- Explore security issues and troubleshooting

Grades: 3-13

ELECTRICITY

What you can do in this project:

- Understand how to use electricity
- Identify electrical materials
- Wire a simple circuit
- Work with electrical equipment
- Learn to read circuit diagrams
- Build a circuit and measure voltages
- Develop a basic electrical tool and supply kit
- Understand the symbols on wires and cables
- Identify electrical and electronic parts and devices
- Learn how to solder and prepare parts for assembly
- Assemble a circuit using a transistor

Grades: 3-13

SCALE MODELS

What you can do in this project:

- Assemble and create scale models of trains, cars, etc.

- Learn how to obtain materials you need in construction
- Learn to display your model and judge it

Grades: 3-13

SMALL ENGINES

What you can do in this project:

- Learn the basics of small engines and tools
- Explore external and internal engine parts
- Identify the uses of small engines and safety issues
- Learn about engine sizes and safety issues
- Tear down and rebuild an engine
- Learn to use diagnostic tools

Grades: 3-13

TRACTORS

What you can do in this project:

- Learn and identify parts of the tractor
- Understand the basics of tractor maintenance
- Learn about different fuels and engine cooling systems
- Learn and practice farm and tractor safety
- Understand the mechanics of engines
- Learn the functions of different operational systems
- Learn types of oil systems and fuel safety
- Learn how to hook on a PTO unit
- Learn tractor and machinery maintenance
- Identify and work with operational systems

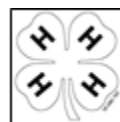
Grades: 3-13

WOODWORKING

What you can do in this project:

- Identify types of nails and wood
- Sand and paint a piece of wood
- Learn to safely use tools—hammer, saw, screwdriver, combination square, power tools
- Practice safety techniques
- Select a project to build
- Compare different grades of plywood
- Learn to make more difficult joints, inlays, etc
- Evaluate types of wood and various adhesives

Grades: 3-13



NATURAL RESOURCES & ENVIRONMENTAL EDUCATION

ADVENTURES

What you can do in this project:

- Learn how to camp safely in all weather conditions
- Investigate camping equipment and clothing

- Build a campfire and cook a meal
- Practice tying knots and first aid
- Learn to use a map and compass

Grades: 3-13

BACKPACKING & HIKING

What you can do in this project:

- Plan a day hike, select items and plan the food
- Learn to organize and pack a backpack
- Plan a camping trip, menu, supplies list
- Select equipment and prepare first-aid kit
- Plan a camping trip menu and prepare supplies
- Prepare for dangerous weather
- Practice “Leave No Trace” principles while hiking
- Develop a personal conditioning program
- Learn to use compass, orient a map and use triangulation

Grades: 3-13

ENTOMOLOGY (INSECTS)

What you can do in this project:

- Learn about insects, their behavior and life history
- Discover the parts of an insect’s body
- Collect and identify insects; create a display
- Explore insect communication and movement

Grades: 3-13

EXPLORING YOUR ENVIRONMENT

What you can do in this project:

- Learn four elements of life: sun, air, water and soil
- Use your senses to explore the environment
- Learn how the environment is affected by pollution
- Explore the world of biotechnology
- Begin to understand biodiversity
- Learn what climate has to do with the way we live

Grades: 3-13

FISHING

What you can do in this project:

- Identify types of tackle and organize tackle box
- Identify different types of bait and fish in your area
- Learn to take proper care of your catch
- Cast a spinning rod and reel
- Tie fishing knots and create flies and lures
- Select a recipe and cook a fish
- Learn to reassemble a fishing reel

Grades: 3-13

FORESTRY

What you can do in this project:

- Identify forest types, forest products and trees

- Age trees by counting rings
- Describe how leaves affect rainfall
- Learn how trees move water from soil to canopy
- Diagram a leaf
- Understand major forest changes and their impact
- Select urban tree planting sites
- Identify an unknown tree using a tree key

Grades: 3-13

RECYCLING

What you can do in this project:

- Learn about the impact of solid waste on the environment
- Learn to reduce, reuse and recycle

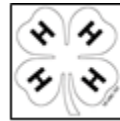
Grades: 3-13

WATER

What you can do in this project:

- Identify water conservation and pollution issues
- Explore issues in your home, community or school
- Select an issue to focus on
- Develop and implement a plan

Grades: 3-13



SHOOTING SPORTS EDUCATION

AIR PISTOL

What you can do in this project:

- Explore different air pistols
- Learn basic safety rules and guidelines
- Learn marksmanship and shooting procedures

Grades: 3-13

AIR RIFLE

What you can do in this project:

- Explore different types of air rifles
- Learn basic safety rules and range commands
- Learn marksmanship and shooting positions

Grades: 3-13

ARCHERY

What you can do in this project:

- Learn the fundamentals of archery marksmanship
- Learn rules and safety guidelines
- Make archery equipment
- Shoot with sights and different bows

Grades: 3-13

HUNTING

What you can do in this project:

- Learn the history, philosophy and laws of hunting

- Learn to plan and equip yourself for a hunt

Grades: 3-13

MUZZLELOADING

What you can do in this project:

- Explore muzzleloading history
- Study different muzzleloading guns and accessories
- Learn how to clean a muzzleloader
- Learn safety issues

Ages: Only 12 years old and above can shoot powder burning guns

PISTOL (smallbore .22)

What you can do in this project:

- Explore the history of different types of pistols
- Learn basic safety rules and range commands
- Develop marksmanship and shooting procedures

Ages: Only 12 years old and above can shoot powder burning guns

RIFLE

What you can do in this project:

- Explore rifle history and the different models
- Learn to sight-in your rifle and score targets
- Learn various shooting positions for competition
- Learn safe handling procedures and range rules

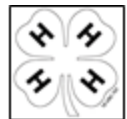
Ages: Only 12 years old and above can shoot powder burning guns

SHOTGUN

What you can do in this project:

- Learn the basic safety issues with shotgun handling
- Learn shooting fundamentals
- Learn the proper way to carry a shotgun

Ages: Only 12 years old and above can shoot powder burning guns



PLANT & SOIL SCIENCES

CROPS (including corn, forages, and small grains)

What you can do in this project:

- Learn variety selection, germination and planting
- Learn about nutrients, harvesting and storage
- Explore uses and marketing strategies for crops
- Establish and manage crop(s)
- Scout fields for pests, diseases, nutrient shortages
- Take an accurate forage sample
- Explore types of grasses
- Practice integrated pest management
- Compare production costs and marketing

Grades: 3-13

FLOWERS

What you can do in this project:

- Identify flower parts and their functions
- Plant flowers and make flower arrangements
- Prepare a flower exhibit
- Learn about plant needs and soil testing
- Select and start new plants and grow transplants
- Examine plants for insects and diseases
- Compare different fertilizers: organic and chemical

Grades: 3-13

FRUITS

What you can do in this project:

- Produce fruits—apples, berries, grapes, pears
- Select the best fruit cultivar for your home garden

Grades: 3-13

HOME GROUNDS

What you can do in this project:

- Learn about seeding a lawn
- Study proper lawn care and maintenance
- Explore fertilization and pest management techniques
- Learn the importance of planting new trees and shrubs
- Explore variety selection and appropriate placement
- Learn basic maintenance: pruning and fertilization
- Explore landscape planning, make and implement a plan and put it on paper
- Select, place and plant trees and shrubs

Grades: 3-13

HOUSE PLANTS

What you can do in this project:

- Identify plant parts and their functions
- Grow house plants, start a plant from a cutting, or grow transplants
- Make a dish garden or terrarium
- Prepare house plants for exhibit
- Learn about plant seeds and soil
- Examine plants for insects and diseases
- Design a plant experiment
- Teach others how to grow house plants
- Compare different fertilizers: organic and chemical

Grades: 3-13

PLANT CRAFTS

What you can do in this project:

- Learn to harvest plants and use plant materials
- Use different drying techniques
- Learn how to make dried arrangements, corsages, etc.

Grades: 3-13

VEGETABLES

What you can do in this project:

- Identify plant parts and their functions
- Explore germination, start new plants, grow transplants, start a plant from a cutting
- Grow vegetables in containers
- Plan an outdoor garden
- Prepare a vegetable exhibit for show
- Learn about plant needs and soil testing
- Build a compost pile and use mulches
- Grow plants in a cold frame
- Compare organic and chemical fertilizers
- Research various insect control methods

Grades: 3-13



STEM (Science, Technology, Engineering & Math)

AEROSPACE

What you can do in this project:

- Build, exhibit, launch, design model rockets
- Compare birds and airplanes
- Build straw and paper rockets
- Identify types of aircraft
- Discover how weather affects flying
- Build and fly a kite
- Make a hot-air balloon model
- Test a paper hang glider
- Make a flight simulator
- Build an altitude tracker
- Discover the effects of gravity
- Explore life in space and aerospace careers

Grades: 3-13

GEOSPATIAL

What you can do in this project:

- Discover ways of thinking about geographic positions
- Learn about navigational tools: GIS, GPS, compasses

- Learn to measure distances
- Combine data with geographical positions
- Make maps of home, neighborhood and community
- Use multi-layered maps to attempt to solve problems

Grades: 3-13

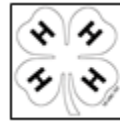
ROBOTICS

What you can do in this project:

- Explore and learn about robot arms
- Learn about robot form, function and design
- Build robots from everyday items
- Explore and learn about robots that move with legs, wheels and underwater.
- Learn about basic electrical power and motors, and gear system
- Build robots from everyday items
- Explore and learn about robots sensors and analog and digital systems
- Build basic circuits
- Study basic elements of programming and instruction

WIND ENERGY

Grades: 3-13



INTERNATIONAL PROGRAMS

INTERNATIONAL

What you can do in this project:

- Explore the world around you through maps
- Track weather in various parts of the world
- Make your family tree by talking with relatives
- Explore where your ancestors came from
- Explore culture, fear, and identity
- Stretch your values and frame of reference
- Challenge stereotypes and assumptions
- Connect with global citizenship

Grades: 3-13