



Wisconsin 4-H Project Guide

This is your guide . . . A 4-H project is an area that 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 sewing to small engines. Youth have the opportunity to enter work from their project at the Winnebago County Fair in August to show off what they have learned throughout the year.

And remember, you'll learn more than "subject matter" as you complete your projects. You'll learn many "life" skills that you'll 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 don't even realize you do well.

Then compare your list with the projects described in this guide. Ask yourself if you have the equipment, money and time to do the projects that sound interesting.

You may also want to look at the Winnebago County Junior Fair Book (<http://www.winnebagoountyfaironline.com/>) for ideas on what projects you are interested in. Youth can only bring exhibits in departments and/or divisions that correspond to the Projects they are signed up in on 4HOnline. Youth have until January 31 to make their final project selections in 4HOnline.

How many projects should I sign up in?

- Pick a few projects/areas that you would like to spend **a lot** of time and effort in
- Pick a few more projects that you would like to explore, but won't spend as much time
- Consider if the projects you are signing up for are very similar (all nature-related) or very different. This may affect how many projects you want to commit to/explore. Find a balance that works for you and your family.
- Youth in K5-2nd grade **ONLY** have the option to sign up for the Cloverbud Project.
- It is recommended that youth in grades 3rd – 5th sign up for the Exploring project to learn about a variety of project areas. They may also want to sign up in 1-2 other projects they already have a strong interest in.

If this is your **first year in 4-H**, consider only doing only two or three projects. Usually you can spend more than one year in a project unit because there are enough ideas there to span two or three years.

After deciding what projects you are interested in, you will select your projects in 4HOnline (<https://wi.4honline.com/>), either during enrollment or at any time before January 31.

Tips for reading this guide:

- When you select your projects in 4HOnline, they will be listed alphabetically. The project titles you see in 4HOnline will match the titles in ALL CAPS in this guide.
- Under many of the projects in this guide you will see more information about the project and resources (or literature) to help guide you in your learning.
- After selecting a project, 4HOnline allows you to select project literature. This is just a reference for you about what literature is available. You may checkout literature from the Extension Office or purchase literature here:
 - **Shop 4-H**
<https://shop4-h.org/collections/curriculum>
(formerly the 4-H Mall or National 4-H Supply)
 - **"The Learning Store"** UW-Extension
<https://learningstore.extension.wisc.edu/>
- The Wisconsin 4-H Website also provides project pages at <https://fyi.extension.wisc.edu/wi4hprojects/> On these pages, you'll find descriptions for statewide projects, Internet resources and links of interest, county fair exhibit suggestions, state specialist contacts, and other suggested 4-H resources.



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What Is A Youth Leader?

A Youth Leader is a youth that essentially volunteers to lead or teach in a certain project area.

For Example: If you excel at sewing, you may want to consider being a Youth Leader in the Clothing Project. Or, if you have a lot of experience working with horses, you may want to consider being a Youth Leader in the Horse Project.

If you would like to become a youth leader, discuss it with your parents and your club leader. If you decide it would be a good opportunity for you, follow these instructions:

- When you register on 4-H online, select that you want to be a Youth Volunteer.
- You also will then need to select the project area you want to be a Youth Leader (volunteer) for.





YOUTH LEADERSHIP

What are some areas you can learn about in this project?

- Become a 4-H Ambassador
What is an Ambassador? Ambassadors help to plan and promote the 4-H program with the assistance of an adult leader.
- Assess your leadership skills
- Practice effective communication skills
- Set goals and resolve conflict
- Plan a group event

Resources: 07903, *Leadership Mentor Guide for Grades K-5*
07904, *Leadership Mentor Guide for Grades 6-12*



CLOVERBUDS

Must be in grades K-2.

What are some areas you can learn about 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

Resources: *Wisconsin 4-H Cloverbud Learning Activities*
4H710GPM, *The Big Book of 4-H Cloverbud Activities*



CLOVERBUDS YTH LDR

What is a Cloverbud Youth Leader? Anyone in grades 6 and up can become a mentor, helper or youth leader for an existing Cloverbud member.



EXPLORING

Recommended for first year 4-H members and/or grades 3-5.

What are some areas you can learn about in this project?

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

Resource: 08171, *Exploring the Treasures of 4-H*



SERVICE LEARNING & CITIZENSHIP

What are some areas you can learn about in this project?

- Discover and discuss public issues
- Citizenship
- Diversity
- Plan a project to change or improve your community
- Learn about your history & heritage

- Latino Cultural Arts
- Learn to give back to your community
- Reflect on your experiences
- Identify community needs
- Plan a service project and execute the idea
- Plan and implement your own service project
- Share your project plan and outcome with others
- Conduct an evaluation of your project

Resource: 08153, *Citizenship Adventure Kit*

Resource: 08182, *Agents of Change + CD*



BEEF

What are some areas you can learn about in this project?

- Identify various beef breeds
- Identify parts of a beef animal
- Halter-break and show a calf
- Fit and judge beef cattle
- Recognize and raise a healthy animal
- Present oral reasons during judging
- Learn about feed ingredients, behavior and parasites
- Study how to do nose-print identification
- Learn beef carcass composition and retail meat cuts
- Explore selection and judging
- Learn about careers, health, reproduction, etc.
- Discover how to market your animal and by-products

Resources: 08143, *Bite into Beef*

08144, *Here's the Beef*

08145, *Leading the Charge*



DAIRY

What are some areas you can learn about in this project?

- Identify dairy breeds
- Study and identify parts of the dairy cow
- Learn how to select quality dairy calves
- Fit and show a calf
- Identify stages of calving and care
- Assemble tools needed for packing a show box
- Learn about housing and hay quality
- Learn about milking and food safety
- Explore ways to keep an animal healthy
- Observe animal behavior
- Practice mastitis detections
- Learn to balance rations
- Practice pregnancy detection and delivery of a calf
- Learn body-conditioning scoring
- Promote dairy products
- Explore various dairy industry careers

Resources: 08161, *Cowabunga*

08162, *Mooving Ahead*



GOATS

What are some areas you can learn about in this project?

- Gain hands-on experiences in the goat project
- Select, manage, fit and show goats
- Learn responsible goat ownership
- Learn to keep your goat healthy
- Feed your goat for maximum production
- Prepare for kidding
- Develop judging skills
- Learn how to milk a goat properly
- Learn about genetics, diseases and breeding
- Study body-condition scoring and linear appraisal
- Understand bio-security and prevention measures
- Gain leadership and explore career opportunities
- Identify meat goat breeds and parts
- Learn to select a good animal
- Feed and care for a meat goat
- Develop a budget for a meat goat project
- Recognize meat goat diseases
- Select a veterinarian and purchase breeding stock
- Understand reproduction cycle and keep records
- Fit and show meat goats
- Learn to control diseases
- Understand bio-security and quality assurance
- Formulate rations
- Evaluate goat pastures
- Learn about / raise pygmy goats

Resource: 08352, *Getting Your Goat*
08353, *Stepping Out*
08354, *Showing the Way*
07909, *Just Browsing*
07910, *Get Growing with Meat Goats*
07911, *Meating the Future*



HORSE

What are some areas you can learn about in this project?

- Learn horse behavior and terms
- Study breeds and identify body parts
- Saddle, groom and bridle your horse
- Practice horse safety and horse selection
- Practice horsemanship and judging
- Understand horse selection and training
- Learn about tack, feeding and diseases
- Practice showing a horse and trail riding
- Explore horse breeding, genetics and heredity
- Understand horse diseases and prevention
- Learn about fencing, pasturing and housing
- Explore horse-related careers

- Train a horse
- Practice a round-pen workout
- Learn English and Western style bridles
- Understand equitation and riding styles
- Learn to set goals
- Compare costs of show clothing
- Present your horse in showmanship classes
- Rate your showmanship skills
- Practice proper show ethics
- Clothes horse
- Model horse
- Horseless horse
- Miniature horse

Resources: 01518Y, *Giddy Up & Go*
CO200, *Horses & Horsemanship*
CO201, *Horse Science*
01519Y, *Head, Heart & Hooves*
01520Y, *Stable Relationships*
01521Y, *Riding the Range*
01522Y, *Jumping to New Heights*



POULTRY

What are some areas you can learn about in this project?

- Identify poultry breeds
- Learn parts of the bird
- Learn parts and functions of the egg
- Learn how to select and handle poultry
- Fit and show poultry
- Observe a healthy flock
- Select and judge broilers
- Discover how an egg is formed
- Prevent poultry diseases
- Discover how chicks imprint
- Observe a healthy flock
- Select and judge broilers
- Discover how an egg is formed
- Prevent poultry diseases
- Discover how chicks imprint
- Organize a judging clinic
- Manage a laying flock
- Discover qualities of eggs
- Handle poultry products safely
- Process a chicken
- Bantams
- Poultry Exotic
- Game Birds
- Turkeys
- Waterfowl

Resources: 06363, *Scratching the Surface*
CIR878, *From Egg to Chick*
06364, *Testing Your Wings*
06365, *Flocking Together*
MA, *Meat Animal Project Record*
A2880, *Chicken Breeds & Varieties*
NCR209, *Bantams*



RABBITS

What are some areas you can learn about in this project?

- Learn about selecting and handling rabbits
- Identify rabbit breeds and body parts
- Explore health issues and feeding
- Learn to select show rabbits
- Give oral reasons and judge rabbits
- Learn to tattoo
- Detect diseases
- Keep records of animals
- Learn about breeding and genetics
- Design a rabbitry
- Market rabbits
- Learn about disease prevention and rabbit registration

Resource: 08080, *What's Hoppening?*
08081, *Making Tracks*
08082, *All Ears*



SHEEP

What are some areas you can learn about in this project?

- Identify sheep breeds and body parts
- Observe sheep behavior
- Identify uses of wool and other by-products
- Fit and show sheep
- Learn to identify sheep parasites
- Promote meat safety
- Judge wool
- Diagnose sheep diseases
- Use medications safely
- Explore careers
- Set sheep production goals
- Plan sheep related activities
- Market sheep products and teach others
- Plan a judging contest

Resources: 06367, *Lambs, Rams and You*

Resources: 06368, *Shear Delight*

Resources: 06369, *Leading the Flock*



SWINE

What are some areas you can learn about in this project?

- Identify swine breeds, feeds and animal parts
- Practice judging market hogs
- Identify pork meat cuts
- Practice fitting and showing a hog
- Make a swine health care plan
- Identify diseases

- Assemble tack and pack a show box
- Plan and organize a facility expansion
- Complete a plan for a new pork product
- Learn to make breeding and culling decisions
- Judge a class of breeding gilts
- Design a preventative herd health plan
- Manage a feeding program

Resources: 08065, *The Incredible Pig*
4H412, *Judging Breeding & Market Swine*
08066, *Putting the Oink in the Pig*
08067, *Going Whole Hog*



CATS

What are some areas you can learn about in this project?

- Select a cat
- Identify cat breeds
- Name the parts of a cat
- Handle and groom a cat
- Care for its health
- Create a budget
- Learn about cat senses and sounds
- Explore tricks to teach a cat
- Traveling with a cat
- Learn about feeding and emergency care
- Detect signs of illness and health issues
- Explore veterinary procedures
- Learn reproduction and cat body systems
- Learn showmanship and cat behavior
- Explore community laws and animal welfare

Resource: 08148, *Purr-fect Pals*
08149, *Climbing Up!*
08150, *Leaping Forward*



DOGS

What are some areas you can learn about in this project?

- Learn basic skills for dog care and training
- Discover different dog breeds
- Study and identify dog body parts
- Learn how to keep a dog healthy and groomed
- Explore dog health and nutrition
- Discover genetic problems and population control
- Learn showmanship and training techniques
- Learn about show-ring ethics
- Investigate responsible breeding
- Care for geriatric dogs
- Train service dogs
- Explore careers related to dogs
- Dog obedience and training

Resources: 08166, *Wiggles and Wags*
4H436, *The Basics of Training Your Dog*

08167, *Canine Connection*
4H439, *Dog Obedience – Novice & Beyond*
08168, *Leading the Pack*
4H437, *A Guide to Showmanship*
08169, *Dog Helper's Guide*
4H458, *4-H Dog Judging Guidelines*



SMALL ANIMALS & PETS

What are some areas you can learn about in this project?

- Explore your favorite pet or select a pet
- Identify pet body parts
- Learn to provide a safe environment
- Design a space for your pet
- Explore animal digestion and feeding
- Shop for pet supplies
- Determine the animal's sex and proper health
- Study pet behavior and communication
- Explore pet products
- Teach others about pets
- Understand how genetics work
- Explore animal welfare issues
- Caged birds, Cavies, Lizards
- Any pet that is not a dog, cat or rabbit

Resource: 06359, *Pet Pals*
06360, *Scurrying Ahead*
06361, *Scaling the Heights*



EXOTIC ANIMALS

What are some areas you can learn about in this project?

- Llama
- Emus
- Rheas
- Peacocks, etc.



VETERINARY SCIENCE

What are some areas you can learn about in this project?

- Learn different breeds of animals
- Interpret animal behavior
- Identify feed nutrients
- Describe animal life stages and systems
- Create health records for your animal
- Conduct food safety experiments
- Discover importance of immunity and bio-security
- Consider ethics and animal welfare
- Investigate the importance of genetics
- Understand diseases that spread from animals to humans
- Learn about diversity of veterinary careers

Resources: 08048, *From Airedales to Zebras*
08049, *All Systems Go*
08050, *On the Cutting Edge*
08744DD, *Animal Behavior* (digital download)
08745DD, *Animal Vital Signs* (digital download)

08746DD, *Disease Transmission*
08748DD, *Principles of Bio-Security*
08749DD, *Advanced Concepts in Animal Care*



COMMUNICATION ARTS

What are some areas you can learn about in this project?

Communications:

- Engage in non-verbal, verbal and written activities
- Strengthen your personal communication skills
- Encrypt codes, write songs and give directions
- Learn to become a confident communicator
- Present oral reasons, plan and present speeches
- Practice making good first impressions
- Polish your communication skills
- Explore communication careers
- Write résumés and interview for a job

Creative Writing

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

Demonstrations

Sign Language

Speaking

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

Resources: 08644DD, *Communications: Module 1*
08645DD, *Communications: Module 2*
08646DD, *Communications: Module 3*
COMM04, *Voices From the Past*
COMM05, *It's All in the Family*
COMM07, *Communication Activities for 4-H Clubs*
COMM01, *Creative Wordworking*
COMM03, *Crazy About Books Reading Circle*
COMM02, *4-H Public Speakers Handbook*
COMM06, *4-H Public Speaking Opportunities*



PERFORMING ARTS

What are some areas you can learn about in this project?

Clowning

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

Dance

- Choreograph a dance
- Learn about different forms of dance

Juggling

Music

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

Puppets

- Become a puppeteer
- Investigate the history of puppets
- Explore types of puppets and puppet characters
- Use puppets in community service work
- Plan and present a puppet show

Theater

- Study acting, sound, movement, voice and speech
- Learn different ways to play a scene
- Try pantomime, clowning and improvisation
- Study costumes, makeup, stage sets, props and sound
- Learn stage management
- Create sounds and disguises
- Make up your own character and bring it to life

Resources: 4H265, *Enter the Clowns*
19083, *4-H Juggling with Andy Talen* (DVD in CES Media Collection)
4H620MP, *Youth and 4-H Music Project Guide*
08445, *Theatre Arts Beginner*
08448Y, *Theatre Arts Journal*
08446, *Theatre Arts Intermediate*
08448Y, *Theatre Arts Journal*
08447, *Theatre Arts Advanced*
08448Y, *Theatre Arts Journal*



VISUAL ARTS

What are some areas you can learn about 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
- Learn artistic challenges in drawing, fiber arts and sculpting
- Develop graphic design techniques
- Basketry
- Beadwork
- Design and cut blocks from different materials
- Print designs on cloth and paper
- Create your own original designs
- Calligraphy
- Candle making
- Ceramics
- Collages
- Creative / Cross Stichery
- Decorative boxes
- Decorative wreaths
- Decoupage
- 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
- Fiber Arts
- Flower crafts
- Folk arts
- Glasswork
- Handmade dolls
- Jewelry making
- Leathercraft
- Liquid embroidery
- Macrame
- Mosaics
- Metal enameling
- Ornaments
- Paper art
- Plaster craft
- Pottery
- Print making
- Rock art
- Rubber stamping
- Rug hooking
- Scrapbooking
- Soap carving
- Soap making
- Stencil painting
- String/wire art
- Stuffed animals
- Tie dying
- Videography
- Weaving
- Wearable art
- Wood art & burning

Resources: 4H592, *Get Started in Art Curriculum*
08140, *Advanced Visual Arts: Sketchbook Crossroads*
8141, *Advanced Visual Arts: Portfolio Pathways*
4H156, *Block Printing Member Guide*
4H169, *Drawing & Painting*



PHOTOGRAPHY

What are some areas you can learn about 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 film speed, shutter speed and aperture
- Take silhouettes, candid, action shots and others
- Learn about wide-angle and telephoto lenses
- Explore the use of light meters and studio lighting
- Experiment with special effect photos
- Take still life photos and portraits

Resources: 01920Y, *Photography Basics*
01903Y, *Next Level Photography*
01904Y, *Mastering Photography*



FAMILY, HOME & HEALTH

What are some areas you can learn about in this project?

Family & Home:

- Learn about childcare
- Learn to understand older people better
- Let them share their stories and experiences
- Explore what happens as you grow older
- Learn about home care
- Learn furniture refinishing
- Learn about interior design
- Learn about purchasing furnishings for the home
- Make a quilt

Health & Fitness

- Design your own fitness plan
- Track your plan and review your progress
- Interview individuals in the health and fitness fields
- Practice first-aid skills to treat basic injuries
- Learn how to respond to someone who is choking
- Assemble a first-aid kit
- Identify your personal talent areas in health care
- Explore hygiene, nutrition and physical activities

Resources: 4H425, *Exploring Your Home*
4H465, *In My Home*
08174, *First Aid in Action*
08380, *Health Rocks! Curriculum 1 – Beginning*
08175, *Staying Healthy*
08381, *Health Rocks! Curriculum 2 – Intermediate*
4H359, *Your Thoughts Matter: Navigating Mental Health*
08176, *Keeping Fit*
4H359, *Your Thoughts Matter: Navigating Mental Health*
NCR591, *Walk in My Shoes Member Guide*



CONSUMER EDUCATION

What you can do in this project:

- Learn your shopping style
- Use the yellow pages to find goods and services
- Know the difference between wants and needs
- Write a savings and spending plan
- Start a savings account
- Identify your personal spending values
- Understand advertising appeal and its affects
- See how peer pressure can influence your purchases
- Understand the risks of shopping on the Internet
- Define consumer responsibilities and ethics
- Understand your consumer rights

- Use comparison shopping techniques
- Understand the costs of owning a vehicle
- Practice the skills needed to be an entrepreneur
- Explore businesses, products, marketing and pricing
- Create a business plan and start your own business
- Learn money management skills
- Learn how to live on a budget
- Learn about wants and needs, values and goal setting
- Explore ways to use and save money
- Learn the benefits and drawbacks of credit
- Survey and select financial services
- Explore what it takes to get your first job
- Discover how to assess job possibilities in the community
- Create job scenarios
- Recognize your learning styles and personal qualities

Resource: 08030DD, *The Consumer in Me*
08031DD, *Consumer Wise*
08032DD, *Consumer Roadmap*
08035DD, *Entrepreneurship: Be the E*
07710DD, *Money FUNDamentals*
07711DD, *Money Moves*
08561, *Build Your Future Youth Notebook*



FOODS AND NUTRITION

What are some areas you can learn about in this project?

- Breads
- Cake decorating
- Candy making
- Learn the basics of preserving food safely
- Learn what is good to eat and how to fix simple foods
- Fix pizza, pancakes, fruit kabobs and granola bars
- Explore why calcium is important to our bodies
- Understand TV commercial messages about food
- Make main dishes, e.g., meatballs, pasta and salads
- Learn to make basic muffins and biscuits
- Learn to change recipes
- Reduce fat content in recipes
- Discover how to store fruit and vegetables
- Learn to evaluate nutrition information and fad diets
- Develop your own exercise program
- Learn how to cook different cuts of meat
- Learn to divide large-quantity packages for family use
- Make baked chicken, breadsticks and stir-fried vegetables
- Learn how to make jelly
- Bake fish
- Marinate meat
- Conduct a food activity with young children
- Learn to divide recipes and make substitutions
- Plan menus on a budget
- Microwave

Resources: B0430, *Canning Fruits Safely*
B1159, *Canning Vegetables Safely*
B2909, *Making Jams, Jellies & Fruit Preserves*
B3278, *Freezing Fruits & Vegetables*
B2267, *Homemade Pickles & Relishes*

B2605, *Tomatoes Tart & Tasty*
 B3345, *Canning Meat, Wild Game, Poultry & Fish*
 B3570, *Canning Salsa Safely*
 07144DD, *Six Easy Bites*
 07146DD, *Tasty Tidbits*
 07148DD, *You're the Chef*
 07150DD, *Foodworks*
 Use UW-Extension Safe Food Preservation Series



CLOTHING AND TEXTILES

What are some areas you can learn about in this project?

- Identify sewing tools and machine parts
- Thread a sewing machine and identify fabrics
- Select and purchase a pattern
- Sort clothes for laundry and remove stains
- Donate a sewing project
- Identify types of fabric constructions
- 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
- Create outdoor wear
- Design and embellish a garment
- Use a computer to print on fabric
- Quilted wearables
- Wool spinning

Resources: 08060, *Under Construction*
 4H2210, *FUNDamentals: STEAM Clothing 1*
 08061, *Fashion Forward*
 4H2220, *Simply Sewing: STEAM Clothing 2*
 08062, *Refine Design*
 4H2230, *A Stitch Further: STEAM Clothing 3*
 4H2240, *Maker's Guide: STEAM Clothing*
 4H2260, *Beyond the Needle: STEAM Clothing*



CROCHETING



KNITTING

Resource: CC1402, *Knitting Made Easy*



MECHANICAL SCIENCES

What are some areas you can learn about in this project?

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

- Flying
- Handyman
- LEGOS
- Maintenance & repair
- Model cars
- Model railroad
- Model rocketry
- Off highway vehicles
- Radio controlled plane
- Remote controlled cars
- Scale models
- Small engines
- Snowmobiling
- Tractors
- Welding

Resources: 08334, *Bicycling for Fun*
 08335, *Wheels in Motion*
 08336, *Bicycle Helper's Guide*
 08399, *Bicycle Fix It! (DVD)*
 08186, *Crank It Up!*
 08187, *Warm It Up!*
 08188, *Tune It Up!*
 4H961, *Starting Up: Getting to Know Your Tractor*
 4H962, *Tractor Operations: Gearing Up for Safety*
 4H963, *Moving Out: Learning About Your Tractor & Farm Machinery*
 4H964, *Learning More: Learning About Agricultural Tractors & Equipment*



COMPUTERS

What are some areas you can learn about in this project?

- Learn about hardware, software and components
- Explore how computers work
- Learn the various programs and their features
- Visit the project's interactive website
- Build and repair a computer
- Identify the components and how they work together
- Learn to upgrade and create connections
- Install operating systems
- Discover how to create and manage networks
- Make decisions about network management
- Explore security issues and troubleshooting

Resources: 08346, *Newbie Know How*
 01606Y, *Comp. Science & Programming with Scratch: 1*
 08347, *Inside the Box*
 01801Y, *Comp. Science & Programming with Scratch: 2*
 08348, *Peer to Peer*
 08349, *Teens Teaching Tech*



ELECTRICITY

What are some areas you can learn about in this project?

- Understand how to use electricity
- Identify electrical materials
- Wire a simple circuit
- Build a compass, flashlight, switch and electric motor
- Work with electrical equipment
- Learn to read circuit diagrams
- Build a circuit and measure voltages
- Communicate in Morse code
- Develop a basic electrical tool and supply kit
- Understand the symbols on wires and cables
- Locate your home wiring system
- Identify electrical and electronic parts and devices
- Learn how to solder and prepare parts for assembly
- Assemble a circuit using a transistor

Resources: 06848, *Magic of Electricity*
 06849, *Investigating Electricity*
 06850, *Wired for Power*
 06851, *Entering Electronics*



WOODWORKING

What are some areas you can learn about in this project?

- Learn safety practices when working with wood and tools
- Use various hand tools, e.g., hammer and saw
- Identify types of nails and wood
- Sand and paint a piece of wood
- Identify functions of various tools
- Practice safety techniques
- Select a project to build, e.g., birdhouse or foot stool
- Use a screwdriver and combination square
- Compare different types of hinges
- Enlarge scale-drawn woodworking plans
- Use a hand plane and build a laminated cutting board
- Compare different grades of plywood
- Use a table saw, router, powered circular saw and sander
- Learn to make more difficult joints
- Evaluate exotic and veneer woods
- Create inlays and overlays
- Test various adhesives

Resource: 06875, *Measuring Up*
 Resource: 06876, *Making the Cut*
 Resource: 06877, *Nailing It Together*
 Resource: 06878, *Finishing Up*



NATURAL RESOURCES & ENVIRONMENTAL EDUCATION

What are some areas you can learn about in this project?

- Aquatic Science
- Astronomy

- Bees
- Birds
- Conservation
- Entomology (insects)
- Sun, Wind
- Pollution
- Biotechnology
- Biodiversity
- Environment plants & animals
- Climate change
- Fishing
- Types of fish and their environments
- Identify forest types, forest products and trees
- Age trees by counting rings
- Understand forest competition
- Find a state forest
- 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
- Recognize different tree fruits
- Create a community forest map
- Identify forest biomes by continent
- Identify an unknown tree using a tree key
- Geology
- Home energy
- Maple Syrup
- Recycling
- Reptiles
- Rock climbing
- Taxidermy
- Water
- Weather
- Wildflowers
- Wildlife

Resources: 08440, *Teaming with Insects: Level 1*
 08441, *Teaming with Insects: Level 2*
 08392, *Project Butterfly Wings Youth Guide*
 08442, *Teaming with Insects: Level 3*
 08410, *Ecosystems Services*
 PUB-CE-456, *Education Connection*
 PUBL-ER-001, *WI Endangered & Threatened Species*
 07598, *Take the Bait*
 07599, *Reel in the Fun*
 07600DD, *Cast into the Future*
 08038, *Follow the Path*
 08039, *Reach for the Canopy*
 08040, *Explore the Deep Woods*
 4H855, *Give Water A Hand – Action Guide*



ADVENTURERS

What are some areas you can learn about in this project?

- Backpacking / Hiking
- Plan a day hike, select items and plan the food

- Learn to organize and pack a backpack
- Select appropriate clothing
- Prepare a first-aid kit
- Learn to use a compass
- Prepare for dangerous weather
- Plan a camping trip
- Select equipment, including shelter
- Plan a camping trip menu and prepare supplies
- Practice “Leave No Trace” principles while hiking
- Study various organism habitats
- Select group backpacking gear including a tent
- Design a non-tent backpacking shelter
- Develop a personal conditioning program
- Learn to orient a map and use triangulation
- Canoeing
- Bicycling
- Winter Travel
- Skiing

Resources: 08043, *Hiking Trails*
 08044, *Camping Adventures*
 08045, *Backpacking Expeditions*



CROPS

What are some areas you can learn about in this project?

- Learn about variety selection, germination and planting
- Learn about nutrients, harvesting and storage
- Explore uses and marketing strategies for corn
- Establish and manage a forage crop
- Scout fields for pests, diseases and nutrition shortages
- Take an accurate forage sample
- Study growing techniques
- Explore types of grasses, including wheat, oats and barley
- Learn about growing conditions and nutrients
- Practice integrated pest management
- Compare production costs and marketing
- Soybeans
- Weed management

Resources: 4H440, *Marketing Your 4-H Crops*



VEGETABLES & FRUITS

What are some areas you can learn about in this project?

- Produce fruits from apples to berries
- Select the best fruit cultivar for your home garden
- Produce fruits such as pears and grapes
- Learn about different varieties of cultivars
- Herbs
- Identify plant parts and their functions
- Explore germination and 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
- Start new plants and grow transplants
- Build a compost pile and use mulches
- Grow plants in a cold frame
- Make a site analysis and landscape plan
- Compare organic and chemical fertilizers
- Research various insect control methods

Resources: A1597, *Growing Strawberries in Wisconsin*
 A1610, *Growing Raspberries in Wisconsin*
 A1960, *Growing Currants, Gooseberries, & Elderberries in Wisconsin*
 A1656, *Growing Grapes in Wisconsin*
 A2072, *Growing Pears in Wisconsin*
 07162, *Gardening: See Them Sprout*
 A3306, *Exhibiting & Judging Vegetables*
 07164, *Gardening: Take Your Pick*
 07165, *Gardening: Growing Profits*
 07163, *Gardening: Let's Get Growing*



SHOOTING SPORTS

Each Shooting Sports Leader should attend a Certification Training in their respective shooting sport project.

What are some areas you can learn about in this project?

- Air pistols
- Archery
- Learn basic safety rules and guidelines
- Learn marksmanship and shooting procedures
- Explore different types of air rifles
- Learn the history, philosophy and laws of hunting
- Learn to plan and equip yourself for a hunt

Only 12 years old and above can shoot powder burning guns

- Muzzle loading
- Pistols
- Rifles
- Shotguns
- Learn safety issues
- Develop marksmanship and shooting procedures
- Explore gun history and the different models
- Learn to sight-in your gun and score targets
- Learn various shooting positions used in competition

Resources: 751, *Archery Member Record Book*
 753, *Pistol Member Record Book*
 750, *Rifle Member Record Book*
 752, *Shotgun Member Record Book*



FLOWERS & HOUSEPLANTS

What are some areas you can learn about in this project?

- Identify plant parts and their functions
- Grow house plants and start a plant from a cutting
- Make a dish garden
- Prepare house plants for exhibit
- Learn about plant seeds and soil
- Select and start new plants and grow transplants
- Plant a terrarium
- Examine plants for insects and diseases
- 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 a plan and put it on paper
- Select, place and plant trees and shrubs
- Maintain your home grounds
- Horticulture
- Take a tour of a horticulture business
- Design a plant experiment
- Teach others how to grow house plants
- Compare different fertilizers: organic and chemical
- Learn to harvest plants
- Use different drying techniques
- Learn how to use plant materials
- Learn how to make dried arrangements, corsages, etc.

07162, *Gardening: See Them Sprout*
 4H328, *Propagating & Growing House Plants*
 4H321, *4-H Lawn Care*
 A3067, *Selecting, Planting & Caring for Shade Trees*
 G1923, *Planning & Designing Your Home Landscape*
 4H330, *Plant Crafts*



STEM (Science, Technology, Engineering & Math)

What are some areas you can learn about in this project?

- Build an introductory level rocket
- Compare birds and airplanes
- Make a space helmet
- Build straw and paper rockets
- Learn to read a map
- Identify types of aircraft
- Discover how weather affects flying
- Build and fly a kite
- Make a hot-air balloon model
- Build, exhibit and launch model rockets
- Test a paper hang glider
- Make a flight simulator
- Demonstrate why rockets fly
- Organize a kite-flying contest
- Design and build rockets and box kites

- Build an altitude tracker
- Plan a flight route
- Discover the affects of gravity
- Explore life in space and aerospace careers
- Geospacial
- Geocaching
- Explore and learn about robots arms
- Learn about robot form, function and design
- Build robots from everyday items
- Learn about basic electrical power, motors, gear system
- Explore and learn about robots sensors and analog and digital systems
- Build basic circuits
- Study basic elements of programming and instruction
- Wind Energy
- Chemistry
- Physics

06842, *Pre-Flight*
 06843, *Lift Off*
 06844, *Reaching New Heights*
 06845, *Pilot in Command*
 08431, *Junk Drawer Robotics Track Level 1: Give Robots a Hand*
 08435, *4-H Robotics Youth Notebook*
 08432, *Junk Drawer Robotics Track Level 2: Robots on the Move*
 08435, *4-H Robotics Youth Notebook*
 08433, *Junk Drawer Robotics Track Level 3: Mechatronics*
 08435, *4-H Robotics Youth Notebook*
 08383, *The Power of the Wind Youth Guide*



INTERNATIONAL PROGRAMS

What are some areas you can learn about 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

Resource: 01501F, *WeConnect: A Global Youth Citizenship Curriculum*



SELF-DETERMINED

What are some areas you can learn about 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

Resource: 4H272, *Designing Your Own Project*