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Johnson County 4-H Program Project Selection Guide

This project guide is a resource for 4-H families to use when they are completing their 4-H enrollment form. The Johnson County 4-H enrollment form can be found at www.johnson.k-state.edu/4-h/forms-resources/. When 4-H'ers enroll in a project he/she is declaring an interest in the project area. Although project enrollment is required to be eligible to exhibit in a project area at the county fair, there is not a requirement that 4-H'ers must exhibit in each of the project areas they enrolled in. Feel free to contact your club leader or the Johnson County Extension Office if you have any questions about the enrollment process. If you are looking for direction on projects, Johnson County Extension Office has curriculum available to purchase for most of the project areas. Thank you for deciding to enroll in the Johnson County 4-H Program.

****There are parts of this Project Selection Guide that are utilized from the Kansas 4-H Journal Project Selection Guide. There is also content that has been added that pertains to the Johnson County 4-H Program. Thank you to the staff and volunteers who put the time into this resource for Johnson County 4-H Families.*

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Johnson County
K-STATE
Research and Extension

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Beef

The beef project is an excellent way to learn about an important industry. Learn all aspects of this industry by caring for a calf or building your own herd. 4-H'ers are required to meet ownership deadlines that are typically set in the spring. Check Clover Clips for the tagging and ownership deadline. Johnson County also hosts a spring beef show each year. Exhibitors interested in competing at the Kansas State Fair and/or Kansas Junior Livestock Show are required to complete a separate nomination process. Information regarding nominations will be available in Clover Clips. At the Johnson County Fair 4-H'ers can show a bucket calf, market beef, breeding beef and/or participate in showmanship.

Bucket Calf

- Most calves are orphaned at birth or shortly after and should be bottle fed
- Calf must be born between January 1 and April 30 of current year

Market Beef

- Select, raise and show a market steer or heifer

Breeding Beef

- Select, raise and show a breeding heifer
- Learn the value of performance data to make breeding decisions

Things to learn/do in the project

Ages 7-9

- Identify breeds of beef cattle
- Learn the parts of a calf
- Compare animal differences
- Halter break a bucket calf

Ages 10-13

- Learn about cattle feeds and how they are digested
- Judge beef cattle and present oral reasons
- Show a calf and learn showing techniques

Ages 14 and older

- Use performance data to make breeding decisions
- Evaluate beef carcasses and identify meat products
- Explore impact of technology and career opportunities in the beef industry

Citizenship

The citizenship project is designed to help members find out more about themselves, family, friends, community and world. The project will lead to opportunities for meeting people and working with groups. At the County Fair 4-H'ers can exhibit their Citizenship project with a poster and/or notebook in the General Department.

Things to learn/do in the project:

Ages 7-10

- Learn about self, family and friends
- Find out what good citizenship is

Ages 11-13

- Learn how to be a good neighbor
- Find out how groups and clubs work
- Study other cultures through exchanges

Ages 14 and older

- Learn about township, city and county government
- Explore careers in police and fire protection, health and sanitation and tourism
- Attend Citizenship Washington Focus and/or Citizenship in Action

Clothing and Textiles

This project will introduce you to a whole new world of options with outfits, clothing and accessories. The clothing construction phase will teach you the basics like sewing a shirt or putting a zipper in a pair of pants. The experienced 4-H'ers will learn how to take the design of their choice and customize it for the perfect look, color and fit. Buymanship will give you that edge on planning a budget for an outfit, choosing between different shades or colors and analyzing clothing advertisements. 4-H'ers can exhibit an educational poster, a constructed garment and/or a purchased outfit at the County Fair. Members may participate in the Public Fashion Revue to model constructed garments and/or purchased clothing.

Things to learn/do in the project:

Clothing Construction

Ages 7-10

- Learn how to select colors and styles
- Sew or serge an article

Ages 11-13

- Sew knits or wovens
- Make a garment from a pattern

Ages 14 and older

- Try out new patterns and fabrics
- Update an old garment
- Investigate careers in the textile industry



Things to learn/do in the project:

Buymanship

Ages 7-10

- Plan a wardrobe, determine a clothing budget and shop for clothes
- Learn how to select colors and styles

Ages 11-13

- Record body measurement and determine appropriate clothing sizes
- Conduct a clothing inventory
- Learn differences between warm and cool colors

Ages 14 and older

- Identify wardrobe according to body shape, proportion and balance
- Make decisions about clothing purchases by comparing fiber, care requirements, cost, brand and style
- Analyze clothing advertisements

Communications

Youth will learn to interpret verbal and nonverbal information, develop effective public speaking skills, enhance written and spoken communication, defend a point, design a presentation and much more! There are several opportunities for this project such as club meetings, club days and the fair. There are four kinds of presentations that can be given: project talks, demonstrations, illustrated talks or public speaking. During a project talk a 4-H'er gives a short talk about a project that tells about the member's experiences in the project. It gives some information relating to the project and it promotes the project. A demonstration is to teach by showing how and involves making or doing something. There often is a finished end product. Some members choose to teach by using the illustrated talk rather than a demonstration. The point of an illustrated talk is to teach by telling how. The 4-H'er shows a finished product instead of making one by using pictures, charts, models, equipment and other types of visual aids. Public speaking is the skill of promoting or presenting an issue through a persuasive, entertaining, informational or inspiring speech. The County 4-H Club day is a great opportunity for 4-H'ers to gain experience with this project. The complete guidelines for 4-H club day speaking events can be found at www.johnson.k-state.edu/4-h/events-programs/club-days.html. 4-H'ers can also give a presentation at the County Fair under the Public Presentations Department. Members who earn a blue or purple ribbon with their demonstration at Club day and/or the County Fair and are at least 9 (4-H age) are eligible to present their demonstration at the Kansas State Fair.

Things to learn/do in the project:

Ages 7-10

- Learn responses to bullying
- Decode a message
- Write a letter
- Give a project talk

Ages 11-13

- Give and receive directions using directional and transitional words
- Write a speech and critique it
- Write a press release

Ages 14 and older

- Discover what causes a communication gap
- Plan, research, outline and present a speech
- Debate an issue
- Prepare a resume and interview for a job or office

Dairy Cattle

Got milk or ever wonder about the power of cheese? This project is for members who want to learn more about dairy animals and caring for and raising one. Members may start with a producing cow. 4-H'ers can take care of a dairy bucket calf, dairy heifer or dairy cow and then show it at the County Fair. 4-H'ers can also enter in showmanship at the County Fair.

Things to learn/do in the project:

Ages 7-10

- Identify the six breeds of dairy cattle
- Identify the body parts of a cow
- Obtain and raise a dairy calf

Ages 11-13

- Judge a class of dairy cows
- Discuss animal health issues
- Identify safe practices of handling milk and milk products

Ages 14 and older

- Evaluate the body condition of dairy animals
- Determine the nutritional quality of dairy feed
- Explore career options in the dairy industry

Dairy Goats

Did you know goat milk is used for human consumption? In fact, more people in the world drink goat milk than cow milk; although in the U.S. the opposite is true. Dairy goats are a great project for members to learn about agriculture around the world and in your own backyard. At the County Fair 4-H'ers can enter dairy goats, mini/pygmy goats and/or do showmanship.

Things to learn/do in the project:

Ages 7-10

- Identify dairy goat breeds
- Accept responsibility for dairy goat care
- Prepare a goat to show

Ages 11-13

- Learn to care for, train and handle goats safely
- Learn how to take care of equipment and facilities
- Keep track of a kid's growth

Ages 14 and older

- Develop a herd health calendar
- Keep milk production records
- Check out dairy goat careers and by-product uses

Dog Care and Training

This project is for youth who are interested in learning more about dogs, how to care for a dog and how to train a dog in basic or advanced command. Any kind of dog may be used in this unique project that is not designed to conform to AKC or other professional standards. Members without dogs may want to participate in quiz bowls, conferences and other activities that do not require dog ownership. Johnson County has two active groups who organize training sessions for 4-H'ers. For more information, visit the Johnson County Dog Club or the Johnson County Horse Club. The four activities that 4-H'ers can do with their dog at the fair are showmanship, obedience, agility and rally obedience. In addition to the County Fair dog show, the local and surrounding counties host numerous dog shows throughout the 4-H year.

Things to learn/do in the project:

Ages 7-10

- Choose the right dog for your family
- Explore dog behavior and body language
- Learn grooming basics
- Begin obedience training

Ages 11-13

- Select nutritious dog foods
- Identify dog breeds and their purposes
- Show your dog in showmanship

Ages 14 and older

- Continue advanced obedience training
- Learn local dog laws and ordinances
- Explore the value of assistance dogs and careers with working dogs



Energy Management

Learn important general electrical concepts as you experiment with making a light switch, testing voltages and even build motors. Study energy and transistors. Learn how small engines work and how to keep them working OR discover the power of the wind. Learn about where the wind blows and how its power can be used for sailing, lifting, pumping water and creating electricity. There are many opportunities with this project such as indoor/outdoor lighting and wiring, AC or DC demonstration projects, motors, engines or electronic projects. Johnson County offers the Electric and Small Engines departments at the County Fair for 4-H'ers to exhibit their project work.

Things to learn/do in the project:

Electric/Electronics

Ages 7-10

- Make a flashlight, switch or simple circuit
- Find out about magnetism and make a compass

Ages 11-13

- Learn about Ohm's Law and use a volt-ohm meter
- Build a three way switch

Ages 14 and older

- Determine your family's electrical usage
- Build simple radios, microphones, computers and other equipment

Things to learn/do in the project:

Small Engines

Ages 7-10

- Learn major parts of engines
- How to replace a spark plug

Ages 11-13

- Learn safe ways to operate an engine
- Learn different engine types and sizes

Ages 14 and older

- Learn to repair and rebuild an engine
- Use the internet to find resources, rules and regulations for small engines
- Start your own business or career

Things to learn/do in the project:

Power of the Wind

All Ages

- Design and build a wind powered boat
- Design and build wind turbines
- Discover where and why the wind blows
- Discover the wind in art and literature

Entomology

Have you chased butterflies or caught a ladybug to get a closer look? Do you think collecting bugs is a great way to spend your time? Then the 4-H Entomology project is right up your alley. Youth will learn about the work of insects in soil, on plants, in homes, on pets and other secret places. 4-H'ers can create a display box with the specimens they catch and exhibit it in the County Fair. Beginners start with a minimum of 50 specimens and work their way up to a maximum of 450 specimens!

Things to learn/do in the project:

Ages 7-10

- Learn the main parts of insects
- Make an insect net
- Collect, pin and label an insect collection

Ages 11-13

- Understand how insects are used in advertising
- Find out how insects move
- Learn about insecticides

Ages 14 and older

- Learn about insect behavior
- Plant a butterfly garden
- Catch and observe a spider in its web
- Conduct an insect survey of your neighborhood

Environmental Science

Ecosystem services

Things to learn/do in the project:

- Study where your water comes from
- Learn how soil is formed
- Study the energy required to produce food
- Evaluate recreation and ecotourism

There's No New Water

Things to learn/do in the project:

- Explore the natural water cycle
- Study human interventions that affect water quality and quantity
- Analyze rural to urban interventions in the water cycle
- Identify and implement service-learning projects that address local water issues

Exploring 4-H (For 7-8 year olds)

This project is for first and second year members. It's a great way to "Explore" 4-H projects without enrolling in all of them. Members will be exposed to numerous project areas with the guidance of older members and adult helpers. 4-H'ers enrolled in Exploring 4-H can take their projects to the fair and they can enter a poster and/or notebook about Exploring 4-H in the General Department at the County Fair.

Things to learn/do in the project:

- Discover project areas available
- Learn about learning opportunities and contests
- Develop life skills through activity involvement

Family Studies

4-H members will learn about their own growth and development as well as that of others in the Family Studies project. It will help youth learn about children of different ages and appropriate activities that help children grow and develop physically, socially, mentally and emotionally. Youth will learn about building family strengths to nurture children. At the fair 4-H'ers enrolled in this project can enter a poster and/or notebook in the General Department to display their work.

Consumer Skills

Things to learn/do in the project:

Ages 7-10

- Determine differences between needs and wants
- Develop comparison shopping skills
- Learn to make change

Ages 11-13

- Identify personal values
- Make a major purchase
- Understand peer pressure
- Learn to manage a checking account

Ages 14 and older

- Recognize target advertising
- Identify consumer rights
- Learn the value of employment

Child Development

Things to learn/do in the project:

Ages 7-10

- Learn where they fit in the family
- Observe how people express emotions
- Know risks of Internet use

Family Studies Continued

Child Development Continued

Things to learn/do in the project:

Ages 11-13

- Learn to take care of self at home
- Identify characteristics of friends
- Learn socially accepted manners and customs

Ages 14 and older

- Observe child behavior
- Understand effects of TV on children
- Create intergenerational community service projects

Family

Things to learn/do in the project:

Ages 7-8

- Learn behaviors that develop friendships
- Respect others and their belongings
- Understand need for family rules

Ages 9-11

- Express feelings in a positive way
- Learn to cope with change
- Know that family forms change

Ages 12-13

- Learn physical changes of adolescence
- Utilize the "Think-Feel-Do" cycle of stress
- Learn that choices have consequences

Ages 14 and older

- Study effects of employment on family and lifestyles
- Evaluate best uses of credit cards
- Learn to use consensus and compromise

Fiber Arts

Have you ever wondered how your grandmother crocheted that scarf for you or embroidered the pillowcases? Have you looked at the quilt on your mother's bed and wondered how it was made? The Fiber Arts project will embrace how to make these things. Fiber Arts is defined as the practical skills passed down from preceding generations that were developed to provide basic family needs.

Crochet

- Learn single, double and many other stitches
- Advance to hair pin lace

Knitting

Needle Arts

- Embroidery
- Cross-stitch
- Needle point
- Candlewicking
- Crewel
- Lacework
- Applique

Patchwork and Quilting

- Learn to stitch, tie and design quilts

Rug Making

- Do latch hook and braided rugs

Spinning

- Make a hand spindle
- Prepare wool fibers

Weaving

- Learn parts of a loom
- Figure yarn needs for specific items

Ethnic Arts

- Explore and share your favorite

Macramé

- Do ornamental knotting
- Learn terms, tools, techniques and cords

Foods and Nutrition

In this project, you will have fun learning how to cook the basics and then advance to gourmet and international meals. You will learn the heritage of many foods as well as consumer buying skills to get the most of your money. In addition, you will learn how to make healthy snacks and modify recipes to fit a healthy life style. There are a variety of foods that can be taken to the fair from no bake cookies to biscuits to cake. There is also an “exhibit and go” category where 4-H’ers can bring in perishable items to be judged. This project also includes food preservation, cake decorating, and country cured hams.

Things to learn/do in the project:

Ages 7-8

- Why food is important
- The importance of food safety
- Common food preparation equipment

Ages 9-11

- Why nutrition is important in our daily lives
- How to include exercise in our daily routine
- How to prepare healthy snacks

Ages 12-14

- Plan and prepare foods, including vegetables, cakes and casseroles
- Ways to incorporate exercise into daily life
- Basic outdoor cookery skills

Ages 15 and older

- Food preparation and safety guidelines
- The diversity of food preferences
- How to prepare foods on the go



Geology

Did you find a rock at the park and don't know what kind it is? What about fossils? If you would like to learn more about rocks, minerals and fossils, then dive into the Geology project! Discover the types of minerals, rocks and fossils that can be found where you live. Learn about geological formations across the state and in other states. The state 4-H program organizes group geology hunts. These geology hunts are a great opportunity for members to collect specimens.

Things to learn/do in the project:

Ages 7-8

- Learn how the earth was formed and its three main parts
- Learn the difference between a rock and a fossil
- Collect, clean, identify and label rocks, minerals and fossils found in Kansas
- Learn the types and impacts of erosion

Ages 9-11

- Use the different tests to identify minerals by hardness and color
- Find out what rock types occur in Kansas
- Learn how to identify fossils

Ages 12-14

- Learn how mountains are formed
- Discover the impact of glaciers
- Learn to measure specific gravity
- Read and use a topographic map

Ages 15 and older

- Measure formation thickness
- Test to determine chemical properties of minerals
- Locate sites on a plat map
- How to prepare for geology careers

Health and Wellness

Health, exercise and recreation are vital parts of our daily lives. You can focus on physical activity, healthy eating, exercise, sports and recreation or first aid in relation to any of the other phases. There are a variety of ways that 4-H'ers can display things they learned in this project at the County Fair by making a poster and/or notebook and entering it in the General Department.

Bicycle

Things to learn/do in the project:

- Learn and practice bicycle safety
- Identify parts of a bicycle
- Learn bicycle maintenance and repair
- Practice safe riding at night and in adverse conditions

Health and Wellness Continued

Health

Things to learn/do in the project:

Ages 7-10

- Steps for treating cuts and scrapes
- How to prevent sprains, strains and bruises

Ages 11-13

- Design a First Aid kit
- Choose nutrient-rich “power foods” for snacks
- How to improve personal strength, flexibility and endurance

Ages 14 and older

- Recognize fraudulent information about supplements and enhancers
- Design your personal fitness plan

Outdoor Adventure

Things to learn/do in the project:

Ages 7-10

- Plan nutritional and physical outdoor activities
- What to take when you hike
- Learn about finding shelter and observing nature

Ages 11-13

- Learn the basics of camping
- Learn about camping gear
- The importance of caring for nature

Ages 14 and older

- Learn basics of backpacking
- How to find your way using a compass, GPS or landmarks
- Apply the “Leave No Trace” ethic when backpacking and hiking

Recreation

Things to learn/do in the project:

- Identify personal areas of strength
- Learn about different types of recreation
- Learn the benefits of recreation for your body

Home Environment

This project gives you the opportunity to examine space, both inside and out. Decorating a room, experimenting with colors and different types and patterns on your walls and creating the feeling of coziness in a family room are all part of this project. Being an interior designer is all about making a house a home and the home environment project will give you this opportunity. 4-H'ers can exhibit single items at the fair such as refinished furniture or a wall hanging. You can also remodel an entire room and display a notebook at the fair that shows the remodel.

Things to learn/do in the project:

Ages 7-10

- Learn about color, texture, space and the concepts of line
- Plan how to use home safety, recycling and reusable items

Ages 11-13

- Learn how color influences space, balance, proportion and scale
- Learn how to use neutrals and color schemes
- Learn how movement, light and sound are affected in difference types of rooms

Ages 14 and older

- Compare buying verses making window treatment, bed covers, etc.
- Learn how to refinish and refurbish furniture
- Learn how to reupholster chair seats

Horse

If you love horses, then this project is for you! You will have the opportunity to learn about, handle, care for and ride horses. Members may own or lease a horse, but must have complete access to the horse at any time and must provide full care and management 75% of the time, whether owned or leased. 4-H'ers are required to complete a Horse ID Form and turn it into the Extension office by May 1 each year. The form can be found at www.johnson.k-state.edu/4-h/events-programs/livestock.html. Horseless horse members do not own or lease a horse, but participate in judging, quiz bowl, hippology, presentations and may help with horse shows and trail rides.

Things to learn/do in the project:

Ages 7-10

- Practice safety and use proper equipment around horses
- Identify horse body parts
- Learn the breeds of horses

Ages 11-13

- Learn about grooming
- Learn how to bridle and saddle a horse
- Learn how to judge and give oral reasons

Ages 14 and older

- How to detect unsoundness in horses
- Learn to identify and treat equine diseases
- Learn about ethics and competition



Horseless Horse

Things to learn/do in the project:

- An option for 4-H'ers who are unable to own a horse to explore the horse project
- Horseless Horse participants are required to complete a Horseless Horse Certificate by May 1, which includes identifying a mentor who is willing to help them learn about horses. This certificate can be found at www.johnson.k-state.edu/4-h/events-programs/livestock.html.
- There are classes offered at the county fair horse show for 4-H'ers enrolled in horse and have completed the Horseless Horse Certificate.
- Learn basic coat colors, breeds and anatomy
- Study horse health, unsoundness and blemishes
- Visit a stable or farm
- Participate in judging, quiz bowl, presentations, clinics and trainings

Leadership

Are you ready to step up to leadership? This project will bring out the best in you. You will learn about the skills it takes to be a leader such as: understanding yourself, communicating, getting along with others, learning, making decisions, plus managing and working with groups. The leadership opportunities in 4-H are endless. Opportunities at the club level include serving on committees, volunteering as a committee chair and running for an elected officer position. County 4-H Council and Ambassadors are leadership opportunities at the county level. The State 4-H program offers several events for teens including: The Kansas Youth Leadership Forum, Citizenship in Action and Discovery Days. Teens interested in serving in a leadership role at the state level can apply to be on state action teams and run to be on the Kansas Youth Leadership Council. 4-H'ers can also display things they learned in the project by creating a notebook and/or posters and entering it in the General Department at the County Fair.

Things to learn/do in the project:

Ages 7-10

- Determine what is important to you
- Learn how others feel
- Learn how to be responsible
- Learn group cooperation

Ages 11-13

- Participate in a trust walk
- Learn to be accountable and dependable
- Practice teamwork in achieving a goal
- Learn meeting manners

Ages 14 and older

- Learn to accept differences in people
- Accept you own strengths and weaknesses
- Develop and participate in an interview process
- Identify different leadership styles

Meat Goats

The 4-H Meat Goat project is designed for members who are interested in learning more about raising goats for meat. 4-H'ers are required to meet ownership deadlines that are typically set in the spring. Check Clover Clips for the tagging and ownership deadline. Johnson County also hosts a spring goat show each year. Exhibitors interested in competing at the Kansas State Fair and/or Kansas Junior Livestock Show are required to complete a separate nomination process. Information regarding nominations will be available in Clover Clips.

Things to learn/do in the project:

Ages 7-10

- Identify parts of a meat goat
- Identify meat goat breeds
- Learn how to fit and show meat goats

Ages 11-13

- Recognize meat goat diseases
- Work with a veterinarian
- Learn how to keep records for meat goats

Ages 14 and older

- Select breeding stock
- Learn key components in developing a goat herd
- Evaluate feed ingredients

Performing Arts

Do you enjoy being in the spotlight? Do you like to be creative while performing on-stage or setting up backstage? Then you should jump into this project! You will learn to express yourself in front of a crowd either on-stage, backstage, as a puppeteer or writing your own script. There are opportunities at county 4-H club day for 4-H'ers to exhibit in this project area including solo or duo acting, plays, oral interpretation and more. For guidelines visit www.johnson.k-state.edu/4-h/events-programs/club-days.html.

Things to learn/do in the project:

Ages 7-10

- Learn to express yourself through movement, voice, speech and acting
- Create a present day play
- Do skits, pantomime, reading and clowning

Ages 11-13

- Learn about puppets
- Create a puppet, stage and skit
- Do puppet therapy

Ages 14 and older

- Create costumes, sets and props
- Create a stage setting
- Do makeup and stage management

Pets

Whether you're a fish, hamster or cat lover, this project is intended for members to learn more about their household pets. You will focus on hand or aquarium pets or cats as you learn about the different species and how to keep them healthy. You will have the chance to be creative and design a toy for your pet, create a commercial or even scavenger hunt. To show off all the fun activities you and your pet did, enter a poster and/or notebook in the County Fair under the General Department.

Pets

Things to learn/do in the project:

Ages 7-10

- Identify hazards for pets around your home
- Invent a toy for your pet
- Learn about your pet's nutritional needs

Ages 11-13

- Learn about your pet's digestive tract
- Examine your pet to make sure it is healthy
- Create a commercial about pet ownership or care

Ages 14 and older

- Learn the symptoms and treatment of diseases
- Learn about taxonomic classification
- Plan a pet store scavenger hunt

Cats

Things to learn/do in the project:

Ages 7-10

- Factors to use when choosing a cat
- Practice cat grooming techniques
- Identify household cat hazards

Ages 11-13

- Recognize cat senses
- Learn about cat cousins
- Understand cat behavior

Ages 14 and older

- Study cat diseases affecting people
- Learn about cat genetics
- Practice cat showmanship

Photography

Capture your friends, family and important events through photography. Learn about basic and advanced film cameras, and/or dial cameras, and how to plan, compose, light and exhibit your photos. Advance into wide-angle and telephoto lenses, filters, light meters and computer enhancement. 4-H'ers can use the knowledge they learned in this project to select and mount photographs to enter at the County Fair. Members can enter color, black and white, computer manipulated photos and/or photos with special effects.

Things to learn/do in the project:

Ages 7-9

- Learn more about a camera and how it works
- Learn basic photo composition
- Organize a photo story
- Learn to use a simple automatic or digital camera

Ages 10-13

- Learn shutter speed and f-stops
- Use the Rule of Thirds
- Learn to capture a point in time

Ages 14 and older

- Use filters and special film
- Learn how to use a light meter
- Create still-life photos
- Explain the differences between normal, wide angle, telephoto and zoom lenses

Plant Science

This project focuses on activities related to raising a garden, flowers, forestry and field crops. This includes planning, planting, experimenting, understanding soils, seeds, insects, plant care, harvesting, weed identification and control, processing, exploring careers and the relationship between trees, people and communities. Crops, forestry, fruit, flowers, vegetables and herbs can all be exhibited at the County Fair in the Plant Science Department.

Field Crops

Things to learn/do in the project:

- Experiment with soil testing
- Grow and harvest crops
- Plant a variety test plot
- Learn about herbicides and fertilizers

Forestry

Things to learn/do in the project:

Ages 7-10

- Learn to identify trees and the various parts of trees
- Determine differences between trees and shrubs

Ages 11-13

- Learn the sounds and smells of the forest
- Discover health benefits trees have on people

Ages 14 and older

- Investigate forest changes and learn about forest health
- Study forest on a global scale and conservation techniques

Horticulture

Things to learn/do in the project:

Ages 7-10

- When, where and what to plant
- Differences between cool and warm-season vegetables
- Learn plant parts and how they are used
- Care and use of basic garden tools

Ages 11-13

- Seed varieties and starting seeds indoors
- Preventive pest control
- Specialty harvest and selling your harvest

Ages 14 and older

- Plant pollination
- Ways to preserve foods
- Study food industry careers
- Learn the effects of biotechnology

Poultry

This project is designed to help you learn about chickens and other poultry. You will acquire an understanding of poultry management and marking practices. You will gain business experience and insight into the values and principles of purchasing, marketing, record keeping and exhibiting poultry. This includes different breeds of chickens, ducks, geese, guineas and turkeys all which can be entered in the County Fair. 4-H'ers can also do poultry showmanship at the fair.

Things to learn/do in the project:

Ages 7-10

- Learn poultry breeds and body parts
- Learn how to care for and handle your birds
- Practice showmanship techniques

Ages 11-13

- Learn how eggs are formed
- Select and judge broilers
- Make an egg calendar
- Learn about pecking orders

Ages 14 and older

- Lead younger members in egg experiments
- Learn how to process chickens for food
- Learn about biotechnology and poultry careers

Rabbits

The rabbit project will help you learn how to raise and care for your rabbits. It is suggested that you start with a doe and extend the project each year. It is best to enroll in the fall to prepare for receiving your first rabbit. At the County Fair 4-H'ers can enter a doe, buck, meat pen or do showmanship.

Things to learn/do in the project:

Ages 7-10

- Identify main breeds of rabbits
- Identify the parts of a rabbit
- Describe good feeding and watering practices
- Learn to groom and show a rabbit

Ages 11-13

- Gain skills to manage and care for rabbits
- Learn to care for newborn rabbits (kits)
- Judge best rabbits for show

Ages 14 and older

- Learn breeding, genetics, culling and determining pregnancy
- Anatomy of rabbits
- Learn best marketing practices



Reading

Do you enjoy reading? If so the reading project is for you! The reading project is a great opportunity for 4-H'ers to explore different types of books while building their reading skills. For the County Fair you can make a poster and/or notebook about your favorite book series or address a specific reading topic.

Things to learn/do in the project:

- Take a tour of your local library
- Study a variety of topics
- Read for pleasure
- Encourage others to read
- Create a poster or notebook about your reading project

Self-Determined

The self-determined project is just that - you decide what you do or study. Is there something you have a passion for that is not included in the 4-H project listing? Then this is your opportunity to create your own project. Research a sport, hobby or career - the sky is the limit! There are several ways to showcase the work done in the project. 4-H'ers can give project talks at meetings, club days or the fair. They can also make a poster and/or notebook and enter it in the General Department at the County Fair.

Things to learn/do in the project:

- Identify and pursue a personal passion or interest
- Set goals and evaluate the completion of your goals
- Share your hobby, interest or activity with others

Sheep

The sheep project will help you learn more about the sheep industry. You will learn how to care for and feed a market lamb or build your own breeding flock. You can enroll in market lamb and/or breeding ewe. 4-H'ers are required to meet ownership deadlines that are typically set in the spring. Check Clover Clips for the tagging and ownership deadline. Johnson County also hosts a spring sheep show each year. Exhibitors interested in competing at the Kansas State Fair and/or Kansas Junior Livestock Show are required to complete a separate nomination process. Information regarding nominations will be available in Clover Clips.

Market Lamb

- Select, raise and show a market ewe or wether
- Member must obtain ownership of the animal
- Market ewes should not be returned to a breeding flock

Breeding Sheep

- Select, raise and show a breeding ewe
- Purchase a flock of breeding ewes

Things to learn/do in the project:

Ages 7-10

- Learn the parts of a sheep and identify breeds of sheep
- Take responsibility for care, handling and training of your sheep

Ages 11-13

- Learn safety procedures and management practices for maintaining a flock
- Identify symptoms, causes and treatment of common diseases
- Study nutritional requirements for various ages of sheep

Ages 14 and older

- Study reproduction and genetics of sheep
- Investigate technology's impact on sheep production
- Explore career opportunities in the sheep industry

Shooting Sports

Whether you have an interest in BB, air rifle, shotgun, air pistol or archery, the shooting sports project teaches you shooting safety, hunting skills, environmental awareness, marksmanship in all its forms, respect, control, self-discipline and sportsmanship, all while offering the opportunity to compete against other 4-H'ers from around the state and nation. Shooting sports is a unique sport that is worldwide and so popular only two other sports attract more participating countries at the Olympics. We promote individual as well as team competition which can lead to scholarships in many colleges and a life-long sport or hobby.

4-H members are required to complete a safety class prior to their participation in a shooting sports discipline. The safety class is typically held in the fall with the disciplines practicing at various times throughout the year depending on when that discipline's season is. To ensure safety and quality learning, practices and training sessions are always supervised by at least one adult who has been certified by the state-level shooting sports program as a qualified instructor. For more information about the practice schedule and other details please see www.4-HShootingSports.com.

Currently the following disciplines are available for beginning shooters: All ages 7-18

- BB
- Archery
- Hunting Skills

Advanced Shooting Skills include: (Must be at least 12 years of age and have successfully mastered skills learned in the beginning disciplines and/or at the discretion of the instructors.)

- Air Rifle
- Small-bore rifle (.22 caliber)
- Shotgun
- Archery
- Hunting Skills
- Air Pistol
- Small-bore pistol (.22 caliber)
(Offered as skill levels of current air pistol shooters permit)

Things to learn and do in the project:

- Practice care and safety of shooting sports equipment
- Demonstrate safe use of air rifle, shotgun, bow etc. through practice, talks, demonstrations and exhibits
- Demonstrate shooting sports skills at local, district and state events.



Spacetech

This project will help young people learn how to build rockets and robots and explore space through astronomy. There are also opportunities to learn more about GPS and GIS. Experience the thrill of setting off rockets, developing robots and geocaching. At the County Fair 4-H'ers can exhibit rockets from models, self-designed rockets, team rockets, geocache box, GPS/GIS map and/or a geography poster.

Things to learn/do in the project:

Rocketry/Aerospace

Ages 7-10

- How a model rocket works
- Equipment and procedures for a safe launch
- Build at least one skill-level-one rocket

Ages 11-13

- Build at least one skill-level-two rocket
- Learn the Model Rocket Safety Code
- Learn basic parts of a rocket

Ages 14 and older

- Model rocket launch systems
- Engine types and classification
- Art of the payload launch

Astronomy

- History of telescopes
- Kinds and uses of telescopes
- Build a simple telescope
- Learn planet order by making a key ring bead system
- Build spectrometers
- Distort light with lenses and prisms
- Learn display tips and how to set up public viewings

Robotics

- Design a robot and learn about robot arms
- Learn about robots with legs, wheels or underwater
- Explore sensors, analog and digital systems
- Build basic circuits
- Program a robot to accomplish a specific task

Geospatial/GPS/GIS

- Use GPS to identify locations and measure distances
- Make maps of local neighborhoods and entire states
- Use maps to solve traffic problems, pinpoint pollution sources, reduce disease, etc.

Swine

Learn about a nationally important industry by enrolling in the swine project. Feed out a market hog or start your own breeding herd. Learn to select and judge quality animals and meat products. 4-H'ers are required to meet ownership deadlines that are typically set in the spring. Check Clover Clips for the tagging and ownership deadline. Johnson County also hosts a spring swine show each year. Exhibitors interested in competing at the Kansas State Fair and/or Kansas Junior Livestock Show are required to complete a separate nomination process. Information regarding nominations will be available in Clover Clips.

Market Swine

- Select, raise and show a market hog
- Members must obtain ownership of all animals
- Market gilts should not be returned to the breeding herd
- Market pigs are purchased at 2-4 months of age and sold at 220-260 pounds

Breeding Swine

- Select, raise and show a breeding gilt
- Manage your own breeding herd and raise and market your own market hogs

Things to learn/do in the project:

Ages 7-10

- Identify parts of a hog
- Identify breeds of swine
- Learn types of feeds

Ages 11-13

- Purchase, feed and care for a market hog
- Identify symptoms, causes and treatments of swine diseases
- Study pork production from farrow to finish

Ages 14 and older

- Learn effect of genetics on reproduction
- Study breeding systems and performance data
- Explore career opportunities in the swine industry

Visual Arts

This project combines the likes of drawing, painting and working with clay or leather. You will explore art techniques, study art history and culture and discover artistic challenges. Develop your artistic skills and talents while learning the elements and principles of design. Visual arts includes: visual arts, ceramics, leather craft and crafts. Visual Arts can be anything from an ink drawing to watercolor to graphic design. Ceramics includes a variety of glazes as well as hand built ceramics. Leather craft is leather that has been carved, stamped, dyed or tooled. Crafts can be anything from jewelry to wood crafts.

Things to learn/do in the project:

- Learn drawing, painting and printing techniques in paint, pencil, chalk , charcoal or mixed media
- Learn sculpture techniques
- Make something from wood, leather, paper or clay
- Weave a basket or wall hanging
- Etch glass or metal or make jewelry and wire sculptures
- Do mosaics or nature crafts

Wildlife

Kansas wildlife is a large part of our state ranging from buffalo to birds to fish to deer and more. In this project you will learn about wildlife behavior, habitat requirements, how wildlife species fit into nature's scheme, how they are managed and how they relate to humans. Knowledge learned in this project can be showcased at the County Fair by exhibiting poster and/or notebook in the General Department.

Wildlife

Ages 7-8

- Characteristics of reptiles and amphibians
- What is habitat
- Unique features of birds

Ages 9-11

- Identify wildlife dwellings
- Importance of the insect flower relationship
- Identify seed shapes and how they are dispersed

Ages 12-14

- Characteristics of mammals, carnivores and omnivores
- Significance of wetlands
- Protective coloring of wildlife

Ages 15 and older

- How wildlife adapt to urban environments
- Effect of humans on wildlife habitat
- Learn about the prairie as an ecosystem

Wildlife Continued

Sport Fishing

Ages 7-10

- Learn to tie fishing knots
- Identify types of fishing tackle
- Identify types of fish
- Identify the parts of a fish

Ages 11-13

- Learn the techniques of spin, bait and fly casting
- Enjoy cooking and eating what you catch
- Learn how to tie an artificial fly

Ages 14 and older

- Share fishing with a friend
- Clean a fishing reel
- Refurbish old equipment
- Investigate fishing careers

Woodworking

This project requires that you enjoy working with wood, using tools and building things. Can you see yourself building a table, a wood toy or chair? As a beginning woodworker, you can build many items. As your skills grow, you will be able to make most of the objects in your house or even help build a home. No matter what you make, the joy of completing a woodworking project is great! From the basic skill of measuring, to using advanced equipment such as routers and jointers, this project has something for everyone. The different categories that can be entered in the County Fair are: farm and shop, lawn and outdoor, household, miscellaneous, repaired and refinished and items built with hand tools only.

Things to learn/do in the project:

Ages 7-10

- Identify woodworking tools
- Practice woodworking safety
- Learn how to measure and mark boards, use a square, and drill or hand saw
- Make a sandpaper block

Ages 11-13

- Select wood based on grain
- Identify types of lumber
- Use a combination square and make a miter cut
- Make a bird house

Ages 14 and older

- Learn to use a powered circular saw and radial arm saw
- Discover technologies in tools
- Explore career opportunities