

**2023**  
**Kansas State**  
**Fair**  
**4-H Exhibitor**  
**Handbook**

## TABLE OF CONTENTS

<a href="#"><u>4-H RULES AND ENTRY INFORMATION</u></a> .....	4
<a href="#"><u>4-H BEEF, SWINE, SHEEP &amp; MARKET GOAT</u></a> .....	7
<a href="#"><u>CLOTHING AND TEXTILES</u></a> .....	9
<a href="#"><u>CROPS</u></a> .....	10
<a href="#"><u>ENERGY MANAGEMENT</u></a> .....	14
<a href="#"><u>ENTOMOLOGY</u></a> .....	17
<a href="#"><u>FIBER ARTS</u></a> .....	22
<a href="#"><u>FOODS &amp; NUTRITION</u></a> .....	25
<a href="#"><u>FOODS PRESERVATION</u></a> .....	28
<a href="#"><u>FORESTRY</u></a> .....	30
<a href="#"><u>GEOLOGY AND LAPIDARY</u></a> .....	33
<a href="#"><u>HOME ENVIRONMENT</u></a> .....	36
<a href="#"><u>HORTICULTURE</u></a> .....	37
<a href="#"><u>PHOTOGRAPHY</u></a> .....	40
<a href="#"><u>COMMUNICATIONS (Demonstration/Illustrated Talk, Project Talk, Poetry and Prose)</u></a> .....	45
<a href="#"><u>SHOOTING SPORTS</u></a> .....	47
<a href="#"><u>STEM AG MECHANICS</u></a> .....	48
<a href="#"><u>STEM ARCHITECTURAL BLOCK CONSTRUCTION</u></a> .....	52
<a href="#"><u>STEM ASTRONOMY</u></a> .....	55
<a href="#"><u>STEM COMPUTERS</u></a> .....	57
<a href="#"><u>STEM ROBOTICS</u></a> .....	62
<a href="#"><u>STEM ROCKETRY</u></a> .....	65
<a href="#"><u>STEM UNMANNED AERIAL SYSTEM</u></a> .....	77
<a href="#"><u>STEM EDUCATIONAL EXHIBITS (Posters, Notebooks, and Display Boards)</u></a> .....	79
<a href="#"><u>VISUAL ARTS</u></a> .....	83
<a href="#"><u>WILDLIFE</u></a> .....	84
<a href="#"><u>WOOD WORKING</u></a> .....	85
<a href="#"><u>CROPS IDENTIFICATION CONTEST</u></a> .....	87
<a href="#"><u>FAMILY &amp; CONSUMER SCIENCES JUDGING</u></a> .....	89
<a href="#"><u>FASHION REVUE</u></a> .....	91
<a href="#"><u>PHOTOGRAPHY JUDGING CONTEST</u></a> .....	93
<a href="#"><u>RABBIT JUDGING CONTEST</u></a> .....	95
<a href="#"><u>POULTRY JUDGING CONTEST</u></a> .....	96

<a href="#"><u>DAIRY CATTLE</u></a> .....	98
<a href="#"><u>DAIRY GOATS</u></a> .....	99
<a href="#"><u>DOG SHOW</u></a> .....	100
<a href="#"><u>HORSE SHOW</u></a> .....	105
<a href="#"><u>RABBITS</u></a> .....	109
<a href="#"><u>POULTRY</u></a> .....	113

Official Schedule posted in June.

## 4-H RULES

Special Rules are published in any department where necessary. If there is a conflict between the Special Rules and the General Rules, Kansas State Fair Board will govern the final ruling.

Exhibitors are expected to comply with all rules. Those failing to comply with the rules are subject to award cancellations and disqualification from future participation in the Kansas State Fair 4-H shows and/or exhibits.

See Kansas State Fair General Rules for more details at [www.kansasstatefair.com](http://www.kansasstatefair.com).

**Accessibility Information:** The Department of 4-H Youth Development, K-State Research and Extension, and the Kansas State Fair are committed to making their services, activities, and programs accessible to all participants. Accommodations may be requested by contacting the event contact **Kansas 4-H** at least two weeks prior to the start of the event **August 21, 2023** at [Kansas4H@ksu.edu](mailto:Kansas4H@ksu.edu) or **785-532-5800**. Requests received after this date will be honored when it is feasible to do so.

**Copyright Laws:** Exhibitors should learn the guidelines and exercise caution when using copyrighted materials whenever possible by originating their own work. Exhibitors should use with caution a copyrighted and/or trademarked product or service (a brand name, label or product). A copyright and trademark are legal methods used by writers, artists, corporations and others to protect their original work. Protected items may range from books to music, logos to computer graphics. Copyrighted and/or trademarked materials used in displays, demonstrations, posters or other activities will be disqualified if the exhibitor does not request permission to use the copyrighted and/or trademarked materials and will not be displayed or receive ribbons. The use and inclusion of specific brand names for educational purposes does not imply endorsement or refusal by the Department of 4-H Youth Development, Kansas State University Agriculture Experiment Station and Cooperative Extension Service or the State of Kansas.

**Eligibility:** Current Kansas 4-H members meeting the membership criteria below are eligible to exhibit in the Kansas State Fair joint areas.

**4-H membership:** Enrolled in a local 4-H program. Members must be 9 years of age before January 1 of the current year and must not have passed their 19th birthday before January 1 of the current year. Exhibitors are expected to be enrolled in the project area in which they are entering at the Kansas State Fair.

Exhibitors are expected to be enrolled in the project area in which they are entering at the Kansas State Fair.

Only purple award or State Fair blue exhibits selected in a previously designated competition may be exhibited in the 4-H division. All contestants must have qualified through county, district or other competitive events or be approved by the local K-State Research and Extension Office. Beef, sheep, swine, and meat goat entries must be of

blue ribbon quality.

All exhibitors check with their Local Extension Unit about county/district requirements that are in place to enter exhibits at the Kansas State Fair in the following areas: poultry, crops, horticulture, and rabbits.

**Entries:** Pre-Entries will be accepted no later than August 15 or within 5 working days of the completion of the county fair for those counties having fairs after August 10 except for beef, sheep, horse, swine, dairy cattle, and dairy and meat goat entries. Non-livestock entries must be processed through the Local Extension Unit Office. Livestock entries will be certified through the Extension Office. It is the responsibility of the individual 4-H member to pre-enter non-livestock exhibits with the Extension Office by the local deadline. The [www.kansasstatefair.com](http://www.kansasstatefair.com) web site pre-entry system will be used for all exhibits except beef, sheep, swine, meat goat, dairy goat, dairy cattle and horse. If the exhibit requires an entry card, the form will be printed from the web site pre-entries and mailed to local Extension offices. Pre-entries for the State 4-H Horse Show must be made on the [www.kansasstatefair.com](http://www.kansasstatefair.com) web site on or before August 1. To complete the entry, all fees must be paid before the August 1 deadline.

4-H Beef, sheep, swine, and meat goat entries are due July 15! Grand Drive entries must be signed by the appropriate Extension Agent. Entries are online this year you can access this by going to [www.kansasstatefair.com](http://www.kansasstatefair.com).

In order to enter and exhibit 4-H market livestock, breeding does or commercial breeding animal, the member must have nominated the animal. During the project year, 4-H members are expected to participate in a prior competition (i.e. county fair, spring show, breed competition) within the same species and project exhibit type (example: market beef). A different animal than the one exhibited may be shown at the State Fair, provided it has been carried in the same project. It shall be the responsibility of the County/District Extension Agent to see that only State Fair quality livestock (blue or purple quality) are entered in the 4-H Livestock section of the Kansas State Fair. This will be necessary when the qualifying competitions fall after the entry deadline for the Kansas State Fair. It is required that all exhibitors have a YQCA certification.

**Exhibits:** No clothing or fiber arts exhibits will be removed for Fashion Revue Judging, the Public Fashion Revue, or any other contest. Firearms and weapons are not allowed to be entered or exhibited at the Kansas State Fair in the Kansas 4-H Youth Development Department. Any project condoning or promoting the use of alcoholic beverages or illegal drugs will not be accepted for exhibit.

Following Kansas State Fair rules, Kansas 4-H's primary audience consists of family and youth. We serve the right to reject any entry that may be considered objectionable by that audience.

Exhibits at the Kansas State Fair are entered and displayed at the risk of the exhibitor. The Kansas State Fair or 4-H Youth Development accepts exhibits and will exercise

due care to protect them. 4-H members who have exhibits of great sentimental and/or monetary value should carefully consider whether such exhibits should be exposed to the hazards of the fair.

**Exhibitor:** The exhibits must be the handiwork of the exhibitor; the grower, where agricultural exhibits are shown; and the owner and feeder, where livestock is entered. Exhibits must be the result of the current year's 4-H work. This rule shall be rigidly enforced to maintain the integrity of the youth programs. Exhibitors who are found by officials or elected local Boards of K-State Research and Extension to have left their livestock to the majority care of others, especially professional feeders/groomers, will be disqualified from the current Kansas State Fair, and be banned from future exhibition in the 4-H divisions of the Kansas State Fair.

**In Place and Release Times:** Static exhibits must be delivered between 8 am and 1 pm on Thursday September 7<sup>th</sup> and will be released starting at 6:00 pm on Sunday September 17<sup>th</sup>. Final pick up of all exhibits will be completed by 11:30am on Monday September 18<sup>th</sup>. For all contests and Rabbit, Poultry, and Dog exhibits, please see their section in the book for drop off and release times. All exhibits must abide by posted delivery and release times.

**Awards and Recognition:** The Danish recognition system will be followed in all divisions except beef, sheep, swine, dairy goat, dairy cattle, meat goats and horses. Four ribbon groups may be awarded: purple, blue, red, and white. No premiums will be paid to Static Exhibits. Horses will be placed one through ten in each class.

### **General 4-H Livestock Rules**

1. Any 4-H exhibit sold at public auction or by private contract is not eligible to be exhibited at the Kansas State Fair or Kansas Junior Livestock Show. Public auction includes: premium sale, ribbon auction, or similar event. If the project is sold, regardless of ownership changes, on the date of the transaction the 4-H/FFA member has given up the right to exhibit that specific animal or product in the future. In the case of livestock, market animals sold are ineligible to be shown as breeding animals in the future. Non-livestock exhibits (perishable foods, photographs, crops, horticulture, etc.) may be reproduced for the Kansas State Fair. It is the responsibility of the Local Extension Unit to report tag number of animals sold in a premium sale to the Department of Animal Sciences and Industry, Kansas State University.
2. Each exhibitor must care for and groom his or her own animal and may use only the assistance of an immediate family member (mother, father, legal guardian, brother or sister) or another Kansas 4-H member who is an exhibitor at this year's livestock show.
3. Kansas 4-H members are expected to exhibit their own animals and projects. An exhibitor substitution may be allowed only in the following cases:
  - Exhibitor is ill/injured; must have physician's order and be present at the time of show

- Exhibitor has more than one animal entered in the same species
- Exhibitor has animals simultaneously being judged in more than one species

Substitute exhibitors must be entered and exhibiting their own project(s) in the respective species department at the Kansas State Fair in which they are serving as a substitute.

4. Exhibitors are encouraged to dress in species appropriate clothing; T-shirts, tennis shoes, and head wear are discouraged.
5. If an exhibitor removes their animal from the show ring prior to completion of judging any class without consent of the ring steward, the exhibitor may be disqualified, and premiums forfeited.
6. Exhibitors wanting to declare an unauthorized entry or rule violation etc. must follow the *Protest Procedure* as outlined by the Kansas State Fair General Rules found at [www.kansasstatefair.com](http://www.kansasstatefair.com).

## **4-H BEEF, SWINE, SHEEP & MARKET GOAT**

Please visit [www.kansasstatefair.com](http://www.kansasstatefair.com) for additional information regarding The Grand Drive.

## **4-H YOUTH DEVELOPMENT PROGRAM**

K-State Research & Extension, 4-H Youth Development, Manhattan, Kansas

**Please read the General State Fair rules in the Kansas State Fair Exhibitor Handbook and the 4-H Rules.**

**All exhibits in the 4-H division are open to 9-18-year-old 4-H members.** Age classification is based on the age a 4-H member was before January 1, current year.

All exhibits in 4-H Centennial Hall will be placed in one of four award groups.

### **Judging Contest Age Categories**

	<b>Intermediate</b>	<b>Senior</b>
Crops Identification Contest	9 through 13	14 through 18
Family & Consumer Sciences Contest	9 through 13	14 through 18
Fashion Revue		14 through 18
Photography Judging Contest	9 through 13	14 through 18
Poultry Judging Contest	9 through 13	14 through 18 Intermediate age can participate if necessary, to complete a senior team, but an individual cannot participate in both the senior and intermediate contests.
Rabbit Judging Contest	Open to any member exhibiting rabbits in the 4-H Division at the Kansas State Fair. Classes for 9 & 10 year olds, 11 & 12 year olds, 13 & 14 year olds, and 15 years and older.	



## Kansas 4-H Divisions

### 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 advanced units will teach you how to take the design of your choice and customize it for the perfect look, color and fit.

#### Rules

1. No exhibits will be released for any other use. Garments entered in this division cannot be used in the Fashion Revue.
2. Articles, garments, outfits may have been used/worn but should be carefully laundered or cleaned before being exhibited. Exhibits may be placed in clear plastic bags for protection to and from State Fair. Bags will be removed for clothing display purposes. Items should be hung on swivel or wire hangers.
3. Identification Labels (no straight pins may be used to attach these items)
  - a. Type or print on 3" x 2½" piece of cloth: Class Number, County or District, Name.
  - b. Sew labels on inside of garment (back of neck, center back of waistband, or left end of apron band). Label each piece.
  - c. Place entry form and score card on front left shoulder seam of garment or to the left side of waistband with hanger opening facing to the left, as if you were wearing the garment, so that the hanger opening faces the attached entry form.
4. Due to limited exhibit space, the management reserves the right to display only representative exhibits in the ribbon placing.
5. Pre-cut kits are acceptable for all clothing classes. All articles/garments must be finished for use.
6. Since care labels are not always available, NO care label will be required; however, 4 H members should know how to care for fabrics they purchase.
7. Educational Exhibit Classes - Share with others what you learned in the clothing construction or clothing buymanship project. Exhibits may be in the form of a poster, notebook or display. Follow copyright laws as explained in the General Rules as you are preparing your exhibit. Take care to select durable materials that will withstand State Fair conditions. No card table displays are allowed. If the exhibit is a poster, it must not be larger than 22"x 28".  
If the exhibit is a display, maximum size is not to exceed a standard commercial 3' x 4' tri-fold display board. Name and county/district must be clearly marked on educational exhibits.
8. Recycled Clothing Project – An item made of at least 50% recycled material (recycled means reusing an existing item in a new way). Could be remaking/redesigning a garment, re-purposing a clothing item for a new use, etc. Must include sewing of some kind. **An index card (no larger than 4"x6") MUST accompany entry describing the recycled materials and how they were used in the item.**
9. The exhibitor is encouraged to attach an index card or photo, no larger than 4" x

6" with the entry form to give the judge any information which the exhibitor thinks would be helpful for the judge to know.

**Quota** – 4-H members may enter a maximum of two exhibits in this division. If two exhibits are entered, they must be in two different classes: constructed piece(s), educational exhibit or recycled clothing project.

**Scoresheets, Forms, and Contest Study Materials:**

- [Clothing and Textile Scorecard](#)
- [Recycled Clothing Scorecard](#)

**Awards/Recognition – Clothing Construction Wool Award:** \$25 to the exhibitor of the top purple article in Clothing and Textiles. A note from the exhibitors is required stating that the item is made of 60% or more wool to be eligible for the wool award. This award is sponsored by the Kansas Sheep Association, c/o Deb Simon, Executive Director, 2598 County Road 78, Quinter, KS 67752.

**Classes**

- 4000 An article, garment, or outfit constructed by a 9 -11-year-old exhibitor
- 4001 Educational exhibit prepared by a 9 -11 exhibitor (construction or buymanship)
- 4002 An article, garment or outfit constructed by a 12-14 exhibitor
- 4003 Educational exhibit prepared by a 12-14 exhibitor (construction or buymanship)
- 4004 An article, garment or outfit constructed by a 15-18 exhibitor
- 4005 Educational exhibit prepared by a 15 to 18-year-old exhibitor (construction or buymanship)
- 4006 Recycled Clothing Project

**Resources**

- Project Page – [Clothing & Textiles](#)
- [Sewing Expressions Curriculum](#)
- [STEAM Clothing Curriculum](#)

**Superintendent(s)**

Karla Hightower, Marais de Cygnes District, 4-H Youth Development Extension Agent  
Display: Christy Reel, Harper County, FCS Extension Agent

**State Staff Contact**

Beth Hinshaw, 4-H Youth Development Specialist

**CROPS**

4-H members in the Agronomy (Field Crops) project may exhibit grain, plants, a wheat variety plot display or a weed control exhibit to prepare an educational display representing their project. The purpose of these exhibits is to provide a positive learning experience for youth, evaluating the accomplishments of the member within the project

in that particular program year. The crops exhibit at the State Fair demonstrate to the public the benefits from the study and application of crop, weed, range and soil sciences to solving problems in management, conservation, sustainability and environmental protection.

### **Rules**

1. Exhibits should be as mature as possible.
2. All 4-H crop exhibits must be checked in by 11 am on the Thursday, September 7th and remain in place until 6:00 pm on the second Sunday of the fair.
3. Every entry must be identified by hybrid or variety name.
4. All classes calling for a gallon sample may have a 2½ - 3 inch in diameter cylinder placed in a glass gallon container to reduce the amount of grain to three quarts.
5. If variety is NOT stated where requested OR samples not tied where requested, ribbon placing will drop one placing.

### **WHEAT VARIETY PLOT DISPLAYS**

The free-standing displays must not exceed the overall dimensions of 36" wide x 36" high x 18" deep (measured on the outside). Care should be taken to select durable materials that will withstand State Fair conditions. Displays must not require the use of electricity. If booth exceeds overall dimensions, ribbon placing will be dropped one place.

1. The entry must be made via the 4-H KS Fair on-line entry system by August 15 or within five days after your county fair ends.
2. These displays will have been planned and prepared by 4-H members enrolled in the wheat variety plot project.
3. Members must include the varieties provided in the display, but may include more varieties, if desired.
4. Participants need to be present at 11:30 am on the first Saturday of the fair for the awards presentation with donors. All displays will receive a purple, blue, red, or white ribbon. Purple and blue ribbon displays will be considered for additional recognition.
5. Former first place State Fair wheat variety display winners are eligible to win the award more than one time.
6. Wheat variety plot displays must set up and in place by 5PM on the first Friday of the State Fair. Displays will remain in place until 5PM on the second Sunday of the State Fair.

### **Basis for Awards:**

- **Educational Value** **70 %**

Is the main idea of the display specific? Was the title or theme emphasized? Is the idea presented so clearly, so simply, so forcefully, that it will stop the casual observer? If the passerby stopped, did the display give the observer additional facts in a clear, concise

way? For example, varietals differences in wheat, economic gains from adoption of desirable practices, etc.

- **Quality of Display Material      30%**

Size, style and neatness of lettering, proportion of models and lettering balanced, workmanship, including handouts, if used, charts, models and lettering used effectively to teach ideas, colorful, artistic, neat and well balanced.

## **2430 Wheat Variety Plot Displays**

**Awards/Recognition** – Crop exhibits are placed in four award groups by the judges. Premiums will be paid on those exhibits receiving a purple, blue, or red ribbon award.

Wheat Display Awards:

- Champion – Cash Award of \$250 and a plaque - Kansas Wheat Commission, Justin Gilpin, Manhattan, KS
- Reserve Champion – Cash Award of \$150 and a plaque - Kansas Crop Improvement Association, Steve Schuler, Manhattan, KS
- 3<sup>rd</sup> Place – Cash Award of \$100 and a plaque – Kansas Grain and Feed Association, Ron Seeber, Topeka, KS
- 4<sup>th</sup> Place – Cash Award of \$75 and a plaque– Kansas Grain and Feed Association, Ron Seeber, Topeka, KS
- 5<sup>th</sup> Place – Cash Award of \$50 and a plaque. – Kansas Grain and Feed Association, Ron Seeber, Topeka, KS

## **WEED CONTROL EXHIBIT**

1. Collect, identify, press, mount, and label a minimum of 15 weeds. Try to include their roots, stems, leaves and flowers. Three of the weeds must be noxious weeds preferably found in your home county. A standard 9"x12" scrapbook may be obtained in which to permanently mount your weed specimens. Identify the scrapbook with your name and county on the inside front cover.
2. Prepare a list of the weeds mounted, showing common name, scientific name, and where it was found. Place the list in a specially identified section of the scrapbook.
3. Collect and identify weed seeds found in crop seeds. Mount them for display purposes. Place them in a specially identified section of the scrapbook.
4. Write a story on "How We Control Weeds on Our Farm" if you live on a farm. Other members write "How We Control Weeds at Home". The story should be about 300 words in length. It must show definite methods used to control weeds. Place the story in a specially identified section of the scrapbook.

**2440 Weed Control:** Exhibit consists of the four items above.

### **Basis for Awards:**

Mounted weed collection: number of mounted specimens, completeness of individual

mounts, correctness of identification and information, and neatness. Include record sheet of weeds.

- **Records** **50%**
- **Weed seed collection and exhibit** **30%**
- **Story** **20%**

**Eligibility** – Products exhibited in this division must have been grown by the 4-H/FFA member in the current year, with the exception of soybean seed and edible field bean seed.

**Quota** – A 4-H member may exhibit a maximum of one entry per class.

**Scoresheets, Forms, and Contest Study Materials:**

- [Horticulture/Crops Comment Card](#)
- [4-H & FFA Crops Rules and Wheat Variety Plots](#)

**Classes**

**CORN –**

- 2400 White. Variety or hybrid must be named. White -Ten Ear Exhibit.  
2401 Yellow. Variety or hybrid must be named. Yellow – Ten Ear Exhibit  
2425 Corn: Exhibit to consist of one-gallon sample. Variety must be named.

**SORGHUM –**

- 2402 Hybrid grain sorghum. Hybrid must be named. Ten Head Exhibit  
2403 Hybrid forage sorghum. Exhibit to consist of the entire plant; no roots. Hybrid must be named. 5" bundle, tied.  
2404 Other forage sorghums. Exhibit to consist of the entire plant; no roots. Variety must be named. 5" bundle, tied.

**WHEAT – One Gallon Sample**

- 2405 Soft red winter wheat. Variety or hybrid must be named.  
2406 Hard red winter wheat. Variety or hybrid must be named.  
2407 Hard white wheat. Variety or hybrid must be named.

**SUNFLOWERS**

- 2408 Confectionery heads. 3 heads must be submitted.  
2409 Confectionery seeds in jar. 1-gallon jar must be submitted.  
2410 Oil seed heads. 3 heads must be submitted.  
2411 Oil seeds in jar. 1-gallon jar must be submitted.

**OTHER CROPS**

- 2412 Oats: Exhibit to consist of one-gallon sample. Variety must be named.  
2413 Barley: Exhibit to consist of one-gallon sample. Variety must be named.  
2414 Alfalfa: Exhibit to consist of one-gallon sample. Variety must be named.

- 2421 Edible field beans: Exhibit to consist of one-gallon sample of seed from most recent harvest.
- 2422 Edible field beans: Bundle of five plants (with roots intact) from most recent harvest. (Example – Lentils)
- 2423 Miscellaneous Crops: Exhibit to consist of one gallon sample of seed or 10 heads produced from current project. Variety must be named.
- 2424 Cotton: Provide 10 open bolls, not 10 plants. Place bolls in a bag that can breathe (not a sealed plastic bag), so mold doesn't develop.

### **Hay Crops**

- 2415 Alfalfa Hay: Exhibit to consist of one flake or slice from a rectangular bale, or a 10-inch section cut from a round bale. The flake or slice should be approximately 6 inches in thickness and tied in two directions. Variety must be named.
- 2416 Native Grass Hay: Ten-inch flake or slice, 6 inches thick and tied in two directions.
- 2417 Brome Grass: Exhibit to consist of one-gallon sample of seed.
- 2418 Other Tame Grasses: Exhibit to consist of one-gallon sample of seed.
- 2426 Cool Season Grass Hay (e.g., fescue, etc.): Ten-inch flake or slice, 6 inches thick and tied in two directions. Variety must be named.

### **Soybeans**

- 2419 Soybeans: Exhibit to consist of one-gallon sample of seed from most recent harvest. Variety must be named.
- 2420 Soybeans: Bundle of five plants from most recent harvest. Variety must be named.

### **Resources**

- Project Area - [Crops](#)
- [Youth Participant Handbook, Wheat Variety Plot](#)

### **Superintendent(s)**

Jenni Carr, Harper County Extension Agent; Marcus Preuninger, Reno County Extension Agent

### **State Staff Contact**

Kelsey Nordyke, 4-H Youth Development Specialist

## **ENERGY MANAGEMENT**

Through the Electric/Electronics or Small Engines, you will have the opportunity to educate others about what youth have learned through the project or to promote the benefits of participation in those project areas.

## Rules

1. Only those who have met the requirements of the electric, small engine or wind energy project are eligible to exhibit in this division.
2. An exhibitor may enter up to three items in this division, but only one article per class. Use the entry card available from your Extension Office. Record all requested information and securely attach to exhibit.
3. Items that have been in use should be cleaned for exhibit.
4. A sheet of operating instructions must be furnished for any exhibit not self-explanatory.
5. Projects (classes 4600, 4601 and 4602) must be operable using only 110 or 120V AC or battery power. If battery power is required, batteries must be furnished.
6. Any project with a complexity of size or electronics must have (a) instructions for assembly and use and (b) equipment available at the time of judging for actual testing of the exhibit.
7. No hand dipped solder may be used on exhibits.
8. Each exhibit must have a scorecard completed and attached securely. This scorecard is available from your Local Extension Office.

## Scoresheets, Forms, and Contest Study Materials:

- [Electric Scorecards](#)
- [Small Engine Scorecard](#)

## Classes

### ELECTRICAL AND ELECTRONICS

- 4600 AC Electric:** Electric projects with a 110 or 120 V alternating current (AC) power source. Some project examples are household wiring demonstrations, small appliances extension cords, trouble lights, indoor or outdoor wiring boards, or shop lights. Projects may be a restoration or original construction. The project must be operational and meet minimum safety standards. AC projects must be 110/120 V, no 240 V exhibits are allowed, and must be constructed such that the judges have wiring access to examine the quality and safety of workmanship.
- 4601 DC Electric:** Electric projects with a battery or direct current power source. This class includes electric kits or original projects. This class also includes demonstration DC powered project. Examples include: wiring two- or three-way switches, difference between series/parallel lighting circuits or wiring doorbells switches. All DC electric projects must include batteries supplied by 4-H'er. Projects must be constructed such that the judges have access to examine the quality of wiring workmanship.
- 4602 Electronic:** Electronic projects with a battery or direct current power source. This class includes electronic kits or original projects. Examples include radios, telephones, toy robots, light meters, security systems, etc. May be constructed using printed circuit board, wire wrap, or breadboard techniques. Include instruction/assembly manual if from a kit. Include plans if an original project. Projects must be constructed such that the judges have access to examine the quality of wiring workmanship.

**4603 Educational Displays and Exhibits:** The purpose of the educational display and exhibit is to educate the viewer about a specific area of the 4-H electrical or electronics project. The display or exhibit should illustrate one basic idea. This class includes any educational displays, exhibits or science fair type projects which DO NOT have a power source, i.e. exhibits, posters or displays of wire types, conduit types, electrical safety, tool or motor parts identification or electrical terminology. Educational displays and exhibits must be legible from a distance of four feet, using a maximum tri-fold size of 3' x 4'.

### **SMALL ENGINES**

All exhibits should involve engines smaller than 20 horsepower for classes 4610-4612. Engine should contain no fuel in tank or carburetor. Displays are limited to 4' wide and 4' deep - both upright and floor displays.

**4610 Display:** Exhibit a display, selecting one of the following options: 1) a display identifying different engine or lawn and garden equipment parts or a display showing the function of the various engine or lawn and garden equipment parts; OR 2) a display identifying and explaining the function(s) of different special tools needed for small engine work; OR 3) a display illustrating and providing the results of any one of experiments that are included in the project books. No complete engines, lawn tractors, tillers, chainsaws are permitted for display. Maximum tri-fold size is 3' x 4'.

**4611 Maintenance:** Exhibit a display that illustrates either: 1) Routine maintenance procedures OR 2) Diagnosing and troubleshooting specific problems in an engine. No complete engines, lawn tractors, tillers, chainsaws, etc. are permitted for display, using a maximum tri-fold size of 3' x 4'.

**4612 Operation:** Exhibit an operable small engine (no more than 20 HP) overhauled or rebuilt by the member. Include maintenance schedule for the engine and a brief description of steps taken by the member overhauling or rebuilding the engine. Maximum tri-fold size is 3' x 4'. Engine should contain no fuel in tank or carburetor. Alternative ENERGY (A form of energy derived from a natural source, such as the sun, geothermal, wind, tides or waves).

All exhibits in this division are limited in size to standard, tri-fold, display boards (36" X 48") and items may not extend beyond 12" from the back board. All displays must be self-standing.

**Alternative ENERGY** (A form of energy derived from a natural source, such as the sun, geothermal, wind, tides or waves) All exhibits in this division are limited in size to standard, tri-fold, display boards (36" X 48") and items may not extend beyond 12" from the back board. All displays must be self-standing.

**4620 EDUCATIONAL DISPLAY** - Create an exhibit that addresses a focused topic related to power generated from a renewable energy source. The purpose of the exhibit is to inform and create awareness.

**4621 EXPERIMENT** - Display an experiment addressing a problem or question related to power generated from a renewable energy source. Include hypothesis, background research, variables, a control, data, findings, conclusions and



recommendations for future study.

**Resources:**

- Project Area – [Electricity/Electronics](#)
- Project Area – [Renewable Energy \(Power of Wind\)](#)
- Project Area – [Small Engines](#)

**Superintendent(s)**

Keith VanSike, Twin Creeks Extension Agent

**State Staff Contact**

Chandra Plate, 4-H Youth Development Specialist

## ENTOMOLOGY

If you've ever chased butterflies, caught a ladybug for a closer look, or planted a pollinator garden, the entomology project may be a great fit. You'll learn the anatomy of insects; the importance of pollinators, make an insect net; and possibly create an insect collection. Later, you'll study how insects move, learn about insecticides and explore insect behavior.

**Insect Collection Rules:**

1. All entries should be submitted in an 18 x 24 x 3.5-inch wooden display box with a clear plastic top (such as Plexiglas). Boxes can be handmade or purchased as long as they are of the correct size. [Box instructions and plans](#).
2. 4-Hers may choose to use one of two taxonomies:
  - Option A: As printed in "Insects in Kansas" book, or
  - Option B: As printed on the "Insects in Kansas Book: 2016 Revised Taxonomy," which follows [www.bugguide.net](http://www.bugguide.net).
3. Each exhibitor is required to identify each box with two identification labels bearing Exhibitor's name, county or district, the collection class 4-H'er is enrolled in and statement of taxonomy used. One label goes in the upper left corner of the box (inside) and the other on the lower right corner of the box (outside). Arrange specimens in the box so the box can be displayed lengthwise.
4. The number of orders, specimens (and families where required) must be included on both of the exhibitor's box identification labels. Only one adult insect per species can be used in the Collection Boxes and Notebook Classes, unless labeled as male or female and correctly identified.
5. A completed 4-H Entomology Photo Release Form must be attached to the Entry Card for all exhibits.
6. Arrange specimens in groups or rows parallel to the short sides of the box. Specimens are to be arranged by Order in the box, then Family where required.
7. Two labels should be centered on the pin beneath each specimen. First (closest to the specimen) is the common name label and the second label should include date/locality. Full county name and state abbreviation should be on the second label. Collector's name (or host) on the date/locality label is optional.

8. The specimens should be collected by the exhibitor and should focus on Kansas insects. Insects may be collected from one county into bordering states and labeled accordingly. Please refer to ["Entomology Collection Exhibit Resource"](#) for full details on out-of-state insects in collections.
9. Only specimens of the class Insecta should be included.
10. Purchased insects are not to be exhibited in collections, but they may be used in educational displays.
11. Specimens of soft bodied insects such as aphids, lice, termites, etc. should be exhibited in alcohol filled vials; however, the use of alcohol filled vials should be limited to only those specimens that lose their shape when pinned, since the vials pose a significant hazard to the rest of the collection if they become loose in transit.
12. Any major violation of rules will result in the exhibit being dropped one ribbon placing. Examples would include, but are not limited to: incorrect display box size, missing paper work, feet on display boxes, no special project in notebooks, etc.

#### **Notebook Rules:**

1. Individual entries are to be placed for display in a three-ring notebook for competition.
2. A completed 4-H Entomology Photo Release Form must be attached to the Entry Card for all exhibits.
3. 4-Hers who have been previously enrolled in or are currently enrolled in the other phases of the Entomology project need to start with the Beginning Phase of Entomology Notebooks, not the introductory phase.
4. Each exhibitor is required to identify the notebook by placing a Title Page in the front of the notebook bearing the exhibitors name, county or district and class 4-H'er is enrolled in and statement of taxonomy used:
  - Option A: "Insects in Kansas" book, or
  - Option B: "Insects in Kansas Book: 2016 Revised Taxonomy," which follows [www.bugguide.net](http://www.bugguide.net).The number of orders, specimens and families (required in Intermediate and Advanced classes) must also be included on the Title Page.
5. Specimen pages should be grouped according to order and should include one page per species. If more than one insect is in the photo, an arrow to indicate identified insect should be used.
6. Date, common name, full county name and state abbreviation should be included for each species. Collector's name on the specimen page is optional.
7. Specimen pages should have two different views of the insect if possible. If pictures are taken on different dates/localities, include information for both.
8. A statement describing the habitat where found/host plant may be included and is encouraged and will be worth a bonus 10 points total, not per page. For Intermediate and Advanced notebooks, this is strongly encouraged.
9. A divider page is to be placed in front of each order of insects with the order name printed on the tab for the page as well on the front of the divider page.
10. For the Intermediate and Advanced classes, insects are also to be grouped by

family behind each order divider.

11. If the exhibitor has been in the same class for more than one year, a separate sheet of paper needs to be added stating how many years the exhibitor has been in this class of the project and what the exhibitor did this year to improve their notebook. Place the paper just behind the Title Page in the front of the notebook.
12. A special project must be completed each year and included in the notebook. See project guideline materials for specifications.
13. Any major violation of rules will result in the exhibit being dropped one ribbon placing. Examples would include, but are not limited to: incorrect display box size, missing paper work, feet on display boxes, no special project in notebooks, etc.

### **Educational Display Rules:**

1. Share with others what you learned in this project. Exhibit any activity or learning experience related to the field of entomology or the Teaming with Insects curriculum that does not fit into Entomology Collection or notebook classes above.
2. Follow copyright laws as explained in the General Rules.
3. The exhibit may be, but isn't limited to, original works, digital presentations (must provide printed hardcopy for exhibit purposes for duration of state fair), programs, websites, games, apps, display box, notebook, display or poster which you have made.
4. If the exhibit is a wooden display box, it must be 18 X24 X 3.5 inches with a clear plastic top (such as plexiglass) and displayed horizontally. If the exhibit is a poster, it must not be larger than 22" X 28". If the exhibit is a display, maximum size is not to exceed a standard commercial 3' X 4' tri-fold display board.
5. Name and county/ district must clearly be marked on educational exhibits.
6. A completed 4-H Entomology Photo Release Form must be attached to the Entry Card for all exhibits.
7. Any major violation of rules will result in the exhibit being dropped one ribbon placing. Examples would include, but are not limited to: incorrect display box size, missing paper work, feet on display boxes, no special project in notebooks, etc.

### **Monarch Butterfly Educational Display Rules:**

Monarch Butterflies were officially put on the Endangered Species List on July 21, 2022. Having the scientific name *Danatus plexippus*, this migratory butterfly is well known for its spectacular annual journey of up to 3,000 miles across the Americas. It is now threatened with extinction due to habitat loss and climate change. 4-Hers can play a critical role in helping to bring habitat back for the Monarch Butterfly. They can help educate the public on ways to establish food sanctuaries for this butterfly species and help bring them back from the threat of extinction.

1. Exhibits should teach the public about the Monarch Butterfly and/or ways to protect and conserve it. The information could show nectar sources for adult

butterflies and food sources for caterpillars, Monarch tagging activities, collection of native milkweed and then packaging it to give to others to plant, a group working together to plant a Monarch friendly garden, ect.

2. 4-Hers may create a poster, notebook, standard size tri-fold, diorama, slide show or other visual display that shows information on Monarch Butterflies

If a slide show is created, it should be presented on a zip drive along with a printed copy of the presentation.

**Eligibility** – A 4-H member enrolled in the Entomology Project may exhibit in the ENTOMOLOGY COLLECTION, ENTOMOLOGY NOTEBOOK and/or EDUCATIONAL DISPLAY categories. 4-H members who have been previously exhibited in Notebooks or Educational displays, need to start with the Beginning Phase of Entomology Collections, not the Introductory phase.

**Quota** – Each 4-H member may exhibit only one entry per class.

#### **Scoresheets, Forms, and Contest Study Materials:**

- [Collections Scorecard](#)
- [Notebook Scorecard](#)
- [Educational Exhibits Scorecard](#)
- [KSF Entomology Exhibit Photo Release Form](#)

#### **Classes**

**4900 Beginning I Entomology Collection:** Display in one standard box a minimum of 50 and maximum of 125 species representing at least 7 orders. Follow the guidelines listed for Collections. Members can exhibit in this class a maximum of 3 years or until they receive a purple ribbon at the Kansas State Fair, whichever comes first and then they are moved up a division.

**4901 Beginning II Entomology Collection:** Display in one standard box a minimum of 75 and maximum of 150 species representing at least 9 orders. Follow the general guidelines listed for Collections. Members can exhibit in this class a maximum of 3 years or until they receive a purple ribbon at the Kansas State Fair, whichever comes first and then they are moved up a division.

**4903 Intermediate Entomology Collection:** Display a minimum of 100 and a maximum of 300 species representing at least 10 orders. Two standard boxes can be used. Follow the general guidelines listed for Collections. In addition, family identification is required for all insects in any two of the following six orders: (only two will be counted for judging)

- “Insects in Kansas” book - Orthoptera, Hemiptera, Homoptera, Coleoptera, Hymenoptera, and/or Diptera. or
- “Insects in Kansas Book: 2016 Revised Taxonomy,” which follows [www.bugguide.net](http://www.bugguide.net) - Odonata, Orthoptera, Hemiptera, Coleoptera, Hymenoptera, and/or Diptera

On a piece of paper, list what you did to improve your collection during the current year. Members can exhibit in this class a maximum of 3 years. A 4-H'er will move up if they receive a purple ribbon at the Kansas State Fair.

- 4905 Advanced Entomology Collection:** Display a minimum of 150 and a maximum of 450 species representing at least 12 orders. Three standard boxes can be used. Follow the general guidelines listed for Collections. Family identification is required for all insects belonging to the six basic orders as outlined under the Intermediate phase. Only families in the above six orders will be counted for judging. Family identification of insects in the remaining orders is optional, but desirable as long as accuracy is maintained. On a piece of paper list what you did to improve your collection during the current year. Examples: what insects did you add or replace; what orders and/or families you added; what Leadership you provided to this project; and/or what insects you have studied. Attach paper to the back of one of the display boxes. Members may continue to exhibit in this class at the Kansas State Fair for an unrestricted number of years as long as they remain eligible for 4-H membership.
- 4907 Introductory Entomology Notebook:** Display a minimum of 10 and a maximum of 30 insect species representing at least 6 different orders. Follow the general guidelines listed for Notebooks, including the Special project. A 4-H member must be of minimum age to compete at the Kansas State Fair. A 4-H member may exhibit in this class for a maximum of two years.
- 4908 Beginning Entomology Notebook:** Display a minimum of 20 and a maximum of 60 insect species representing at least 7 different orders. Follow the general guidelines listed for all Notebooks, including the Special project. Members can exhibit in this class for a maximum of 3 years or until they receive a purple ribbon at the Kansas State Fair.
- 4909 Intermediate Entomology Notebook:** Display a minimum of 60 and a maximum of 100 species representing at least 9 orders. Follow the general guidelines listed for Notebooks, including the Special project. In addition, family identification is required for all insects in any two of the following orders: (only two will be counted for judging)
- "Insects in Kansas" book - Orthoptera, Hemiptera, Homoptera, Coleoptera, Hymenoptera, and/or Diptera, or
  - "Insects in Kansas Book: 2016 Revised Taxonomy" which follows [www.bugguide.net](http://www.bugguide.net) - Odonata, Orthoptera, Hemiptera, Coleoptera, Hymenoptera, and/or Diptera
- Members can exhibit in this class a maximum of 3 years. A 4-H'er may move up if they receive a purple ribbon.
- 4910 Advanced Entomology Notebook:** Display a minimum of 100 and a maximum of 200 species representing at least 12 orders. Follow the general rules listed for Notebooks, including the Special project. Follow the general guidelines listed for Notebooks. Family identification is required for all insects belonging to the six basic orders as outlined under the Intermediate phase. Only families in the above six orders will be counted for judging. Family identification of insects in the remaining orders is optional, but desirable as long as accuracy is maintained. Members may continue to exhibit in this class for an unrestricted number of years as long as they remain eligible for 4-H membership.
- 4902 Beginning Educational Exhibit:** Class for individuals that are exhibiting in the

Beginning I and II Collection or Beginning Notebook Classes. If only exhibiting in this category, then ages 9-12.

**4904 Intermediate Educational Exhibit:** Class for individuals that are exhibiting in the Intermediate Collection or Intermediate Notebook Classes. If only exhibiting in this category, then ages 11-14.

**4906 Advanced Educational Exhibit:** Class for individuals that are exhibiting in the Advanced Collection or Advanced Notebook Classes. If only exhibiting in this category, then ages 13 or older.

**4920 Beginning Monarch Butterfly Educational Display Class:** for 4-H members enrolled in Beginning I or II Entomology

**4930 Intermediate Monarch Butterfly Educational Display Class:** for 4-H members enrolled in Intermediate Entomology

**4940 Advanced Monarch Butterfly Educational Display Class:** for 4-H members enrolled in Advanced Entomology

**Resources:**

- [Teaming with Insects Curriculum](#)
- [Entomology Collection Exhibit Resource](#)
- [Entomology Collection Notebook Guidelines](#)
- [BugGuide.net](#)
- [Insects in Kansas](#)
- Project Area - [Entomology](#)

**Superintendent(s)**

Dale Weishaar, Sumner County Entomology Project Leader

**State Staff Contact**

Amy Sollock, Kansas 4-H Youth Development Specialist

## FIBER ARTS

Fiber arts is defined as the practical skills passed down from preceding generations that were developed to provide basic family needs, such as apparel, home furnishings or decorations.

**Rules**

1. Fiber Arts is defined as any method of creating a unique design with fiber, fabric or yarn. This may include: making fabric (such as weaving, crochet, knitting, needlepoint); or when existing fabric is changed into something quite different (such as quilting or embroidery or ethnic art.) Ethnic Fiber Arts should use a fiber, yarn or fabric to create the design exhibit. **Non-textile (examples include wood, reed, straw, grass, etc.) baskets/pieces should be entered in the Visual Arts Division.**
2. No exhibit will be released for any other use. State Fair fiber arts exhibits cannot be used for any of the Fashion Revue classes.
3. Identification Label:

- a. Type or print on a 3" x 21/2 "piece of cloth: class number, county or district, and exhibitor's name.
  - b. Sew or safety pin this ID label on the corner of flat articles.
  - c. For garments, attach ID label to the front left shoulder seam, or left side of waistband, as if you were wearing the garments.
4. When articles, which are normally worn as a pair, are exhibited, both articles must be shown together. Fasten articles together securely with yarn.
5. Special consideration will be given to articles, which are of original design. Such articles should have a note attached explaining the original design.
6. The exhibitor should attach an index card, no larger than 4" x 6", with the entry form to give the judge any information on what parts of the exhibit they made, processes used, or other information which the exhibitor thinks would be helpful for the judge. For all items, please indicate if item was made from a kit. For all items please indicate fiber content, and specifically if they are made of at least 90% wool. For quilted items indicate who did the quilting and binding.
7. When the exhibit is a sewn garment that also includes one or more Fiber Art techniques (i.e. knitting, crochet, needle arts, or patchwork and quilting), the determination of what division (Clothing or Fiber Arts) and class in which to enter will be left with the 4-H participant.
8. All exhibits which need to be hung, MUST have the appropriate saw tooth hanger, rod, wire or other mechanism attached in order to be properly displayed. If necessary, hardware is not attached, it may not be displayed.
9. Fiber Arts Educational Notebook - Share with others what you learned in this project about a particular Fiber Art. Exhibits should be in the form of a notebook or binder. The notebook should include a narrative section describing the fiber art. It should include a clear description of the project, technique, budget, supplies, goals, accomplishments, successes, failures, and future plans. It may include samples of techniques, how-tos, photographs of completed projects, or other ways of educating others about fiber arts. NOTE: A collection of brochures, web pages, patterns, record book forms, etc. does not constitute an educational notebook. Follow copyright laws as explained in the General Rules as you are preparing your exhibit. Name, local unit and fiber art covered must be clearly marked in the notebook.
10. There are no age specific classes in fiber arts.

**Quota** – A member may enter only one exhibit in each class, with a total of up to 3 Fiber Arts Exhibits. All articles/garments must be finished for use.

#### **Scoresheets, Forms, and Contest Study Materials:**

- [Crochet Judging Sheet](#)
- [Ethnic Arts Judging Sheet](#)
- [Knitting Judging Sheet](#)
- [Macrame Judging Sheet](#)
- [Needle Arts Judging Sheet](#)
- [Quilt Judging Sheet](#)



- [Rug Making Judging Sheet](#)
- [Spinning Judging Sheet](#)
- [Weaving Judging Sheet](#)
- [All Fiber Arts Judging Sheets](#)
- [Fiber Arts Educational Notebook Scorecard](#)

### **Awards/Recognition –**

**Kansas Sheep Association**, c/o Deb Simon, Executive Director, 2598 County Road 78, Quinter, KS 67752 will award \$25 to the exhibitor of the top purple article in Fiber Arts. A note from the exhibitor is required stating that the item is made of 60% or more wool to be eligible for the wool award.

The Kansas Alliance of Spinners and Weavers, c/o Barbara Say, 2055 Road M, Emporia, KS 66801 will award \$25 to the exhibitor of the top exhibit in class #4116 Spinning and #4117 Weaving.

**Jean Clarkson- Frisbie Memorial Best of Show Quilt Award**, given by the Friends of Jean Clarkson-Frisbie, c/o Jodi Drake, Pratt County Extension Office, 824 W. First Street, Pratt, KS 67124.

### **Classes**

- 4111 Crochet**, an article including felted items. (See #7 in Rules)
- 4112 Knitting**, an article made either by hand or by knitting machine including felted items. (See #7 in Rules above)
- 4113 Needle Arts**, an article created by hand using any of the following techniques:
- Embroidery and cross-stitch
  - Needlepoint
  - Candle wicking
  - Crewel
  - Lacework
  - Appliqué
- 4114 Patchwork or Quilted article**: it is acceptable practices for the exhibitor to create the patchwork or quilted article and have someone else quilt it. (See #7 in Rules)
- 4115 Rug Making**: acceptable techniques include braiding, latch hook, tying, floor cloth, etc. The finished product should be an item that would be an item used in the home.
- 4116 Spinning**, a skein - minimum 10 yards in length.
- 4117 Weaving**, a woven article. Members should attach information about the type of loom or process used. (See #7 above) Woven wood reed basket, should be exhibited in Visual Arts.
- 4118 Ethnic Arts**, an article: This is defined as a Fiber Art/Textile technique that is associated with a specific country or culture. It is a practical skill that was developed to provide basic family needs such as apparel, home furnishings or decorations. It is also defined as a method that has been maintained throughout



history and passed on to others, often by observation and by example, such as batik, Swedish huck towel weaving, mud cloth, bobbin weaving, tatting, felted items that are not knitted or crocheted, etc. Members should attach information on the history of the ethnic fiber art, where it was used, by whom, how it was used, short description of the technique, etc. (See #7 in Rules)

**4119 Macramé**, an article.

**4120 Fiber Arts Educational Notebook.**

## **Resources**

- **Project Area – [Fiber Arts](#)**

### **Crochet (FA101)**

- [Crochet Member's Manual](#)

### **Knitting (FA102)**

- [Beginning to Knit](#)
- [Knitting Member's Manual](#)

### **Needle Arts (FA103)**

- [Needle Arts Member's Manual](#)

### **Patchwork & Quilting (FA104)**

- [Patchwork & Quilting Member's Manual](#)
- Quilt Quest (NE 4H 1300) Order from: Nebraska State 4-H Department, Phone: 402-472-9016 or FAX: 402-472-9024

### **Rug Making (FA105)**

- [Rug Making Member's Manual](#)

### **Spinning (FA106)**

- [Spinning Member's Manual](#)

### **Weaving (FA107)**

- [Weaving Member's Manual](#)

### **Ethnic Arts (FA108)**

- [Ethnic Arts Member's Manual](#)

### **Macramé (FA109)**

- [Macramé Member's Manual](#)

## **Superintendent(s)**

Robin Eubank-Callis, Barber County Agent

Jodi Drake, Pratt County Agent

Sue Buehler – Pratt County Volunteer

## **State Staff Contact**

Amy Sollock, Kansas 4-H Youth Development Specialist

## **FOODS & NUTRITION**

In this project, you will have fun learning how to cook the basics and then advance to

gourmet and international meals. Develop baking skills, learn about food preservation, explore the heritage of many foods, and understand consumer buying skills. Learn how to make healthy snacks and modify recipes to fit a healthy lifestyle.

## Rules

1. Complete recipes with ingredients and instructions must be attached with the entry, or the placing will be lowered one ribbon when judged.
2. For food safety purposes, any food with custard and dairy-based fillings and frostings (ex. Cream cheese) raw eggs, flavored oils, “canned” bread or cakes in a jar, cut fresh fruit or any food requiring refrigeration (ex. Bacon) or unbaked exhibit with raw flour (ex. No bake cookies) will be disqualified and not judged.
3. Alcohol (ex. Wine, beer and hard liquor) is not allowed as an ingredient in food entries. Entries with alcohol will be disqualified and not be judged.
4. All baked goods must be left whole and uncut. Small items, such as cookies and rolls, should be the same shape and from the same recipe. Exhibit 3 cookies, 3 muffins, 3 bread sticks, 1 loaf bread, etc.
5. Under baked entries will be lowered one or more ribbon placings.
6. All un-frosted cakes should be exhibited in an upright position with crust showing. The exception is for cakes made with special designs such as Bundt cakes. They should have top crust side down.
7. Attach label to bottom of plate or cardboard. Label templates are available [here](#), or make your own with the following information: Class Number, Food Product Name, 4-H member’s Name, and County or District.
8. Any baked product that can be removed from the pan should be placed on a plate, covered cardboard or disposable container of appropriate size for the exhibit.
9. Exhibits should be in food grade plastic bags, disposable plastic containers or boxes of appropriate size for the exhibit. Only the exhibit is judged. The container is not judged.
10. Attach the entry form, recipe, and evaluation form to the outside of the wrapped exhibit. Do not wrap forms in plastic.
11. The exhibitor is encouraged to attach a 3” x 5” index card with the entry card to give the judge any information which the exhibitor thinks would be helpful for the judge to know.
12. Educational classes: Exhibits may be in the form of a poster, notebook or display. Follow copyright laws as explained in the General Rules as you are preparing your exhibit. Take care to select materials that will withstand State Fair conditions. No card table displays are allowed. If the exhibit is a poster, it must not be larger than 22” x 28”. Displays are not to exceed a standard commercial 3’ x 4’ tri-fold display board. Name and county or district must be clearly marked on educational exhibits. The educational exhibit evaluation form will be provided at judging time. NOTE: A collection of your favorite recipes in a recipe box or notebook does not constitute an educational exhibit.
13. Because of a shortage of exhibit space, a limited sample of food product entries will be displayed. The remainder of the foods will be sold. Proceeds from the 4-H Food Sale are used to benefit Kansas 4-H members who participate in the

International 4-H Youth Exchange Program.

14. Decorated special event cakes will no longer be accepted for exhibit.

15. Dried foods are to be exhibited in the Food Preservation Division.

**Eligibility** – 4-H members wishing to exhibit must be enrolled in the Foods & Nutrition project and receive a qualifying ribbon rating at their local county fair.

**Quota** – A member may make only one entry in a non-perishable class and one entry in an educational class in this division.

**Scoresheets, Forms, and Contest Study Materials:**

- [Foods Exhibit Evaluation Form](#)
- [Food Gift Basket Evaluation Form](#)
- [Foods Educational Exhibit Evaluation Form](#)

**Classes**

4300 For age 9 -11, non-perishable food product.

4301 Educational exhibit prepared by 9, 10 or 11 year old.

4302 For age 12-14, non-perishable food product.

4303 Educational exhibit prepared by 12, 13 or 14 year old.

4304 For age 15-18, non-perishable food product

4305 Educational exhibit prepared by 15-18 year old.

4306 Food Gift Package. No alcoholic beverages will be accepted. A food gift package must contain at least 3 different food items (prepared for human consumption), made by the 4-H member, in a suitable container no larger than 18"x18"x18".

Prepared food items must have recipes attached with the entry. Additional homemade food items beyond the 3 minimum or purchased items may also be included in the gift basket. On the back of the entry card, answer these questions: a) what is the intended use; b) what food safety precautions were taken during and after preparation. This entry will count as a non-perishable food product, not as an educational exhibit. Home canned foods must follow Food Preservation rules. Canning jars should not be used for baking per manufacturer's instructions. They could break during baking.

**Resources**

- Project Area – [Foods and Nutrition](#)
- [Foods Label](#)
- [It's More than Keeping Your Fingers Out of the Cookie Dough!](#)
- [When are Baked Goods Done?](#)
- [Judge's Guide for Foods and Nutrition Exhibits](#)
- [Food Safety of Frosting and Fillings, MF3544](#)
- [Foods & Nutrition Project Spark Sheet](#)
- [4-H Cooking Curriculum](#)
- [What's on Your Plate Food Science Curriculum](#)

**Superintendent(s)**

Pending

### State Staff Contact

Amy Sollock, Kansas 4-H Youth Development Specialist

## FOODS PRESERVATION

In this project, you will have fun learning how to cook the basics and then advance to gourmet and international meals. Develop baking skills, learn about food preservation, explore the heritage of many foods, and understand consumer buying skills. Learn how to make healthy snacks and modify recipes to fit a healthy lifestyle.

### Rules

1. Exhibits must have been preserved since the member's previous year's county fair, and not been exhibited at the previous State Fair.
2. Recipes and processing methods from the sources below are recommended. Recipes must be from current, tested resources listed below AND MUST BE ADJUSTED FOR ALTITUDE based on your processing location, or it will be disqualified. Processing methods that will be disqualified include: open kettle-canning, ~~over~~ oven canning, sun canning and using electric multi-cookers. Untested recipes will be disqualified for food safety reasons. Tested recipe sources include:
  - K-State Research and Extension Food Preservation publications
  - Other University Extension Food Preservation publications
  - USDA Complete Guide to Home Canning, @2015
  - So Easy to Preserve, 6<sup>th</sup> edition, The University of Georgia Cooperative Extension Service
  - Ball® Blue Book Guide to Preserving, Edition 37
  - Ball® Complete Book of Home Preserving, @2015 and @2020
  - Canning mixes (i.e. Mrs. Wage's, Ball®)
  - Pectin manufacturers (i.e. SureJell, Ball®)
  - [KSRE Rapid Response Center Preservation Recipes](#)
  - [National Center for Home Food Preservation](#)
  - [Ball® and Kerr](#)
3. Alcohol is not allowed as an ingredient in food preservation entries. Entries with alcohol will be disqualified and not be judged.
4. Each exhibit must have the complete recipe and instructions attached with the entry card, or it will be disqualified. Recipe must include exhibitor name, recipe source, date of publication, and altitude, where food was processed. If using Mrs. Wage's or Ball® mixes, indicate the date the mix was purchased.
5. Exhibits must be processed in clean, clear standard canning jars, with matching brand (ex: use Ball® lids on Ball® jars, or Kerr lids on Kerr jars, etc.) two-piece lids. Do not use colored jars, fancy padded lids, fabric over wraps or cozies as they interfere with the judging process. No fancy packs unless recipe states to do so (ex: Pickled asparagus). Jars must be sealed when entered. For food safety

reasons, the size of jars used must not be larger than the jar size stated in the recipe (ex: Salsa is canned in pint jars only, no quarts). Note: There are 12-ounce, 24-ounce and 28-ounce canning jars available and may be used. Use pint jar process recommendations for 12-ounce jars. Use quart jar process recommendations for 24 ounce and 28-ounce jars.

6. Each jar exhibited must be labeled. The label must not cover brand name of jar. The label must give: Class Number, Product, Altitude where processed, Canning Method (water bath, weighted gauge or dial gauge pressure method), Process Time, Pressure (psi), Date processed including month and year, Name, and County/District.
7. Classes 4350-4355 will require one jar for each class.
8. Hole punch the entry card and use a rubber band to attach the entry card and recipe around the top of the jar.
9. If dried food product is not in a canning jar, it will be lowered one ribbon rating. Suggested amount: 1/3 – ½ cup, or three or four pieces per exhibit. All meat jerky must be heated to an internal temperature of 160 degrees F before or after drying. This is not the drying temperature! Dried products must include the recipe, preparation steps and heating instructions. Jerky not heated to an internal temperature of 160 degrees F will be disqualified and not be judged. Heating information can be found in “Dry Meat Safely at Home.”

**Quota** – Each 4-H member may enter up to two exhibits in this division, but only one entry per class.

### **Scoresheets, Forms, and Contest Study Materials:**

- [Judging Dried Fruits & Leather](#)
- [Judging Fruits](#)
- [Judging Herbs](#)
- [Judging Pickles](#)
- [Judging Preserves](#)
- [Judging Dried Meat Jerky](#)
- [Judging Meat and Poultry](#)
- [Judging Tomatoes and Tomato Products](#)
- [Judging Dried Vegetables](#)
- [Judging Vegetables](#)

### **Classes**

- 4350 Sweet Spreads (Fruit and/or Vegetables), Syrups; One jar  
4351 Fruits, Juices, Fruit mixtures (Salsa, Pie Filling, etc.); One jar  
4352 Low Acid Vegetables (green beans, corn, etc or vegetable mixtures.); One jar  
4353 Pickles (Fruit or Vegetable), Fermented Foods, Relishes and Chutney; One jar  
4354 Tomato/Tomato Products, Tomato Juice and Tomato Salsas; (Salsa in pints only, no quarts); One jar

- 4355 Canned Meats; One jar
- 4356 Dried Foods: One small jar

## Resources

- Project Area – [Foods and Nutrition](#)
- [Food Preservation Labels Small 1 x 2.58-Updated 2018](#)
- [Food Preservation Labels Small 1 x 2.58-Updated 2018 pdf](#)
- [Food Preservation Labels Large 2 x 4-Updated 2018](#)
- [Food Preservation Labels Large 2 x 4-Updated 2018 pdf](#)
- [Just Because It Seals Doesn't Mean it's Safe!](#)
- [Food Preservation Judging Criteria](#)
- [Food Safety Recommendations for Food Preservation Exhibits](#)
- [What's Your Elevation?](#)
- [How-to Guide to Pressure Canning](#)
- [How-to Guide to Water Bath Canning and Steam Canning](#)
- [10 Tips for Safe Home-Canned Food](#)
- [Sassy Safe Salsa at Home](#)
- [Boiling Water Canning Project Manual](#)
- [Freezing Project Manual](#)
- [Drying Project Manual](#)
- [Dry Meat Safely at Home](#)

## Superintendent(s)

Robyn Prickett, Central Kansas District Volunteer

## State Staff Contact

Amy Sollock, Kansas 4- H Youth Development Specialist

# FORESTRY

Learn to identify trees, determine differences between trees and shrubs, learn about different trees and tree parts, graft a bud to a living tree, discover health benefits of trees, investigate forest changes and learn about forest health and learn forest conservation techniques.

## Rules

1. All leaf exhibits are to be mounted on 8½" x 11" heavy stock paper and placed in loose leaf binders. (Magnetic or adhesive filler sheets for photographic prints or sheet protectors are recommended.) Twigs and fruit collections may be exhibited in whatever manner you choose. Maximum tri fold size is 3' x 4'. Resources for exhibiting are located on the [Kansas 4-H forestry project webpage](#).
2. Name, club, age, and year in project should be on front cover or in a prominent location.
3. Leaves should be identified with an appropriate label located near the leaf on the

same page. These labels should include (1) The proper common name as listed in the [4H334, "List of Native Kansas Forest Trees"](#) 2) Location (city and/or county) where collected; and (3) date (day, month, year) or (month, day, year) collected.

4. Divide specimens into the following two sections: Native Kansas Trees, and Non-Native Trees.
5. New specimens are those specimens collected during the current 4-H year and cannot be a duplicate tree species of previously displayed specimens.
6. Group specimens according to the years collected (ex. "old-previous years" and "new").
7. Variations of varieties do not count as different species or specimens.
8. When replacing previously displayed samples, due to degradation, improper mounting or incorrect identification, the specimen label must also be updated. Replacements do not count as new specimens. Replacements should be displayed in the "old previous" section of the display.
9. If you retrieve information for your forestry exhibit, you must include a reference citation to the source.
10. In all leaf collections, exhibit one complete leaf where possible. If leaf is too large, exhibit as much as possible. Sketch in reduced scale the entire leaf and illustrate where the exhibited portion is from. Note: A "leaflet" is incorrect when displayed as the complete leaf for the tree.
11. All work must show originality. Leaf collections and displays should not closely resemble work done by others in the same club.

**Quota** – Each member may enter up to two exhibits in 4-H Forestry but only one entry per class. Participants can exhibit in a collection phase and one other class, 5104-5109, or they may exhibit in any two non-collection classes, 5104-5109.

## **Classes**

### **Knowing Trees as Individuals (Leaf Collections)**

- 5100 Forestry Collection: (Choose either A or B) Only those exhibiting at the state fair for the first year may enter this class.
- A. Exhibit a minimum of 10 different leaves from native Kansas trees collected within the year. Exhibit can include non-native leaves in addition to the required number of leaf specimens collected from native Kansas trees.
  - B. Exhibit a minimum of 5 native Kansas trees showing leaf, twig and fruit from each species collected.
- 5101 Forestry Collection: (Choose either A or B) This class is open to those exhibiting either for the first or second time at the state fair.
- A. Exhibit a minimum of 20 different leaves (including 10 new specimens) from native Kansas trees. Exhibit can include non-native leaves in addition to the required number of leaf specimens collected from native Kansas trees.
  - B. Exhibit a minimum of 10 native Kansas trees showing leaf, twig and fruit from each species collected. This exhibit must include 5 new leaf, twig and fruit specimens.
- 5102 Forestry Collection: (Choose either A or B) This class is open to those exhibiting



either for the third or fourth time at the state fair.

A. Exhibit a minimum of 30 different leaves (including 10 new specimens) from native Kansas trees. Exhibit can include non-native leaves in addition to the required number of leaf specimens collected from native Kansas trees.

B. Exhibit a minimum of 15 native Kansas trees showing leaf, twig, and fruit from each species collected. This exhibit must include 5 new leaf, twig and fruit specimens.

5103 Forestry Collection: (Choose either A or B) This class is open to those exhibiting the fifth time or more at the state fair.

A. Exhibit a minimum of 40 different leaves (including 20 new specimens) from native Kansas trees. Exhibit can include non-native leaves in addition to the required number of leaf specimens collected from native Kansas trees.

B. Exhibit a minimum of 20 native Kansas trees showing leaf, twig, and fruit from each species collected. This exhibit must include 10 new leaf, twig and fruit specimens.

### **How A Tree Grows**

5104 Notebook: Entry may include a project notebook with 10 or more seeds collected with pictures showing a germination study or a mounting of a thin section of wood cut from the end of a log or top of stump labeled with information such as kind of wood and age of tree when cut or exhibits an illustration of how a tree grows.

### **Tree Appreciation**

5105 Notebook: Entry may include research or reporting project notebook with no more than 10 pages based on the exhibitor's selected tree. Exhibit must be a different species of tree each year. This notebook may include sketches, drawings, pictures, a story, or any other things which will help tell about the tree you have selected.

### **Growing and Protecting Trees**

5106 Display/Notebook: Entry requires a display, or project notebook, telling about project and pictures before, during, & after planting seedlings, a container tree, or a balled and burlapped tree. Maximum tri-fold size is 3' x 4'.

### **Tree Culture**

5107 Display/Notebook: Entry requires a display, or project notebook, showing your project work and includes pictures of before, during and after wood lot improvement. Maximum tri-fold size is 3' x 4'.

### **How Forests Serve Us**

5108 Entry may include collected wood samples (all or partial) and essay. Wood sample display to be mounted on poster board or any stiff material no larger than a 3' x 4' tri-fold. Essay should be displayed in a covered binder.

### **Educational/Creative Exhibit**

5109 Entry must be directly related to tree identification or Forestry. Type of exhibit is open (notebook, poster, collection box, etc.) given a maximum tri-fold size of 3' x 4'. Care should be taken to use durable materials that will withstand State Fair conditions. This is a good class to exhibit an unusual collection.

### **Resources**

- Project Area [– Forestry](#)



- Tree Identification: "[List of Native Kansas Forest Trees](#)"

### **Superintendent(s)**

Pam Paulsen, Reno County Agent

### **State Staff Contact**

Beth Hinshaw, Kansas 4-H Youth Development Specialist

## **GEOLOGY AND LAPIDARY**

In this project, you will learn the difference between rocks and minerals, learn how to identify fossils, describe and identify rocks, understand stages of the rock cycle, and use the scientific method to solve problems.

### **Rules**

1. The exhibit box should be 18" x 24" x 3½". Plexiglas covers are required. Boxes with glass covers WILL NOT be accepted. All specimens are to be arranged across the narrow (18") dimension of the exhibit box, making the exhibit 18" across the top and 24" deep exactly. If a box has a sliding Plexiglas cover, it must be removable from the top. Screws, locks, or other devices that would prevent judges from removing the cover should not be used. For Lapidary classes 5300-5304 only, the dimensions of the box should be appropriate for the display, but should not exceed 18"x24"x31/2".
2. Each exhibitor is required to identify each display box by placing an identification label bearing name, county or district, and number of specimens in the upper left-hand corner of the Plexiglas cover (inside-use clear double-sided tape to adhere gummed labels), and by attaching a label with the same information on the lower right corner of the box (outside).
3. Exhibitor may enter in both geology and lapidary classes. Exhibitor may show in only one of the first four geology classes (5200, 5201, 5202 or 5203). Exhibitor may also show in geology class 5204 (special exhibit), 5205 Mineralogy, 5206 Fossils, and in one lapidary class.
4. Geology specimens should be labeled with the number of the specimen, date collected, specimen name or description, and locality (county only) where collected.
5. For the geology classes 5200, 5201, 5202 and 5203, specimens should be mounted in the box by proper groups: rocks, minerals, fossils. Fossils must be identified to the Phylum, Class and Genus level. Genus name is to begin with a capital letter. Species name is all lower case. Genus and species names must either be italicized or underlined, not both. The words "phylum, class, genus" on labels are to be spelled out, not abbreviated. More than one specimen of the same kind of rock or mineral or species of a fossil may be exhibited if this duplication represents different geological formations. Specimen label must show this distinction (Fort Hays limestone, not just limestone; calcite from the

Greenhorn Formation, not just calcite; Phylum: Brachiopoda Class: Articulata Genus: Composita from the Morrill Limestone Member, not just Phylum: Brachiopoda Class: Articulata Genus: Composita).

6. For geology classes 5200, 5201, 5202, 5203, 5305, and 5206 all specimens must be collected by the participant (not purchased) from locations in Kansas, with the exception of Tri-State Mining Area specimens collected from these three adjacent counties: Ottawa County, OK; Newton and Jasper Counties, MO. Other out of state specimens will not count in the minimum number for the class, nor will they be considered in the judging.

**Eligibility** – Class levels are broken down by years exhibiting at the Kansas State Fair. Please read each class description to determine which best suits the exhibitor.

### **Scoresheets, Forms, and Contest Study Materials**

- [Geology Scoresheet](#)
- [Lapidary Scoresheet](#)

### **Classes**

- 5200 Geology. Display at least 15 rocks, minerals, and fossils collected during the current 4-H year. Exhibitor is limited to one exhibit box. Only those exhibiting at State Fair for the first time may enter this class.
- 5201 Geology. Display at least 30 different rocks, minerals, or fossils, at least 5 of each. **Fifteen must be collected during the current 4-H year.** Exhibitor is limited to one exhibit box. This class is open to those exhibiting either first or second time at State Fair.
- 5202 Geology. Display at least 45 rocks, minerals, or fossils, at least 5 of each. **Fifteen must be collected during the current 4-H year.** Exhibit limited to two boxes. This class is open to those exhibiting either the third or fourth time at the State Fair. Identify the rocks as igneous, metamorphic or sedimentary. These rock types must be spelled out on labels or have a legible key.
- 5203 Geology. Display at least 60 rocks, minerals, or fossils, at least 5 of each. **Fifteen must be collected during the current 4-H year.** Exhibit limited to two boxes. This class is open to those exhibiting the fifth time or more at the State Fair. Identify the rocks as igneous, metamorphic or sedimentary. These rock types must be spelled out on labels or have a legible key.
- 5204 Geology Educational Exhibit: Exhibit relating to everyday living; or to a mineral test, a rock formation, geological history, species of a fossil, forms of one mineral, a variation of one kind of rock, archaeological artifacts, or Indian artifacts. Digital formats are accepted. Please make arrangements for the judge to view your exhibit and have a hard copy for display. Exhibit limited to 4 feet of table space. **Care should be taken to use durable materials that will withstand State Fair conditions.** Exhibitor may show in the class regardless of number of times he or she has exhibited at State Fair or whether exhibitor has entries in classes 5200, 5201, 5202 or 5203. Exhibitor may also exhibit in lapidary class.
- 5205 Mineralogy. Display a minimum of 15 mineral specimens collected in Kansas, at

least 5 of which have been collected during the current 4-H year. The minerals are to be grouped by mineral class (i.e.: Carbonates, Oxides, Silicates) and at least 3 classes must be represented. The member must use one standard display box (see #1). The specimens must be labeled with the number of the specimen, date collected, name of specimen, county where collected and chemical composition (ie:  $\text{CaCO}_3$  for calcite) if known.

- 5206 Fossils. Display a minimum of 15 fossil specimens collected by the participant in Kansas, at least 5 of which have been collected during the current 4-H year. The fossils are to be grouped by Phylum and Class, and at least 3 phyla must be represented (Brachiopoda, Chordata, Mollusca, etc.) The member must use one standard display box (see #1). The specimens must be labeled with the number of the specimen; date collected; county where collected; formation, member, or source; phylum, class, and genus or part; and geologic age (Cretaceous, Permian, Pennsylvanian, etc.) See #5 for additional fossil labeling expectations.
- 5207 Rocks. Display a minimum of 15 rock specimens collected in Kansas, at least 5 of which have been collected during the current 4-H year. Rocks are to be grouped by the 3 rock classes (Sedimentary, Igneous, and Metamorphic). You must display at least one specimen from each of the three classes. The specimens must fit in one standard display box. Specimen labels must include a specimen number, the date collected, name of specimen, and the county where collected. All rocks must be identified by the formation and member name (Examples: Fort Hays Limestone, Member of the Niobrara Chalk Formation) or source (Examples: Rocky Mountain Outwash, glacial till).

## LAPIDARY CLASSES

The lapidary will be judged on the following criteria:

Workmanship and Content.....	60 points
Presentation and Showmanship.....	30 points
Accuracy of Information.....	10 points

All lapidary specimens should be labeled with the following information:

- Specimen name
- Place of origin (country, state, or county; county required for Kansas specimens)
- Purchased or self-collected
- Date lapidary treatment began
- Date lapidary treatment completed (Treatment completed after the State Fair is considered a new year specimen).

- 5300 Lapidary. Display at least 5 varieties of polished (tumbled) specimens and 5 varieties of unpolished specimens that have not yet received lapidary treatment. These do not have to be an example of “before and after”, nor do they have to be self-collected. Locales must be identified. Only those exhibiting lapidary at the State Fair for the first time may exhibit in this class.
- 5301 Lapidary. Display before-and-after examples of at least 3 varieties of specimens, at least 2 tumble-polished and 2 unpolished of each. There is no requirement that the 4-H'er collect any of these. Locales must be identified. Lapidary work should

- be done during the current 4-H year.
- 5302 Lapidary. Display before-and-after examples of at least 6 varieties of specimens, at least 2 tumble-polished and 2 unpolished of each. At least two varieties should be collected from the native site by the 4-H'er, at least one of which comes from Kansas. Locales must be identified. Lapidary work on at least three varieties should be done during the current 4-H year.
- 5303 Lapidary. Display before-and-after examples of at least 9 varieties of specimens, at least 2 tumble-polished and 2 unpolished of each. At least three varieties should be collected from the native site by the 4-H'er, at least two of which comes from Kansas. Locales must be identified. Lapidary work on at least three varieties should be done during the current 4-H year.
- 5304 Lapidary. Exhibit at least 6 specimens that have not previously been exhibited, which have received lapidary treatment. Lapidary treatment may consist of polishing, and end, face, or flat lapping. Specimens must represent at least 3 different varieties and include at least three cabochons of any size or shape, only one of which may be free-formed. A cabochon is a style of cutting in which the top of the stone forms a domed or curved convex surface. Three of the specimens must be mounted into jewelry findings.

Special lapidary exhibits should be entered in class 5304. Please note that each member is limited to one entry in this class.

**Resources:**

- Project Area - [Geology](#)

**Superintendent(s)**

Alan Meinholdt, Lyon County Volunteer

**State Staff Contact**

Chandra Plate, Kansas 4-H Youth Development Specialist

## HOME ENVIRONMENT

This project gives you the opportunity to examine your environment, both inside and outside of the home. Decorating a room, refreshing your porch, landscaping an area of your yard, refurbishing a family heirloom or even creating something brand new are all examples of ways to incorporate the design process in your living environment.

Learning and experimenting with the elements of design (color, line, value, space, shape, form and texture) in all areas of a room or space or furniture piece are all part of this project. Being a designer (architect, furniture, landscape or interior designer, etc.) is not only about how a space looks but also how it feels. The end goal is to create a space that feels inclusive, functional, and inviting to all. The home environment project will give you the opportunity to design, create and implement what you've learned by creating a notebook, project board or item.

## Rules

1. An entry card must be attached to the exhibit with safety pin(s) or tape and string.
2. A summary including plans, explanation of how the items was made or refinished, and how it fits into the color and design of the –room. Summary could also include project inspiration, challenges, who helped you, and any other information that could be helpful to the judge. Summary should be in a plastic protective sleeve and attached to exhibit.
3. Projects with missing or insufficient summary will be lowered one ribbon placing (i.e. a blue ribbon exhibit will receive a red ribbon).
4. Exhibits should be of high quality (as compared to quick, simple crafts), suitable for use in the home several months throughout the year. Holiday-specific items are discouraged.

**Quota** – A member may make only one exhibit in this division.

## Scoresheets, Forms, and Contest Study Materials:

- [Home Environment Educational Exhibit Scorecard](#)
- [Home Environment Home Living Exhibit Scorecard](#)
- [Home Environment Project Notebook Score Sheet](#)

## Classes

- 4400 Single Exhibit. An article (furniture, fixtures, interior or exterior, etc.) made or refinished by the 4H member for the home. Must include attached summary.
- 4401 Design Board. Boards must be on foam core or a standard tri-fold display. Include: color scheme, wall treatment, floor treatment, samples, etc. and/or floor plan for a room. Must include attached summary.
- 4402 Notebook. Notebooks may include floor plans, swatches, colors, stories, photographs, and project records which detail what was accomplished this year with a given indication of long-term plans. Notebooks should also include project inspiration, challenges, who helped you, and any other information that could be helpful to the judge. Additional summary is not required for Notebook exhibits.

## Resources

- Project Area - [Home Environment](#)

## Superintendent(s)

Pending

## State Staff Contact

Pending

# HORTICULTURE

Learn when, where and what to plant; learn the difference between cool and warm-season vegetables; learn plant parts and how they are used; learn how to use basic garden tools; study seed varieties and starting seeds indoors; study preventative pest controls; learn about specialty harvests and selling your produce; study plant pollinations; study food industry careers; and learn about biotechnology.

## Rules

1. All horticultural exhibits must be grown by the exhibitor.
2. Secure entry form to disposable plate or container with string or tape. Use a sturdy disposable plate, bowl or container that will support the weight of the produce.
3. A member may enter up to a total of 4 produce items, according to the number qualified at the county/district fair, each a different type of produce, from classes 2501-2507. Members may enter multiple entries in an individual class, provided each entry is a different type of produce. Ex. Class 2502 – Medium Vegetable; member may enter tomatoes, peppers and cucumbers under the same class number.
4. An exhibitor earning a purple ribbon at their county/district fair on an out-of-season vegetable/fruit/herb (ex. Early peas) may substitute another vegetable/fruit/herb (ex. Pumpkin) in its place at the State Fair.

**Quota** – Up to 4 total produce (vegetables, fruit and/or herb) entries per exhibitor; Up to 4 total floral exhibits per exhibitor; 1 Notebook exhibit per exhibitor

## Scoresheets

- [Horticulture/Crops Comment Card](#)
- [Cut Flower Specimen Comment Card](#)
- [Floral Arrangement Comment Card](#)
- [Horticulture Notebook Comment Card](#)

## Classes

### Produce Exhibits

2500 Garden Display: Each exhibitor in this class will be limited to four square feet of space. The Garden Display must be exhibited in a tray, basket or container that can be easily moved by the fair staff. Exhibit consists of five different types of fresh vegetables or fruits. Canned products and shelled vegetables are not acceptable. Only one variety of each type of vegetable or fruit may be exhibited. The numbers of the five types of vegetables or fruits to be exhibited are as follows:

- **Large Vegetables (One Each):** Cabbage, Cantaloupe, Eggplant, Large Pumpkin, Squash, Watermelon
- **Medium Vegetables (Five Each):** Beets, Carrots, Cucumbers, Decorative Gourds, Potatoes, Miniature Pumpkins, Okra, Onions, Peppers, Radishes, Sweet Potatoes, Tomatoes, or other similar sized vegetable
- **Small Vegetables (Twelve Each):** Green snap beans, wax beans, English peas, or other similar sized vegetables

- **Small fruits (One half pint box):** Strawberries, blackberries, raspberries, or other similar sized fruits.
  - **Tree fruits (5 each):** Apples, pears, peaches, or similar sized fruits.
  - **Grapes (2 bunches)**
- 2501 Small vegetable specimen plate (12) Ex: green snap beans, yellow wax beans, other small vegetables.
- 2502 Medium vegetable specimen plate (5) Ex: cucumbers, cherry tomatoes, tomatoes, beets, white onions, yellow onions, red onions, bell peppers, other peppers, okra, parsnips, radishes, turnips, sweet potatoes, red potatoes, white or Russet potatoes, carrots, miniature pumpkin, decorative gourds, or other medium vegetables.
- 2503 Large vegetable specimen plate (1) Ex: watermelon, summer squash, winter squash, large type pumpkin, eggplant, cabbage, cantaloupe, other large vegetable.
- 2504 Fresh Culinary herbs (6) ex: parsley, basil, dill, etc. Six stems (or a comparable quantity) of one variety of fresh herbs must be exhibited in a disposable container of water. Dried herbs are not accepted.
- 2505 Small fruits (one half pint box) Ex. Strawberries, blackberries, raspberries, or other similar sized fruits. (if other, please include name of fruit on entry).
- 2506 Tree fruits (plate of 5) Ex. apples, pears, peaches, or similar sized fruits.
- 2507 Grapes (plate of 2 bunches).

### Floral Exhibits

1. A 4-H member may enter up to 4 floral exhibits plus one horticulture notebook in classes 5600-5604, according to the number qualified at the county/district fair. Members may enter multiple entries in a single class in classes 5600-5601 provided each flower specimen is of a different species. EX: Class 5600 – Annual Garden Flower, member may enter sunflowers, zinnias, and marigolds under the same class number.
2. Members are encouraged to exhibit cut flowers and fresh floral arrangements in disposable containers. If a non-disposable container is used mark it plainly with your name and county/district. The State Fair is not responsible for the loss or damage to any flower arrangements, vases or containers. Containers cannot be picked up until release time on the last Sunday of the State Fair.
3. All floral materials must be grown and/or collected by the exhibitors. Do not use purchased plant materials. Entries should not take over one square foot of table space.
4. Potted plants are not accepted.
5. All entries must be freestanding, easily moved, and not require any special equipment to display. Hanging entries are not accepted.

### Classes

- 5600 Annual Garden Flower, cut specimen, single stem.
- 5601 Perennial Garden Flower, cut specimen, single stem.
- 5602 Fresh Flower Arrangement. Flower materials must be grown and/or collected by exhibitor, not purchased.



5603 Dried flower Arrangement, no fabric or plastic material allowed.

5604 Horticulture Notebook. Entry shall consist of a notebook or three ring binder of written narrative describing a horticulture project such as a landscape design, landscape installation, lawn renovation, water garden, flower garden, vegetable garden, lawn mowing service, landscape maintenance business, farmer's market business, or other horticultural project. 4-Hers are encouraged to include photographs, illustrations and/or landscape drawings that help explain work done by the member. Photos taken from the same location before, during and after the completion of the project are particularly helpful. Exhibitor may enter one horticulture notebook.

Horticulture notebook scoring is based on the following criteria:

- Organization and General Appearance (neat, includes title page and table of contents, original, creative, etc.) 20%,
- Narrative (including goals, successes, failures, etc.) 40%,
- General Content (subject matter, photos, maps, knowledge gained, etc.) 40%

## Resources

- Project Area - [Horticulture](#)
- [Exhibiting Fruits and Vegetables Publication](#)
- [Preparing Cut Flowers for Exhibit](#)

## Superintendent(s)

Pam Paulsen, Reno County Agent

## State Staff Contact

Beth Hinshaw, Kansas 4-H Youth Development Specialist

# PHOTOGRAPHY

Capture your friends, family and important events and tell the story through photography. Learn about cameras, and how to plan, compose, light and exhibit your photos. Advance into wide-angle and telephoto lenses, filters, light meters and computer enhancement. Photographs are judged on composition, technique, and eye appeal.

## Rules

1. Photo exhibits must be entered by 5:00 pm on Thursday, September 7, 2023. Judging of exhibits will be at 9 am on Friday, September 8, 2023. Black and white prints and color photographic prints may be exhibited. Prints must be exhibited in the same format in which they were exhibited at the local fair (example: If a print was exhibited as a color print at the local fair it must be exhibited as a color print at the state fair. The same applies for black and white prints).
2. Photographs entered must be the result of the current year's project work by the 4-H member. Photo images must be taken by the 4-H Member (exhibitor).



3. Remove white border from the photo print before mounting.
4. All photos must be no larger than 8" x 10" and no smaller than 7"x 9" after trimming.
5. Photos are to be mounted across the narrow (11") dimension of an 11" x 12.5" sheet of white or cream studio matte board. Photos mounted on poster board will not be displayed. Your local Extension office may purchase matte boards from the K-State Research and Extension Distribution office.
6. Photos must be mounted with the top edge of the print 1" below the top of the mount (board is always oriented narrow side up). The sides of the print must be equal distance from the two sides of the mount.
7. A full coverage permanent mount (spray adhesive recommended or heat mount) must be made. Each photo is handled numerous times (up to 25) throughout the judging, sorting, and display process.
8. The Kansas State Fair 4-H Photography ID Form (available from your Extension Office and online) must be used and mounted correctly on the bottom front of the matte board. This will be illustrated in a letter from the State 4-H Office to the Local Extension Office and on [Kansas4-H.org](http://Kansas4-H.org).
9. No lettering, including dates, is permitted on the front of the mount or on the photo. Only the Kansas State Fair 4-H Photography ID Form is to have lettering on it. No underlay or borders are to be used.
10. To protect exhibits from dust and moisture, place mounted photo in protective plastic bag.
11. On the back of the mount, write; the exhibitor's name, photo class, and the Extension Unit (county/district). If in a district, please use full district name and add county name.
12. Photos entered in any class of the 4-H Photography Division at the State Fair may be used in State Fair 4-H Photography judging contest. Entry of a photo in the 4-H Photography Division contest grants permission to use the photo in the 4-H Photography Judging Contest.
13. Improperly mounted photos, oversize or undersize photos or photos with the white borders not removed or lettering (including dates) on the photo, will be awarded a ribbon one placing lower than the placing determined by the official judges.
14. Photographs taken with a digital camera and having no more adjustments than exposure, color intensity or correction, one click filter effects, red eye removal, cropping, dodging and burning should be entered in the standard color or black and white classes. HDR photos are to be entered in the standard photo class.
15. My Favorite 4-H Photography Display: This new class is only for those photography project members with 10 or more years of experience. This class is a non-judged mounted display consisting of four favorite photos from the member's photography career in 4-H. All photos and a fifth biography/description with details of why they are regarded as most significant will be mounted on white or cream studio matte board. Photos and biography/description will be displayed on one row of the photography racks. This class is an extra way to showcase the development and accomplishments of the 4-H member's photography career. Members can still enter two other classes, if they are enrolled 8 or more years in the photography project.

16. Digital Composite Image: Finished photo must be created from two or more original images photographed by exhibitor. HDR photos do not qualify for this class. Photos will be judged on photographic merit as well as manipulation technique and process. Ribbon placement will be determined by combining the score of each judging section.
17. The black and white classes are for black and white prints only. Monochromatic prints, including sepia prints are considered color photos and must be entered in the appropriate color photo class.
18. Appropriate photo subject matter: Photographic subject matter is expected to follow 4-H standards. For a sense of prohibited subject matter, review the Kansas 4-H member Code of Conduct; in general, if it is not allowable at a 4-H event, it is not allowable in a 4-H photograph at the State Fair.
19. Photos with live subject(s) on railroad right of way or taken from railroad right of way property will not be displayed in Kansas 4-H Photography and will be disqualified and not judged.
20. Copyright protections must be observed.
21. Decisions as to display and/or penalties will be made by the Photography Department Superintendent and the 4-H Specialist responsible for the photography department.

#### **Eligibility –**

1. Exhibitors, first through seventh year in photography project, may enter one (only) photo print per exhibitor. Exhibitors in their eighth (plus) year in the photography project may enter two prints as long as the prints are in different classes (4802, 4805 & 4806), for a total of two entries per exhibitor.
2. Photos with live subject(s) on railroad right of way or taken from railroad right of way property will not be displayed in Kansas 4-H Photography and will be disqualified and not judged.
3. A member may enter only one portfolio each year. Portfolio must have qualified at the County/District Level beginning with 4-H year 2022-2023.

**Awards/Recognition** – Some photos may be selected for special recognition by the Photography Action Team and/or the Kansas 4-H Foundation. These photos may be used for special displays, 4-H promotional purposes and/or training opportunities. The number of photos selected may vary and will be at the discretion of the Photography Action Team.

Photos chosen by the Photography Action Team from the Purple Ribbon Selections may include photos selected for display in governmental offices, at Kansas State University or at the Rock Springs 4-H Center. Additional photos may be selected from all photography exhibits, including the Kansas 4-H Foundation selections. The Kansas 4-H Photo Action Team award will be given for the best black and white photo. Photographs selected will be marked with special display stickers. Extension Offices of the exhibitors of selected photos will be notified by e-mail of these selections. Photos that are to be retained for display or for training opportunities held after the fair will be collected the last day of the Kansas State Fair. Selected photos will be returned at the

end of the current Kansas State Fair or at the conclusion of the established display period.

### **Classes**

- 4800 Color photos taken by a 4-H member with 3 years or less in the project.
- 4801 Color photos taken by a 4-H member with 4 – 7 years in the project.
- 4802 Color photos taken by a 4-H member with 8 or more years in the project
- 4803 Black and white photos-taken by a 4-H member with 3 years or less in the project. (Black and white prints only).
- 4804 Black and white photos – taken by a 4-H member with 4-7 years in the project. (Black and white prints only).
- 4805 Black and white photos-taken by a 4-H member with 8 or more years in the project (Black and white prints only).
- 4806 My Favorite 4-H Photography Display.
  - 1. This is a “display only” class.
  - 2. Eligible members must have enrolled in photography for ten (10) or more years.
  - 3. Requirements are:
    - A. Choose a total of four (4) of your favorite photos from any of the years enrolled in photography.  
If used previously in competitive exhibits, removal I data slips and stickers. If the photo is an unmounted print, mount it using standard 4-H requirements and mat board.
    - B. Develop a short biography piece.
      - 1. Tell how/when an interest in photography began.
      - 2. Explain why each of the four photos is a favorite.
      - 3. Share the skills learned because of photography. Think beyond the camera skills and include leadership, community service, etc
      - 4. Tell of any mentors/leaders worked with.
      - 5. Share workshops or camps pertaining to photography you attended.
      - 6. Explain (if relevant) any plans to use photography skills beyond 4-H/High School.
      - 7. Include a small (2 X 3) photo of yourself at the start of the biography.
      - 8. Print the biography document and mount it on a standard mat board.
  - 4. Place name and Extension unit on the back of each of the 5 mat boards in the upper right-hand corner.
  - 5. This exhibit does not have to qualify at the county/district level to exhibit at the Kansas State Fair.
  - 6. There is no data slip required.
  - 7. A member who qualifies to exhibit in this class is still allowed to enter two prints and a portfolio for judging if qualifications for those classes are met.

## **Portfolio Classes**

### **4807 Growth Portfolio**

1. Member is eligible for this class beginning with the third year of enrollment in the 4-H photography project.
2. Exhibit will consist of one photo for each year of enrollment. Each photo must have been created in a different year and must be labeled with the year taken/project enrollment year. A maximum of 5 photos may be included if the member has 5 or more years of enrollment. Photos are not required to be in a consecutive order. For example, a nine-year-old with three years enrollment in photography is eligible to enter a growth portfolio. The portfolio in this example should have one photo from the seven-year-olds year, one photo from the eight-year-olds year, and one photo from the nine-year-olds year. The growth portfolio class may start at any time in the member's photography career. For an older member, the growth portfolio would represent any five years in the project, for example, years 1,3,5,7 and 9 for a member having project enrollment totaling 9 years.
3. Photos must be 8" x 10" and may be color or black and white and must be unmounted.
4. An information sheet must accompany each photo giving brand and model of camera used to create the photo. The settings for focal length, aperture, mode and shutter speed must also be listed.
5. Skill set used to create the photo must be given and explained. Main goal for each year should be listed.
6. Beginning with photo 2, member description of GROWTH in project skill must be included on information sheet.
7. Exhibit will consist of photos arranged in chronological order of enrollment, information sheet on each photo, and all information listed in #6 and #7. A portfolio book will be required to exhibit.

### **4808 Career Portfolio**

1. Member must have been enrolled in Photography for 5 (five) or more years OR member must be age 15 -19 and been enrolled in photography for at least two (2) years.
2. Exhibit will consist of ten (10) 8 x 10 photos showing skill development in one of the following photography areas: Portraiture, Special Effects (not done with computer), Landscape, Photo Journalism, Black and White, Nature/Wildlife or Graphic Design (computer skills with photos). Photos may have been created over multiple project years.
3. Photos may be color except if Black and White option is chosen and must be unmounted.
4. An information sheet must accompany each photo giving brand and model of camera used to create the photo. The settings for focal length, aperture, mode and shutter speed must also be listed.
5. A one-page summary should accompany the portfolio listing the goal for pursuing this area of photography and what skills were learned while doing so. Mentors

- should be acknowledged. Career exploration can also be described.
6. Exhibit will be presented in a notebook designed for portfolio review with pages for required information from #4 and #5.

## **Resources**

- **Project Area - [Photography](#)**

## **Superintendent(s)**

Photography Action Team Chair: Eric Otte, Sedgwick County Volunteer

## **State Staff Contact**

Amy Collins, Kansas 4-H Program Coordinator

# **COMMUNICATIONS**

## **(Demonstration/Illustrated Talk, Project Talk, Poetry and Prose)**

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, bring a reading to life and much more!

## **Rules**

1. Demonstrations or illustrated talks may be individual or team (2 people) presentations. Project Talks are individual presentations.
2. Stage schedule for presentations will be made on requested date and time and subject to the number of requests and available time.
3. The presentation should be of sufficient length to cover the topic adequately, three minutes minimum and 20 minutes maximum.
4. The schedule for all presentations will be shared through the agent listserv and posted online.
5. All Demonstrations, Illustrated and Project Talks will be on one of two stages in Centennial Hall during the first and second Saturday and Sunday.
6. All poetry and prose will be performed in a designated spot in Centennial Hall during the first and second Saturday and Sunday. One microphone will be provided.
7. Each demonstration area will be equipped with two tables, two easels, two microphones, a projector, a screen, one 110-volt electrical power strip. 4-H members are encouraged to use technology when it enhances the presentation. Presenters should bring a computer that will work with an HDMI cord. No range, microwave or refrigerator is available in the demonstration areas. If extension cords are needed, participants need to bring them.
8. Check in at the Information Desk in 4 H Centennial Hall for directions to your stage.  
Participants are encouraged to arrive 15 minutes before their presentation.
9. The use and inclusion of specific brand names for educational purposes does not

imply endorsement or refusal by the Department of 4-H Youth Development, Kansas State University Research and Extension, or the State of Kansas.

10. A demonstration shows a step-by-step procedure and explains why each step is essential to develop a particular skill or task. An illustrated talk incorporates the use of visual aids (posters, technology supplies, equipment, etc.) that describes the process of the topic being discussed. A project talk should tell about a specific project and experience in the project. Visuals may be used. Poetry or Prose should be a piece of literature either Dramatic, Interpretative, Humorous, or other type of reading that follows the 4-H Code of Conduct (pieces should be edited for appropriate language and content if necessary). The participant may read from a script or have the piece memorized. The title and author of the selection should be noted within the presentation. Poetry/Prose pieces are exhibition only and will not be evaluated.
11. Shooting sports related entries must inform State Office of entry to meet safety requirements. They should follow Kansas State Law regarding firearms listed in the General Rules section of this Fair Book.
12. If you bring small animals into Centennial Hall for a demonstration you must remove the animal when you leave the building. Animals are not allowed to be left unattended. Per Kansas State Fair rules: No dogs, cats, or other pets, except for Service Animals shall be permitted on the fairgrounds proper (inside the fence).

**Eligibility** – Any demonstration illustrated or project talk receiving a purple or superior blue rating in a county or district contest may be entered unless it has previously been entered in this contest or does not meet the guidelines. Any poetry or prose receiving a purple or superior blue rating in a county or district contest may be entered unless it has previously been entered in this contest or does not meet the guidelines.

**Quota** – Counties or districts are not limited to the number of demonstrations illustrated or project talks, or poetry or prose, given on any topic. Each member may enter up to two exhibits in 4-H Communication but only one entry per class.

#### **Scoresheets, Forms, and Contest Study Materials:**

- [Project Talk Score Sheet](#)
- [Demonstration and Illustrated Talk Score Sheet](#)
- [Reading/Poetry Feedback Sheet](#)

**Awards/Recognition** – Demonstrations/Illustrated Talks and Projects Talks will be judged and awarded ribbons. Poetry/Prose presentations will be awarded participation ribbons.

#### **Classes**

- 5800 Demonstration, Illustrated or Project Talk by an individual-indicate title and type of presentation in online entry.
- 5801 Team Demonstration, Team Illustrated or Team Project Talk (limited to 2 people). Indicate title and type of presentation in online entry.

5802 Poetry or Prose (THIS CLASS IS NOT EVALUATED/JUDGED)

### **Resources**

- Project Area - [Communications](#)

### **Superintendent(s)**

Michelle Beran, Cottonwood District 4-H Agent

### **State Staff Contact**

Beth Hinshaw, Kansas 4-H Youth Development Specialist

## **SHOOTING SPORTS**

The Shooting Sports project teaches gun safety, care and safety of shooting sports equipment, hunting practices, and provides an opportunity to test your skills. The fair classes are designed to provide an opportunity for youth to educate others about what they have learned through the project or to promote the benefits of participation.

### **Rules**

1. Exhibits in this division are open to educational displays or promotional posters. Follow copyright laws as explained in the General Rules as you are preparing your exhibit. Take care to select durable materials to withstand State Fair conditions.
2. The exhibit size rule will be strictly enforced. Exhibits exceeding the size guidelines will be penalized one ribbon color.
3. Educational Display: must be the standard tri-fold board ONLY, must not exceed standard tri-fold: 3'x4'; no additional table space available for promotional brochures or display items; content not to exceed display board borders.
4. Promotional Posters: must be flat and no larger than 22"x30"; content not to exceed display board borders. will be displayed on wall.
5. Notebooks: no larger than 8 ½" x 11".
6. Exhibitors must comply with state and federal laws and Kansas State Fair Management.
7. No "live" ammunition containing propellant or explosive powders may be used in any display. An inert substitution must be used in lieu of powder and "live" ammunition, the substitution must be clearly described on the back of the poster, display or in a notebook.
8. The Kansas State Fair nor the department of 4-H Youth Development, KSRE are liable for the loss or damage of any personal property included as part of your poster, display or notebook.
9. Name, county or district, age and year in project should be on the front of the poster, display or notebook.
10. Exhibit topics regarding firearm care, handling, and shooting will only be accepted from Extension Units with 4-H Certified Shooting Sports Programs.
11. Exhibits will not be accepted if they are related to reloads.

**Scoresheets, Forms, and Contest Study Materials:**

- [Educational Display Score Sheet](#)
- [Promotional Poster Score Sheet](#)
- [Notebook Score Sheet](#)

**Classes**

- 6200 Educational Display. Must be directly related to the 4-H Shooting Sports Project (standard tri-fold boards only, no larger than 3'x4').
- 6201 Promotional Poster. Must promote 4-H Shooting Sports.
- 6202 Notebook. Contents pertain to some phase, results, story or information about 4-H Shooting Sports.

**Resources**

- Project Area - [Shooting Sports project](#)

**Superintendent(s)**

Wendy Hughes, Rice County Extension Agent

**State Staff Contact**

Chandra Plate, Kansas 4-H Youth Development Specialist

**STEM AG MECHANICS**

The Ag Mechanics project is starting with an emphasis on welding and smithing, it will expand as the project area grows. Please direct project feedback to Tony Foster. This project allows youth to explore areas of ag mechanics and metallurgy from repairing or repurposing items to the fabrication of new items. The intent is for this program start with foundational areas, some of which youth may already have, and allow them to continue to build on this knowledge becoming more experienced.

**Rules**

1. 4-H members must be currently enrolled in the Kansas 4-H STEM Ag Mechanics (welding) project to exhibit in this division.
2. Each exhibitor may enter one exhibit per class. Exhibits must have been constructed or repaired during the current 4-H year. The exhibit must have been selected at the county level for entry at the State Fair. Counties or districts should select only top blue or purple ribbon Ag Mechanics exhibits which meet State Fair guidelines.
3. Wheeled exhibits must utilize a braking mechanism which prevents the exhibit from freely rolling while on display.
4. Exhibitors are responsible for providing sufficient braking or "chocks" for trailer exhibits to ensure that the exhibits do not move once positioned. If using a wheel "chocking" mechanism, the two individual blocks should be connected together



- as a pair of chocks, so they do not become separated. At least one pair of chocks should be placed on each side of the trailer to prevent movement.
5. For trailer exhibits the tongue of the trailer should have a locking mechanism (e.g. padlock) to prevent the trailer from being moved by unauthorized individuals while being displayed. A key for the locking mechanism should be left with the superintendent and labeled with the exhibitor's name, county, and phone number.
  6. Each exhibit must be free-standing or sufficiently supported by an exhibitor supplied support system that is moveable and is part of the total demission's and weight of the exhibit as described previously. Exhibit display boards should have a portable and moveable base and examples should be firmly affixed to the board to ensure all parts of the display stay together. No exhibits may be staked to the ground for display.
  7. Top heavy items should be braced or placed in a stand sufficient to prevent it from toppling over while on display.
  8. Exhibits may not be bound, affixed, attached to the State Fair buildings, except by the superintendent, State Fair Staff, or State Fair Extension Staff.
  9. Painting or spot painting is not allowed on projects after arrival on fairgrounds. If wet paint is detected by judges or superintendents one ribbon placing will be deducted.
  10. Repair projects having adequate original finish need not be repainted.
  11. Cutting surfaces, such as blades, are to have a protective covering over them to prevent injury. The covering should be easily removed and reinstalled for judging. Foam "pool noodles" and multiple layers of cardboard are acceptable.
  12. Display cases for small exhibits are acceptable and must be easily opened so the item can be removed and examined as part of judging.
  13. Exhibits that include weaponry of any kind will be disqualified. Weaponry is defined as any instrument, possession, or creation, physical and/or electrical that is intended to be used to inflict damage and/or harm to individuals, animal life, and/or property.
  14. Trailers and large exhibits (those larger than 5 feet in any dimension) may be displayed outside, and exhibitors with such exhibits are to contact the Kansas State 4-h office **NO LATER THAN August 24<sup>th</sup>** to arrange placement time and location.
  15. If the exhibit is powered by flammable liquids (gas, propane, kerosene, etc.) the fuel tank and lines should be drained and allowed to dry, to avoid spills and potential fires.
  16. Electric powered (battery, corded, solar, or alternative energy) should have a primary shutoff or disconnect switch.
  17. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor's exhibit, at the judges' discretion, will receive a deduction in ribbon placement or a participation ribbon.
  18. The exhibitor's name(s) and county or district must be tagged or labeled in a prominent location on the display.
  19. Each exhibit, except for display boards, must include an Ag Mechanics information packet. Entry of just a packet without an accompanying exhibit is not

a sufficient exhibit.

20. Each exhibitor is required to complete the “4-H STEM Ag Mechanics Exhibit Information Form” for each exhibit, except for display boards, which is available through your local K-State Research and Extension office or at [www.STEM4KS.com](http://www.STEM4KS.com). This form must be attached to the outside of a 10” x 13” manila envelope. Do not tie the envelope to the exhibit. All revisions of all forms previously released for the STEM division dated prior to current year are void for use and new forms must be obtained and used that are dated by the State 4-H Office for the current year.
21. Each exhibit information packet should include the following items:
  - a. Bill of materials for the project with associated costs, scrap items used may be listed as having a \$0.00 cost.
  - b. 1 to 5 pages of photos showing work on the exhibit, preferably from a beginning state to final or completed state.
  - c. If appropriate schematics or working drawings relating to the creation or repair, this is not required for display boards.
  - d. If appropriate operating instructions.
22. Additionally, exhibitors may create an optional video (not required) about their project showing its operation and the work they have done. This allows judges to get a better understanding of the exhibit and allows the youth the opportunity to fully demonstrate their exhibit. The video should be no longer than 8 minutes and should be placed on a USB drive. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges, superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.
  - a. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor.
23. Ag Mechanics exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk, or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening, without the express consent of the State 4-H Staff. Any exhibit removed before release time will be disqualified.

**Eligibility** – Each exhibitor may enter one exhibit per class. Exhibits must have been constructed or repaired during the current 4-H year. The exhibit must have been selected at the county level for entry at the State Fair. Counties or districts should select only top blue or purple ribbon Ag Mechanics exhibits which meet State Fair guidelines.

**Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** – Purple, blue, red, white, participant ribbons as well as disqualified, and best in show. Best in show is applied across all STEM exhibit areas and may not be awarded.

## **Classes**

### **Introductory – Level 1 (about 1 - 3 years' experience)**

This level is designed for youth with little to no exposure in the project area so that they can gain an understanding of basic principles and methods in the given area.

- 5550 Welding Display Board. A 3' x 3' display board with different pieces of metal attached illustrating different types of welds, each weld being labeled.
- 5551 Level 1 Welding Ag Repair. Repair of ag equipment with welding.
- 5552 Level 1 Welding Ag Fabrication. Creation of new ag equipment with welding.
- 5553 Level 1 Welding General Repair. Repair of non-ag equipment with welding.
- 5554 Level 1 Welding General Fabrication. Creation of non-ag equipment with welding.
- 5555 Level 1 Welding Artistic Fabrication. Creation of artistic or interpretive pieces with welding.
- 5556 Level 1 Brazing Repair.
- 5557 Level 1 Brazing Fabrication.
- 5558 Smithing Display Board. A 3' x 3' display board with different pieces of forged metal attached illustrating different forms, each form being labeled.
- 5559 Level 1 Smithing. A design forged with at least **one** formed element (twists or spirals for example).

### **Experienced – Level 2 (about 4 - 6 years' experience)**

This level is designed for youth some experience in the project area allowing them to expand on common principles and methods in the given area.

- 5560 Level 2 Welding Ag Repair. Repair of ag equipment with welding.
- 5561 Level 2 Welding Ag Fabrication. Creation of new ag equipment with welding.
- 5562 Level 2 Welding General Repair. Repair of non-ag equipment with welding.
- 5563 Level 2 Welding General Fabrication. Creation of non-ag equipment with welding.
- 5564 Level 2 Welding Artistic Fabrication. Creation of artistic or interpretive pieces with welding.
- 5565 Level 2 Brazing Repair.
- 5566 Level 2 Brazing Fabrication.
- 5567 Level 2 Smithing. A design forged with at least **two** different formed elements (twists and spirals for example).

### **Advanced – Level 3 (about 7 - 9 years' experience)**

This level is designed for youth with vast experience in the project area allowing them to master common principles and methods and expand on advanced techniques in the given area.

- 5570 Level 3 Welding Ag Repair. Repair of ag equipment with welding.
- 5571 Level 3 Welding Ag Fabrication. Creation of new ag equipment with welding.
- 5572 Level 3 Welding General Repair. Repair of non-ag equipment with welding.
- 5573 Level 3 Welding General Fabrication. Creation of non-ag equipment with welding.

- 5574 Level 3 Welding Artistic Fabrication. Creation of artistic or interpretive pieces with welding.
- 5575 Level 3 Brazing Repair.
- 5576 Level 3 Brazing Fabrication.
- 5577 Level 3 Smithing. A design forged with at least **three** different formed elements (twists, spirals and bulbs for example).

#### **Master – Level 4 (10 or more years' experience)**

This level is designed for youth substantial experience in the project area allowing them to master advanced techniques in the given area.

- 5580 Level 4 Welding Ag Repair. Repair of ag equipment with welding.
- 5581 Level 4 Welding Ag Fabrication. Creation of new ag equipment with welding.
- 5582 Level 4 Welding General Repair. Repair of non-ag equipment with welding.
- 5583 Level 4 Welding General Fabrication. Creation of non-ag equipment with welding.
- 5584 Level 4 Welding Artistic Fabrication. Creation of artistic or interpretive pieces with welding.
- 5585 Level 4 Brazing Repair.
- 5586 Level 4 Brazing Fabrication.
- 5587 Level 4 Smithing. A design forged with at least **four** different elements (twists, spirals and bulbs for example).

#### **Resources**

- Project Area – [STEM Ag Mechanics](#)

#### **Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

#### **State Staff Contact**

Pending

## **STEM ARCHITECTURAL BLOCK CONSTRUCTION**

The STEM ABC exhibit area focuses on using architectural blocks (“Legos”) to construct dioramas. This project allows youth to explore architectural design in a three-dimensional space. The intent for this program is to allow youth to explore the construct and gain knowledge through interaction with a common toy. This division is not intended for youth wishing to exhibit constructed kits. Kits and non-diorama displays should not be displayed in this division.

#### **Rules**

1. 4-H members must be currently enrolled in the Kansas 4-H STEM – Architectural Block Construction project to exhibit in this division.
2. Each exhibitor may enter one exhibit. Exhibits must have been constructed during the current 4-H year. The exhibit must have been selected at the county

- level for entry at the State Fair. Counties or districts should select only top blue or purple ribbon ABC exhibits which meet State Fair guidelines.
3. Counties are limited to FOUR exhibits to the state fair to insure sufficient space for all exhibitors.
  4. Total exhibit dimensions may not exceed 2 feet high, by 2 feet wide, by 2 feet deep.
  5. The minimum exhibit dimensions must be at least 6 inches wide and deep.
  6. All exhibits should be placed in a sturdy see through enclosure with a top, bottom, and 4 sides. A clear tub turned upside down with the exhibit placed on the lid would be an acceptable enclosure. It may be desirable to place a cutting board or other hard surface between the lid and base plate of the exhibit to make it sturdy. This is to keep exhibit components from being “scattered to parts unknown” at the fair. The outer dimensions of the enclosure **do not count** towards the total exhibit dimensions but should not be excessive.
  7. All components used in construction should be dust free, clean, free of chips, scuffs, or cracks
  8. Gaps or cracks should not be visible between assembled blocks unless they fit with the story, for example an earthquake
  9. The primary building component should be interlocking blocks, commonly referred to by the brand name of Lego®
  10. Other components can be integrated into dioramas to illustrate architectural aspects that may be difficult to convey with traditional interlocking blocks, for example marbles for small round objects
  11. The use of existing “store bought” sets for major elements of the display is not allowed, use of figurines from sets is allowed as are using individual bricks to create something different than the set it came from. The intent of this is to ensure fairness among exhibitors and encourage maximum creativity instead of just following a set of plans.
    - a. COUNTY FAIRS may choose to add classes for kits, but exhibits in those classes are not eligible for the Kanas State Fair.
  12. Diaoramas should be suitably complex and have multiple elements, for example, a camp site that has a log cabin, a tree fort, and a car.
  13. All dioramas should have a story, which is part of the information pack, that describes what is happening in the diorama; this can be as simple (the nursery rhyme “Jack and Jill” for example) or compes as needed to explain to someone looking at the exhibit what is happening.
  14. Vehicles that are intended to stay in a single place should be affixed to base plates with sticky tack, hot glue, or other method
  15. Mechanical enhancements or motion elements that add motion to the diorama are acceptable and encouraged. For example, marry-go-rounds, doors, elevators, gears, marbles going down a channel, flapping wings, animatronics, etc. If included judges should be able to use them and instructions should be provided for operation either in the story or on a separate page.
  16. Artistic designs , for example recreating paintings like the “Mona Lisa” or “Stary Nights” and structers like “David” are not permitted as exhibits and one ribbon

- placing should be deducted, These exhibits should be displayed in Visual Arts.
17. The exhibitor's name(s) and county or district must be tagged or labeled in a prominent location on the display, additionally the display case should have the exhibitor's information attached to it as well, as the top part of the case may be separated from the display
  18. Each exhibit must include an Architectural Block Construction information packet. Entry of just a packet without an accompanying exhibit is not a sufficient exhibit.
  19. Each exhibitor is required to complete the "4-H STEM Architectural Block Construction Exhibit Information Form" which is available through your local K-State Research and Extension office or at [www.STEM4KS.com](http://www.STEM4KS.com). This form must be attached to the outside of a 10" x 13" manila envelope. Do not tie the envelope to the exhibit. All revisions of forms previously released for the STEM division dated prior to current year are void for use and new forms must be obtained and used that are dated by the Kansas State 4-H Office for the current year.
  20. Each exhibit information packet should include the following items:
    - a. 1 to 5 pages of photos showing work on the exhibit, preferably from a beginning state to final or completed state, these help in determining where a part might go in case something comes loose.
    - b. If appropriate operating instructions for mechanical portions of the diorama.
  21. Additionally, exhibitors are required to create a video about their project discussing their construction experiences and the architectural elements of the diorama (tell the story of what is happening in their exhibit). This allows judges to get a better understanding of the exhibit and allows youth the opportunity to fully explain their exhibit. The video should be no longer than 8 minutes and should be placed on a USB drive. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges, superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.
    - a. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor.
  22. Architectural Block Construction exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of the State 4-H Staff, any exhibit removed before release time will be disqualified.

**Eligibility** – Each exhibitor may enter one exhibit.

**Quota** – Counties are limited to FOUR exhibits to the state fair to insure sufficient space

for all exhibitors.

**Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** – Best in show is applied across all STEM exhibit areas and may not be awarded.

**Classes**

**Intermediate (ages 9-13)**

5710 Interlocking brick diorama built from scratch

**Senior (ages 14 and up)**

5711 Advanced Interlocking brick diorama built from scratch

**Resources:**

- Project Area – [STEM Architectural Block Construction](#)

**Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

**State Staff Contact**

Pending

## **STEM ASTRONOMY**

The STEM exhibit area is designed to provide youth the opportunity to explore space through telescopes, research, and observation.

**Rules**

1. The 4-H member must be currently enrolled in the 4-H STEM - Astronomy project to exhibit in this division.
2. Each exhibitor may enter one exhibit per class. Exhibit must have been completed during the current 4-H year and have been selected at the county level for entry at the State Fair level. Counties or districts should select only top blue or purple ribbon Astronomy exhibits which meet State Fair guidelines.
3. Telescopes entered in this division may be built from a kit or by original design. Pre-finished telescopes, which require no construction or painting are not acceptable exhibits.
4. Telescopes are limited to no more than six feet in length. They must be placed on a stationary stand that does not allow the telescope to roll and/or fall over. The stand cannot extend past two feet in length or width.
5. Each State Fair telescope exhibit must include a "4-H Astronomy Exhibit

Information Form,” which is available through your local K-State Research and Extension office or at [www.STEM4KS.com](http://www.STEM4KS.com). This form must be attached to the outside of a 10” x 13” manila envelope. Do not tie the envelope to the exhibit. All revisions of forms previously released for the STEM division dated prior to current year are void for use and new forms must be obtained and used that are dated by the Kansas State 4-H Office for the current year. You must also include construction plans (or a photocopy) for the telescope and place it inside the manila envelope. For notebooks, display boards, and posters, no additional exhibit information is required; no manila envelope is needed for these exhibits.

6. See the last section for full details about exhibiting posters, display boards and notebooks.
7. Two photographs showing telescope construction and operation are required. Photographs should be mounted on one side of an 8 ½” x 11” page. A brief caption should accompany each photograph. Place photos in the 10” x 13” manila envelope.
8. The telescope must be properly assembled and painted with a smooth and uniform finish.
9. Decals, if used, should be attached smooth and tight.
10. Telescopes designed by the exhibitor must be original, not a modification of an existing kit.
11. Exhibitor’s name, county or district, age, and year(s) in project must be tagged or labeled in a prominent location on the telescope.
12. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor’s exhibit, at the judges’ discretion, will receive a participation ribbon.
13. Additionally, exhibitors may create an optional video (not required) about their project showing its operation and the work they have done. This allows judges to get a better understanding of the exhibit and allows the youth the opportunity to fully demonstrate their exhibit. The video should be no longer than 8 minutes and should be placed on a USB drive. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges, superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.
  - a. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor.
14. Astronomy exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk, or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of the State 4-H staff, any exhibit removed before release time will be disqualified.



### **Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** – Purple, blue, red, white, participant ribbons as well as disqualified, and best in show. Best in show is applied across all STEM exhibit areas and may not be awarded.

### **Classes**

5500 Telescope made from kit.

5501 Telescope made from original design.

### **Resources:**

- Project Area – [STEM Astronomy](#)

### **Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

### **State Staff Contact**

Pending

## **STEM COMPUTERS**

The Kansas 4-H STEM Computer System portion of the computer project is designed to allow 4-H members to explore how information is moved from one part of the computer to the other; how information is moved between two or more computer systems (networking); how information is stored; or how information is acted on (programming).

### **Rules**

1. Any item which IS NOT a notebook, display board, or poster displayed in this class is considered a “computer system” exhibit and MUST follow the rules set forth below.
2. The actual construction of computer hardware (i.e., building a computer, electronic devices with a motherboard-based manipulation) will remain in the Energy Management division.
3. 4-H members must be currently enrolled in the 4-H STEM – Computers project to exhibit in this division.
4. Each exhibitor may enter one exhibit per class. Exhibits must have been completed during the current 4-H year and have been selected at the county level for entry at the State Fair level. Counties or district should select only top blue or purple ribbon computer exhibits which meet State Fair guidelines.
5. Exhibitor’s name, county or district, 4-H age, and years(s) in project must be tagged or labeled in a prominent location on the exhibit, educational display, notebook, and/or poster.

6. See the last section for full details about exhibiting posters, display boards and notebooks.
7. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor's exhibit, at the judges' discretion, will receive a participation ribbon.
8. All exhibits must be:
  - a. Self-contained on a USB drive (thumb drive, flash drive, jump drive, or other any other name for a small USB storage device; the rules will use "USB drive"). This means that a judge can plug in the USB drive into a computer and run the exhibit as described below.
  - b. OR System -On-A-Chip (SOC) (such as Raspberry Pi) or a Micro-Controller (such as an Arduino or Ozobot) AND is a compact (less than 8"X 8"X 8") system, which can be programmed AND requires minimal assembly to operate (e.g. connecting power, display, and keyboard/mouse cables). Referred to as a "chip system" through the rest of the rules.
9. Physical computers such as tablets, smart phones, laptops, or personal computers (PCs) will not be accepted as an exhibit.
10. "Chip system" may use/include GPIO bread boards or HATs (Hardware Attached on Top) the size of which is not included in the size of the chip system however the total size of the chip system and GPIO devices may not exceed 24"X24"X24" including any protective enclosures.
11. Any attached GPIO devices are not judged for electrical construction or quality as this division is focused on the operational aspects of the system that have automated articulated structures (arms, wheels, grippers, etc.) which the exhibitor constructed, some of these systems can also be classified as a STEM Robot, and the exhibitor must decide which division to exhibit in as the exhibit may not be entered in both divisions.
12. For chip system, all electric components of the system must be adequately covered or concealed with a protective enclosure. Paper is NOT considered an adequate enclosure or covering for the electrical components.
13. All revisions of all forms previously released for the STEM division either undated or dated prior to current year are void for use and new forms must be obtained and used that are dated by the Kansas State 4-H Office for the current year. Use of old forms should result in the loss of one ribbon placing for exhibits.
14. For all computer system entries, the following items are required as part of an exhibit packet:
  - a. A manila envelope with the Computer Exhibit Form, which is available through your local K-State Research and Extension office or at [www.STEM4KS.com](http://www.STEM4KS.com). This form must be attached to the outside of a 10" x 13" manila envelope. Do not tie the envelope to the exhibit.
  - b. A USB drive labeled with the 4-Hers name, county/district, and club; in a way that does not prevent it from being plugged into a computer.
  - c. For exhibits that are entered on USB drives, at least one (1) graphic (picture, screen shot/capture, slide, etc.) of the project must be printed out on an 8.5" X 11" sheet of paper, **placed in a plastic sheet protector**, to allow for proper display and recognition at the Kansas State Fair. Additionally, this graphic should be included on the USB drive and given

the name “display graphic.” This is what will be displayed during the fair, all other materials will be sent back to the county/district office. On the back side of the graphic the 4-Her’s name, county/district, and club should be listed.

- d. Instructions to run any part of the exhibit on the USB drive.  
(There should be at least three (3) items in your manila envelope: USB drive, graphic and instructions).
15. Each exhibit must be accompanied by a “4-H Engineer’s Journal.” The engineer’s journal should be typed. It can either be included electronically on the USB drive (preferred) or printed and placed in the manila envelope.
  - a. The “4-H Engineer’s Journal” should start with a dated entry describing what the 4-H member is trying to accomplish/build.
  - b. The “4-H Engineer’s Journal” should conclude with a dated entry describing what the 4-H member achieved in creating. (The start and end many times will be different. The judges are interested in the journey).
  - c. Additional entries in the “4-H Engineer’s Journal” should be made as progress occur describing successes and failures; as well as the steps done and any sources of information including links used.
  - d. Pictures can also be included in the “4-H Engineer’s Journal” but should not be more than 50% of the entries.
  - e. The “4-H Engineer’s Journal” should contain at least one graphic.
  - f. The “4-H Engineer’s Journal” must be at least 3 pages in length.
  - g. An example of a “4-H Engineer’s Journal” can be found at [www.STEM4KS.com](http://www.STEM4KS.com).
  - h. The “4-H Engineer’s Journal” will comprise 50% of the overall exhibit score. Failure to include a “4-H Engineer’s Journal” will result in the exhibit being disqualified.
16. If the exhibit is a program, application, app, web site, or requires any coding, the source code must be included on the USB drive. Failure to include a copy of the “source code” may result in up to one ribbon place deduction.
17. Diagrams or decision trees showing the logical flow of the system must be included on the USB drive for all exhibits.
18. Since there is no conference judging at the Kansas State Fair, a set of instructions must be provided to run the computer system /application. These instructions should be printed off and included in the exhibit package and a copy should be included on the USB drive.
  - a. FOR COUNTY FAIRS it is recommended that 4-Hers bring a computer that will run their project to the fair for judging as judges typically do not bring computers with them. Operating instructions are still required.
  - b. Instructions should be written as though you were helping a less techy person, (like a grandparent) use the USB drive with a computer similar to what is described in rule 9 below. An example of instructions can be found at [www.STEM4KS.com](http://www.STEM4KS.com).
19. Each exhibit MUST include a video of the youth following their instructions for operation. For presentations, such as PowerPoint, this should include delivering the presentation. This allows judges to get a better understanding of the exhibit

and allows the youth the opportunity to fully demonstrate their exhibit. The video should be no longer than 8 minutes and should be placed on the USB drive. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges, superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.

- a. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor.
20. Each exhibit must accomplish a specific automated task using a computer, a chip system, URL, or virtual machine (VM).
21. Kansas State Fair Judge(s) in the computer system division will have a physical computer with the following minimum configuration to test exhibits with and view files:
  - a. Microsoft Windows® 10 or Windows® 11
  - b. Microsoft Office® 365 (Excel, Power Point, & Word)
  - c. Microsoft Visual Studio®
  - d. Microsoft Edge Browser®
  - e. Mozilla Firefox® Browser
  - f. Google Chrome® Browser
  - g. Adobe Acrobat Reader®
  - h. Apache OpenOffice®
  - i. VMware Player Windows 64bit
  - j. Scratch Desktop editor (offline version)
22. The STEM judges will have internet access at the Kansas State Fair. Internet based content may be included in exhibits. Exhibitors should take great care and only go on-line with their guardian's permission. User names and passwords should not be included in exhibits. If they are required to view the content, a temporary user account and password should be created for judging at the Kansas State Fair, once judging is complete the user name and password should be disabled on the account. If a separate user account is not possible, the content should be included as part of the video. **YOU SHOULD NOT SHARE YOUR USER NAME OR PASSWORD WITH OTHERS.**
23. Kansas 4-H STEM has made available Linux Virtual Machines (VMs) that can be downloaded and used to create projects on such as web servers, networking, and many other projects. For more information on how these VMs can be leveraged or to download them visit [www.STEM4KS.com](http://www.STEM4KS.com). 4-Hers are not required to use the VMs in their projects. They are optional.
24. All licensing should be adhered to for any software used in the exhibit. Failure to do so will result in a reduction of one ribbon placing and may not be considered for best of show.
25. The creation of viruses, malware, malicious applications or code, defamatory language or graphics, bullying, or any material that is "mean," "dangerous," or harmful according to the judge's opinion will result in the exhibit being disqualified.
26. Pictures or still graphics created are not eligible for entry as a project in this

division and should be entered in the appropriate photography division.

27. Judging will be based on a score sheet which can be found at [www.STEM4KS.com](http://www.STEM4KS.com). There are four (4) areas each exhibit will be judged on.

They are:

- a. 4-H Engineers Journal (what I learned to make it work), 50% overall score
  - b. Instructions (how I help others make it work), 25% overall score
  - c. Functionality (does it work), 12% overall score
  - d. Diagrams (and code if applicable) (how I think it works), 13% overall score
28. Computer exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk, or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of State 4-H staff, any exhibit removed before release time will be disqualified.

**Eligibility** – Each exhibitor may enter one exhibit per class.

**Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** – Best in show is applied across all STEM exhibit areas and may not be awarded.

**Classes**

**Computer System Division**

- 5590 Computer program, application, app, script, or coded system that is new and unique (not merely a file run in a program, such as a 'word document' or a picture drawn in 'Microsoft Paint').
- 5591 Computer presentation (power point, web page/site, animated graphics such as gifs, etc.)
- 5592 Single computer system (web server, database server, etc.) represented as a virtual machine.
- 5593 Networked system consisting of two or more virtual machines.
- 5594 Chip system - a small (8"X8"X8") programmed physical device that accomplishes a specific task.

**Resources:**

- Project Area – [STEM Computer Systems](#)

**Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

## State Staff Contact

Pending

## STEM ROBOTICS

The Kansas 4-H STEM Robotics program is designed to allow 4-H members to explore robotics through robots of various designs.

### Rules

1. 4-H members must be currently enrolled in the Kansas 4-H STEM - Robotics project to exhibit in this division.
2. Each exhibitor may enter one robot per class. Exhibits must have been constructed and/or completed during the current 4-H year. The robot must have been selected at the county level for entry at the State Fair. Counties or districts should select only top blue or purple ribbon robot exhibits which meet State Fair guidelines.
3. Each robot must be free-standing, without the need for additional supports in order to be moved or exhibited. Each exhibit must include a robot, information packets are not a sufficient exhibit.
4. Robots must have automated articulated structures (arms, wheels, grippers, etc.). Game consoles that display on a screen are not considered robots and should either be entered in computer system division or energy management project. Robots requiring no assembly, just programming, such as Ozobots, are considered computer system projects as the skill is focused on the programming not on the construction of the robot.
5. Robot dimensions should not exceed 2 feet high, by 2 feet wide, by 2 feet deep. Weight may not exceed 15 pounds. If displayed in a case (not required or encouraged for the state fair, but strongly encouraged for county fairs) the outside case dimensions may not be more than 26 inches in height, width, or depth.
6. Materials including but not limited to obstacles, spare batteries, and mats for testing the robot may be placed in a separate container, which is not included in the robots' dimensions, that container may not be larger than 576 cubic inches as measured along the outside of the container (Examples: 4" x 4" x 36" or 4" x 8" x 18" or 6" x 6" x 16"). The container, if used, and/or any large objects (such as mats or obstacles) should be labeled with the exhibitor's name(s) and county or district.
7. All electric components of the robot must be adequately covered or concealed with a protective enclosure. Paper is NOT considered an adequate enclosure or covering for electrical components.
8. Robots may be powered by an electrical, battery, water, air, or solar source only. Junk drawer robots may be powered by a non-traditional power source. Robots powered by fossil fuels/flammable liquids will be disqualified. Robots that include

weaponry of any kind will be disqualified. Weaponry is defined as any instrument, possession, or creation, physical and/or electrical that is intended to inflict damage and/or harm to individuals, animal life, and/or property.

9. Remote controlled robots are allowed under certain conditions provided that the robot is not drivable. Robotic arms (hydraulic or electric) are allowed. A remote is allowed, provided more than a single action happens when a single button is pressed on the remote, for example “a motor spins for 3 seconds, at which point an actuator is triggered, then the motor spins for 3 more seconds.” Remote controlled cars, boats, planes and/or action figures, etc. are not allowed.
10. Each robot must be in working condition. The judges will operate each robot to evaluate its workmanship and its ability to complete its intended task. In the event the robot uses a phone, tablet, or similar device for both programming AND control of the robot a video will be used to evaluate the working condition of the robot.
11. Each exhibitor is required to complete the “4-H STEM Robotics Exhibit Information Form” which is available through your local K-State Research and Extension office or at [www.STEM4KS.com](http://www.STEM4KS.com). This form must be attached to the outside of a 10” x 13” manila envelope. All revisions of all forms previously released for the STEM division either undated or dated prior to current year are void for use and new forms must be obtained and used that are dated by the State 4-H Office for the current year. Use of old forms should result in the loss of one ribbon placing for exhibits.
12. The exhibit must include written instructions for operation (the instructions should be written as if they were to tell a grandparent or elderly person how to operate the robot), construction plans, and one to three pages of project photographs. In addition, a 5-minute video presentation placed on a CD, DVD, USB drive, or similar removable storage device, if applicable. For robots that can be programmed, robot programming information must be included, this information should be placed inside the 10” x 13” manila envelope mentioned above. Robot programming information can be, but not limited to, source code, block diagrams, screen captures of the coding window, and other images that show the programming logic used. The exhibitor may enter their electronic project listed under the energy management program if the exhibitor so chooses. No exhibitor will be allowed to set up their robot in person.
13. In the event that the robot uses a device like a phone, iPad, or tablet for programming AND operation, DO NOT include the device (phone, tablet, etc.). The device’s safety cannot be insured. Instead record a video demonstrating the instructions included for your robot. It should show, setting up the robot, starting the robot, the robot executing its task, and powering off the robot, just like the instructions are written.
14. Each exhibit MUST include a video of the youth following their instructions for operation. This allows judges to get a better understanding of the exhibit and allows the youth the opportunity to fully demonstrate their exhibit. The video should be no longer than 8 minutes and should be placed on the CD, DVD, USB drive, or similar. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges,



superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.

15. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor. Creativity, workmanship, and functionality will be strong criteria in judging the “Robot designed by Exhibitor” classes. All robots should have a purpose or intended function, examples include, but are not limited to following a line, sweeping the floor, solving a Rubix Cube, sorting colors, or climbing stairs.
16. Exhibitor’s name(s) and county or district must be tagged or labeled on the robot such as on the bottom of the robot, exhibit cards are not an acceptable form of labeling
17. There are no county or district boundaries that must be adhered to in order to form a Kansas 4-HSTEM-Robotics team. However, as mentioned in #1, each team member must be currently enrolled in the Kansas 4-H STEM project.
18. Robotics exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of State 4-H staff, any exhibit removed before release time will be disqualified.
19. See the last section for full details about exhibiting posters, display boards and notebooks.

### **Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** –Best in show is applied across all STEM exhibit areas and may not be awarded.

### **Classes**

#### **Intermediate Division (Ages 9 – 13 years)**

- 5509 Robot made from a commercial (purchased) kit (no programming, just assembly).
- 5510 Robot designed by exhibitor. The robot must not be a mere modification of an existing robot kit or plan.
- 5511 Programmable robot made from a commercial (purchased) kit.
- 5546 Robot designed and constructed by exhibitor or from a commercial kit, that is operated by a remote-controlled device.
- 5544 Junk Drawer Robotics.

#### **Senior Division (Age 14 years and older)**



- 5313 Robot made from a commercial (purchased) kit (no programming just assembly).
- 5514 Robot designed by exhibitor. The robot must not be a mere modification of an existing robot kit or plan.
- 5515 Programmable robot made from a commercial (purchased) kit.
- 5547 Robot designed and constructed by exhibitor or from a commercial kit, that is operated by a remote-controlled device.
- 5545 Junk Drawer Robotics.

### **Division D – Team Robotics Project**

- 5517 Robot designed and constructed by two or more 4-H STEM project members. The robot must not be a mere modification of an existing robot kit or plan. The robot may be a programmable type that is made from a commercial (purchased) kit. This division is designed to encourage teamwork and cooperation among fellow 4-HSTEM members. As with many high-tech projects today, no one person designs and builds a robot alone. It takes the brainstorming, planning, problem solving, and cooperation of an entire team to complete a given robotics project.

### **Resources:**

- Project Area – [STEM Robotics](#)

### **Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

### **State Staff Contact**

Pending

## **STEM ROCKETRY**

The Kansas 4-H STEM Rocketry program is designed to allow 4-H members to explore aerospace through rockets of various sizes. Kansas 4-H has adopted the National Association of Rocketry's rules, regulations, and safety guidelines.

### **Rules**

#### **A. Exhibit Information for ALL rocketry categories**

1. All revisions of all forms previously released for the STEM division either undated or dated prior to current year are void for use and new forms must be obtained and used that are dated by the State 4-H Office for the current year. Use of old forms should result in the loss of one ribbon placing for exhibits.
2. Relevant documents may be obtained from County Extension Offices or from [www.STEM4KS.com](http://www.STEM4KS.com)
3. Rocketry exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated

talk, or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of State 4-H staff, any exhibit removed before release time will be disqualified.

4. NAR refers to the National Association of Rocketry and its governing board.
5. Tripoli refers to the Tripoli Rocketry Association and governing board.
6. All NAR documents, with the exception of the “pink book,” referenced herein can be found at <http://www.nar.org>.
7. If a fire burn ban is in effect for any county in Kansas, exhibitors in any Kansas County are not required to launch their rocket(s). All requirements for the launching of rockets for the state fair and the documenting of the launching are suspended for the duration of the ban.
8. Exhibitors may create an **optional** video (not required) about their project and the work they have done. The video should be no longer than 8 minutes and should be placed on a USB drive. These videos may also be considered for inclusion in a running video loop in the STEM area at the state fair after review by judges, superintendent(s), and extension staff. Adult guardians must complete the video release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area at the Kansas State Fair.
  - a. FOR COUNTY FAIRS with consultation judging, it is recommended that the video elements be waived in favor of talking with the exhibitor.
9. See the last section for full details about exhibiting posters, display boards and notebooks.

## **B. Exhibit Definitions for ALL rocketry categories**

1. As defined by the National Association of Rocketry (NAR), a scale model is “any model rocket that is a true scale model of an existing or historical guided missile, rocket vehicle, or space vehicle.” The intent of scale modeling is, according to the NAR, “to produce an accurate, flying replica of a real rocket vehicle that exhibits maximum craftsmanship in construction, finish, and flight performance.” (NAR “Pink Book” 50.1 4-1)
2. Adult supervision is defined as being under the direct supervision of someone 18 years of age or older.
3. For the purposes of Kansas 4-H STEM a mid-powered rocket is defined as a rocket that uses an ‘E’, ‘F’, ‘G’, or equivalent engine for launch. In addition, rockets also qualify for mid-power if they meet any of the following criteria:
  - a. Is 2 inches or greater in diameter (not including fins) and taller than 3 feet (36 inches including fins) and do not use an engine(s) exciding 160.01 Newton seconds of total impulse (an ‘H’ engine equivalent or above).
  - b. The total impulse of all engines used in the rocket is greater than 20.01 Newton-seconds and less than 160.01 Newton-seconds.
4. For the purposes of Kansas 4-H STEM-a high-powered rocket is defined as a rocket that meets any of the following criteria:
  - a. Weighs more than 3.3125 pounds (53 ounces or 1500 grams) at the time of launch;

- b. Uses a 'H' engine or larger to launch
- c. The total impulse of all engines used in the rocket is greater than 160.01 Newton-seconds of thrust.
- d. Includes any airframes parts of ductile, metal, though, the use of ductile metal is strongly discouraged.
- e. Models powered by rocket motors not classified as model rocket motors per NFPA 1122, e.g.:
  - i. Average thrust in excess of 80.01 Newtons
  - ii. Contains in excess of 125 grams of propellant and are limited to only H and I motors.
  - iii. Uses a hybrid motor or a motor designed to emit sparks
- 5. High power certification is defined as having successfully completed a certification program for high-powered rocketry through the NAR or Tripoli and maintaining that certification. This applies to all membership levels in the NAR and Tripoli. Specifically, the "Formal Participation Procedure" for the "Junior HPR Level 1 Participation Program" as outlined by the NAR and the "Tripoli Mentoring Program (TMP)" as outlined by Tripoli.
- 6. NAR rules for launching and construction of all rockets are assumed to be used by all 4-H STEM exhibitors and will be considered during judging.
- 7. For the purposes of Kansas 4-H STEM, NO rocket may be launched using engines totaling more than an 'I' impulse engine or 640 Newton-seconds of total thrust.

### **C. Exhibit Rules for ALL rocketry categories**

These rules apply to how rockets are to be displayed at the fair and what those displays should and should not contain. These rules apply to all rockets displayed in the STEM division.

- 1. 4-H members must be currently enrolled in the 4-H STEM-Rocketry program to exhibit in this division.
- 2. Entries must have been selected at the county level for entry at the State Fair. Counties/Districts should select top blue or purple ribbon rocketry exhibits which meet Kansas State Fair guidelines.
- 3. Each exhibitor may enter up to two rocket exhibits that have been constructed during the current year. If two rockets are entered, one rocket must be a "model rocket kit" or the second may be entered into any other applicable class. An exhibitor may not enter two rockets in the same class.
- 4. The report that accompanies the rocket must be limited to the 4-H STEM Rocket Exhibit Information Form which is affixed to a 10" x 13" envelope. This envelope should NOT be attached to the rocket stand or rocket. The information form should be signed by the exhibitor. This may be downloaded from [www.STEM4KS.com](http://www.STEM4KS.com). Any rocket exhibit not including this completed envelope will receive an automatic participation ribbon.
- 5. Plans (or a photocopy) must be placed inside the envelope:
  - a. This includes original design rockets.
  - b. If a rocket kit has been modified structurally (Which must provide all necessary details to construct an original design rocket.), notations need

to be given indicating the changes made, either by notations on the Rocket Exhibit Information Form or by placing notes in the plans. Such modifications require the rocket to be swing tested and documented to show a stable flight.

6. One or more photographs of the rocket during construction and at the launch site are required:
  - a. Photographs showing the rocket at the moment of ignition are preferred.
  - b. Photographs must be mounted on one side of 8 ½" x 11" page(s).
  - c. There must be at least 1 page of photos and no more than 5 pages of photos.
  - d. Include at least one photo showing rocket construction, preferably with the exhibitor included.
  - e. Do not include photos of members catching their rockets as they return to earth. This is an unsafe practice, and we do not recommend or condone this practice.
  - f. Pictures at the launch site are not required in the event of a burn ban.
7. To exhibit in this division:
  - a. The rocket must have been flown unless a burn ban is in effect.
  - b. Support rods must not extend past the tip of the highest nosecone on the model.
  - c. Support rods must remain in the upright position, 90 degrees to the display base, do not angle. If support rods are not perpendicular to the base, the judge should deduct two ribbon placings.
  - d. No model may be submitted on a launch pad
8. Launches should not be conducted in winds above 20 mph and will constitute a disqualification of rocket exhibit.
9. All rockets must have a safe method of recovery, e.g., parachute, streamer or tumble recovery. Any rocket without a recovery system will be disqualified.
10. The altitude achieved by the rocket is to be determined using a method other than estimation. Examples of accepted methods include altimeter, computer software, range finders, etc. If additional space is needed to show calculations of how the altitude was achieved one additional page may be added to the rocketry information pack.
11. Flight damage is to be documented by the participant on either the construction plans, an additional sheet of paper titled "flight damage" or the 4-H STEM Rocket Exhibit Information Form.
12. The judging of flight damage is to be secondary to all other aspects of the model and only then may it even be considered. However, under no circumstance may flight damage be grounds for disqualification.
13. Engines and igniters, under any circumstance, ARE NOT permitted with the exhibit and constitute an **immediate** disqualification.
14. If an engine becomes stuck, jammed, wedged, or in any other way permanently affixed in or to a rocket and cannot be removed from the rocket, the rocket will be subject to immediate disqualification. This is because it is not possible to make a full and immediate assessment of the safety of the rocket when it is being judged and safety is paramount.

15. Engines may not be used as display stands hollowed out or otherwise. Engines used as a display stand will cause the exhibit to be subject to immediate disqualification.
16. Rocket engines should not be used to join multi-stage rockets together.
  - a. Multi-stage rockets can be displayed without having the stages connected together. In that case the final stage (the one with the nose cone) should be placed on the display stand, and other stages with a loop of string to the display stand.
  - b. The different stages must be included to complete the rocketry exhibit, incomplete exhibits will be deducted at least one ribbon placing.
  - c. Use of any engines to join the stages together will be subject to immediate disqualification.
17. Multi-stage rockets can be flown using just the final stage and be considered fully flown.
18. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor's rocket, at the judges' discretion, will receive a participation ribbon. All information necessary will be given to the NAR and/or TRIPOLI for investigation and possible revocation of membership.

#### **D. Construction Rules for ALL Rockets**

These rules apply to how rockets are to be displayed at the fair and what those displays should and should not contain. These rules apply to all rockets displayed in the STEM division.

1. Rockets are to be properly assembled according to the assembly instructions.
2. Beginner kits with prefabricated fin assemblies and pre-finished rockets requiring no painting are not acceptable and will be disqualified.
3. Plastic snap together fins and prefabricated fin assemblies that **do not** require fin alignment are not acceptable and will be disqualified.
  - a. This rule does not apply to plastic fins that must be manually aligned and do not utilize a fin alignment mechanism, including, but not limited to fin alignment rings or spacing blocks.
  - b. This rule does not apply to fiberglass, Kevlar, extruded foam, composite, or wood fins; especially when used for "through-the-wall" fin attachment techniques that are common in larger rockets.
  - c. In addition, plastic parts for decorative and mechanical purposes (i.e. decorative nozzles and moving landing struts) are not considered fins and can consist of plastic. Decorative nozzles, etc. need to be securely fastened and not pose a safety hazard.
  - d. Fin assemblies that are printed using a 3D printer are excluded from this rule. Though detailed instructions on the creation of the fin assemblies must be provided and an additional page of photos may be included to show the creation/printing of fin assemblies
4. Angles of fins must fall within a plus or minus 2 degree variation using an approved fin alignment guide (such as KSSTAC10). An official fin guide is available from [www.STEM4KS.com](http://www.STEM4KS.com)
5. Fins should be rounded or streamlined according to instructions. If the other

edges are rounded to reduce drag on all exposed sides, there should be no ribbon deduction, unless instructions indicate to leave flat, or instructions say to round and rounding was not done.

6. Fins and body tubes are to be sealed with sanding sealer and/or primer to eliminate the appearance of body grooves and wood grain.
7. Fins and launch lugs are to be filleted to reduce drag and properly secure them to the model.
8. Engine mounts are to be securely attached to the body tube.
9. Any seams on plastic parts are to be sanded smooth.
10. Body tubes/airframes/engine mounts can be made from suitable materials, including, but not limited to: reinforced paper, cardboard, phenolic resin, specialized polymer resins, fiberglass, Kevlar, or other suitable structural materials. However, foam may not be used for external body or other external rocket parts.
11. The nose cone is to fit snugly but still allow for easy removal.
12. Exhibits must be uniformly painted and smoothly finished or finished as per rocket instructions, and have decals applied smoothly.
13. Non-standard surfacing (such as textured paint) may be used if directed by the instructions, this includes scratch-built rockets.
14. Models may not be judged based on their paint scheme (colors and placement on the rocket), with the exception of rockets that fit the definition of a 'scale model.' All other rockets do not have to follow the suggested paint scheme, allowing the 4-H'er to display maximum creativity in the finishing of their rocket. Under no circumstances is the weight given to the paint scheme to be sufficient enough, by itself, to move a non-scale model from one ribbon placing to another.
15. "Scale models" may be judged based on their paint scheme. The judge may deduct up to one ribbon placing for not following the paint scheme.
16. Scale Model Rockets are to be finished and completed with a majority (greater than 70%) of decals.
17. If a modification is made to the rocket, for example, adding a fin, a swing test must be conducted on the rocket, and the documentation provided. Failure to test and document flight stability following modifications will result in two ribbon placing deductions.

#### **E. Model Rocketry Specific Guidelines (Ages 9 and older)**

Model rockets are generally small-to-medium sized rockets that can be purchased at hobby stores that an individual(s) builds from parts similar to those found in model rocket kits.

1. Rockets classified as high or mid powered may not be entered in this category.
2. Each rocket must be able to stand freely by itself or be supported by a solid base, not to exceed 4-1/4" (four and one quarter inch) thick and 8" square. The exhibitor's name, county or district, and age must be labeled on the base. Rod materials should be sturdy, and not made of flimsy materials, such as coat hangers.
3. If the model rocket is greater than 4 feet tall it can be displayed without a base or displayed parallel to the ground with up to 3 notched blocks not to exceed 4" in

height width and depth. The exhibitor's name, county or district, and age must be labeled on the base(s).

4. All exhibitors must comply with the NAR Model Rocket Safety Code that is in effect as of October 1st of the current 4-H year. However, in the event that there is a modification in this code, the STEM Action Team may review and implement the modified code.

#### **F. Original Design Specific Rocket Guidelines (Ages 11 and older)**

To allow for youth to develop their own rockets (model, mid, and high powered) in a safe manner that displays maximum craftsmanship.

1. Original design rockets cannot be a modification of a pre-existing kit and must be of original design.
2. Original design rockets must be designed by the exhibitor(s).
3. Original design rockets must include detailed instructions, so that someone could construct the original designed rocket just like a kit purchased at a store. Instructions can be as many pages as needed to convey full and complete construction techniques.
4. Original design rocket instructions should not include copies of instructions in part or in whole from existing kits.
5. For a rocket entered in the original design classes, describe in the summary how the rocket was tested for stability prior to flying. Swing testing of the rocket is required. Other tests and calculations are encouraged. Exhibitors must include documentation of the swing test. Failure to swing test a rocket will result in a deduction of TWO ribbon placings.
6. A minimum of one additional page must be added to the rocketry information pack detailing the test(s) performed to insure stability. 4-Her's are strongly encouraged to provide as much detail as possible. Failure to provide adequate written documentation will result in a disqualification.

#### **Scoresheets, Forms, and Contest Study Materials:**

- [Rocket Fin Guide – Up to 8 Fins](#)
- [Rocket Fin Guide – 3 Wings](#)
- [Rocket Fin Guide – 5 Wings](#)
- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** –Best in show is applied across all STEM exhibit areas and may not be awarded.

#### **Classes**

##### **Division A (Ages 9 – 13 years)**

5520 Rocket made from kit. Include plans.

5537 Scale Model Rocket. Made from kit, includes plans.

##### **Division B (Ages 11 – 13 years)** 9 and 10-year-olds may not enter this class.

5521 Rocket designed by exhibitor: not merely a modification of an existing kit. Include



original plans.

- 5538 Scale Model Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans and stability testing.

### **Division C (Ages 14 years and older)**

- 5525 Rocket made from kit. Include plans.
- 5526 Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans.
- 5527 Rocket designed by exhibitor: that uses alternative skins; not merely a modification of an existing kit. Include original plans.
- 5539 Scale Model Rocket made from kit. Include plans.
- 5540 Scale Model Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans and stability testing.

### **Division D (Ages 11 years and older)**

This class is designed to encourage teamwork among individuals and clubs to work on a rocket from the initial design to the finished product.

- 5530 Rocket designed by 2 or more exhibitors: not merely a modification of an existing kit. Include original plans.

### **Mid-power Rocketry (2x'D' to 'G' Engines) Guidelines:**

Purpose: To allow for improved safety and judging of rockets that meet the requirements of 4-H mid-power rockets.

1. Exhibitors must be at least 14 years of age by January 1 of the current year.
2. The rules for ALL categories apply.
3. In addition to the information packet completed for all rockets, a high/mid power information form is to be completed and placed inside of the information packet. This may be downloaded from <http://www.kansas4-H.org/>. Click on KSF Packet link.
4. Exhibitors in this division must hold memberships in either NAR or Tripoli organizations.
5. The NAR Model Rocket Safety code applies to the construction and launching of all rockets displayed in this division. As such all exhibitors must comply with the NAR Model Rocket Safety Code that is in effect as of October 1<sup>st</sup> of the current year. However, in the event that there is a modification in this code the STEM Action Team may review and implement the modified code.
6. All rockets in this division are to be launched under adult supervision by the 4-H member who constructed the rocket.
7. High power rockets as defined above ('H' or 'I' engines) may not be launched in this division.
8. If according to Federal Aviation Regulations Part 101, a waiver is required to fly the rocket, a copy of that waiver is to be attached to the High-Power Information Form. In the case where the launch was a public event a substitute to a copy of the waiver is the Range Safety Officers (RSO's) contact information.
9. Mid- Power rockets may be displayed without a supporting stand. If a supporting stand is used, it is not to exceed 4-1/4" (four and one-quarter inch) thick and 8"



square. The exhibitor's name, county or district, and age must be labeled on the base.

### **Division E (Ages 14 years and older)**

5536 Mid-power rocket made from kit or original design.

#### **High Power Rocketry ('H' or 'I' engines) Guidelines**

To allow for improved safety and judging of rockets that meet the requirements of 4-H high power rockets.

1. Exhibitors must be at least 14 years of age by January 1 of the current year.
2. The rules for ALL categories apply.
3. In addition to the information packet completed for all rockets, a high-power information form is to be completed and placed inside of the information packet. This may be downloaded from [www.STEM4KS.com](http://www.STEM4KS.com).
4. Exhibitors in this division must hold memberships in either NAR or Tripoli organizations.
5. The NAR High Power Rocket Safety Code applies to the construction and launching of all rockets displayed in this division. As such all exhibitors must comply with the NAR High Power Rocket Safety Code that is in effect as of October 1st of the current 4-H year. However, in the event that there is a modification in this code the STEM Action Team may review and implement the modified code.
6. All rockets in this division are to be launched under adult supervision by the 4-H member who constructed the rocket.
7. For rockets launched using an engine(s) that have 160.1 ('H' engine or equivalent amount of smaller engines) Newton's-seconds or larger, adult supervision must be provided by an individual having at least a level 1 high power certification. The 4-H member should also hold or be attempting to attain their level 1 high power certification, and should include supporting documentation of such (a copy of Level 1 card is sufficient).
8. If according to Federal Aviation Regulations Part 101, a waiver is required to fly the rocket, a copy of that waiver is to be attached to the High-Power Information Form. In the case where the launch was a public event a substitute to a copy of the waiver is the Range Safety Officers (RSO's) contact information.
9. High Power Rockets may be displayed without a supporting stand. If a supporting stand is used, it is not to exceed 4-1/4" (four and one-quarter inch) thick and 8" square. The exhibitor's name, county or district, and age must be labeled on the base.

### **Division F (Ages 14 years and older)**

5535 High power rocket made from kit or original design.

#### **Recommended County Fair rules for Rocketry**

This is a reduced set of rules for use at county fairs. The use of these rules is optional and left to the discretion of the county fairs. These are more simplistic rules that cover the most common scenarios that are likely to appear at county fairs. Youth who are

eligible for the Kansas State Fair should read the Kansas State Fair rules for this division as the State Fair rules expect more from youth and set a higher bar as it is a state-wide event exhibiting the best from across the State of Kansas.

1. 4-H members must be currently enrolled in the 4-H Rocketry program to exhibit in this division.
2. All rockets displayed in this division must be constructed during the current 4-H year
3. If a rocket qualified for the Kansas State Fair, exhibitors should read the State Fair rules for the Rocketry division as they may be different from those at the county fair.
4. Each exhibitor may enter up to two rocket exhibits that have been constructed during the current year. If two rockets are entered, one rocket must be a “model rocket kit”, the second may be entered into any other applicable class. An exhibitor may not enter two rockets in the same class.
5. 4-Hers are to complete and sign the rocketry information form, available from [www.STEM4KS.com](http://www.STEM4KS.com) or your local extension office and attach it to a 10” x 13” “manila” envelope. The envelope should contain:
  - a. Instructions on how to construct the rocket
  - b. Up to 5 pages of pictures from both construction and launch
  - c. Documentation of any flight damage that occurred
  - d. Any modifications made to the rocket
  - e. An additional page for altitude calculations if the space on the form is not enough.
  - f. Additionally, for original design rockets, also known as “scratch built” rockets:
    - g. 5 additional pages of photos are allowed
    - h. Documentation of how the rocket was tested for stability
6. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor’s rocket, at the judges’ discretion, will receive a participation ribbon.
7. Rockets are to be displayed upright on a display stand with a sturdy rod that does not extend past the top of the rocket or stand unassisted, unless the rocket is taller than 4 feet in which case no display stand is required and the rocket may be displayed on its side, rockets are not to be displayed on launch pads to save space and prevent someone from being poked in the eye.
8. Rockets ARE NOT to be displayed with used or unused rocket engines either in the rocket or as part of the stand, if rocket engines are included in the exhibit the judge may disqualify the exhibit.
9. Rockets should be flown unless there is an active burn ban in the county or conditions are too dangerous to safely launch the rocket. Just flying the last stage (the part with the nose cone) of a multi-stage rocket is acceptable.
10. Rockets, except those in the JR division, are not to be “beginner kits” or use prefabricated fin assemblies or pre-finished rockets requiring no painting, these are not acceptable outside the JR division, and should be disqualified
11. Angles of fins must fall within a plus or minus 2-degree variation using an approved fin alignment guide (such as KSSTAC10). An official fin guide is available from [www.STEM4KS.com](http://www.STEM4KS.com).

12. Fins and body tubes, except those in the introductory division, are to be filled and sealed with sanding sealer and/or primer or other suitable filler to eliminate the appearance of body grooves and wood grain.
13. Fins and launch lugs are to be filleted to reduce drag and properly secure them to the model.
14. Engine mounts are to be securely attached to the body tube.
15. Any seams on plastic parts are to be sanded smooth.
16. The recovery system (typically a parachute or streamer) should be attached according to the instructions
17. The nose cone is to fit snugly but still allow for easy removal.
18. Exhibits must be uniformly painted and smoothly finished or finished as per rocket instructions (for example, no painting required), and decals, if used, are applied smoothly.
19. Models may not be judged based on their paint scheme (colors and placement on the rocket), except for rockets that fit the definition of a 'scale model\*' and are entered in the scale model class. All other rockets do not have to follow the suggested paint scheme, allowing the 4-H'er to display maximum creativity in the finishing of their rocket. Under no circumstances is the weight given to the paint scheme to be sufficient enough, by itself, to move the non-scale model from one ribbon placing to another.
20. "Scale models\*" entered in the scale model class may be judged based on their paint scheme. The judge may deduct up to one ribbon placing for not following the paint scheme.
21. "Scale Models\*" displayed in the scale model class are to be finished and completed with a majority (greater than 70%) of decals. For all other rockets the use of decals is optional.
22. Original design rockets cannot be a modification of a pre-existing kit and must be of original design.
23. Original design rockets must be designed by the exhibitor(s).
24. Exhibitor(s) must be 11 years of age (4-H age) or older to enter an original design rocket.
25. Original design rockets must include detailed instructions, so that someone could construct the original designed rocket just like a kit purchased at a store. Instructions can be as many pages as needed to convey full and complete construction techniques.
26. For a rocket entered in the original design classes, describe in the summary how the rocket was tested for stability prior to flying. Swing testing of the rocket is required. Other tests and calculations are encouraged. Exhibitors must include documentation of the swing test. Failure to swing test a rocket will result in a deduction of TWO ribbon placings.
27. A minimum of one additional page must be added to the rocketry information pack detailing the test(s) performed to insure stability. 4-Her's are strongly encouraged to provide as much detail as possible. Failure to provide adequate written documentation will result in a disqualification.
28. Rockets that use more than one 'D' engine or equivalent are consider mid or high-power rockets in 4-H.

29. Mid and High-Power exhibitors must be at least 14 years of age by January 1 of the current year.
30. In addition to the information packet completed for all rockets, a high-power information form is to be completed and placed inside of the information packet. This may be downloaded from [www.STEM4KS.com](http://www.STEM4KS.com)
31. Exhibitors in the mid and high-power divisions must hold memberships in either NAR or Tripoli organizations.
32. The NAR High Power Rocket Safety Code applies to the construction and launching of all rockets displayed in this division. As such all mid and high-power rocketry exhibitors must comply with the NAR High Power Rocket Safety Code that is in effect as of October 1st of the current 4-H year.
33. All rockets in the mid and high-power divisions are to be launched under adult supervision by the 4-H member who constructed the rocket.
34. For rockets launched using an engine(s) that have 160.1 ('H' engine or equivalent amount of smaller engines) Newton's-seconds or larger, adult supervision must be provided by an individual having at least a level 1 high power certification. The 4-H member should also hold or be attempting to attain their level 1 high power certification if launching on this large of an engine.

**As defined by the National Association of Rocketry (NAR), a scale model is “any model rocket that is a true scale model of an existing or historical guided missile, rocket vehicle, or space vehicle.” The intent of scale modeling is, according to the NAR, “to produce an accurate, flying replica of a real rocket vehicle that exhibits maximum craftsmanship in construction, finish, and flight performance.” (NAR “Pink Book” 50.1 4-1)**

## **COUNTY ONLY CLASS**

### **Division JR (Ages 7 – 8 years)**

##20a Rocket made from kit, without pre-assembled fin units. Include plans.

##20b Rocket made from “beginners kit.” Include plans. Rockets in this class may have pre-assembled fin units. (This class is for first and second year 4-H members to explore the rocketry project).

##37a Scale Model Rocket made from kit, include plans.

### **Division A (Ages 9 – 13 years)**

5520 Rocket made from kit. Include plans.

5537 Scale Model Rocket made from kit. Include plans.

### **Division B (Ages 11 – 13 years)** 9 and 10 year olds may not enter this class.

5521 Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans.

5538 Scale Model Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans and stability testing.

### **Division C (Ages 14 years and older)**

5525 Rocket made from kit. Include plans.

- 5526 Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans.
- 5539 Scale Model Rocket made from kit. Include plans.
- 5540 Scale Model Rocket designed by exhibitor: not merely a modification of an existing kit. Include original plans and stability testing.

#### **Division D (Ages 11 years and older)**

This class is designed to encourage teamwork among individuals and clubs to work on a rocket from the initial design to the finished product.

- 5530 Rocket designed by 2 or more exhibitors: not merely a modification of an existing kit. Include original plans.

#### **Division E (Ages 14 years and older)**

- 5536 Mid or high-power rocket made from kit or original design.

#### **Resources:**

- Project Area – [STEM Rocketry](#)

#### **Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

#### **State Staff Contact**

Pending

## **STEM UNMANNED AERIAL SYSTEM**

The 4-H unmanned aerial system or UAS project explores the world from above the trees and discovers new frontiers with UASs. UASs are commonly known as Unmanned Aerial Vehicles (UAVs) or drones. Members explore the uses and applications of unmanned aerial system including how UASs link to other projects such as geology, robotics, electronics, crop science and many more.

#### **Rules**

1. The 4-H members must be currently enrolled in the 4-H STEM project to exhibit in this division.
2. Each exhibitor may enter one exhibit per class. Exhibit must have been completed during the current 4-H year and have been selected at the county level for entry at the State Fair level. Counties or district should select only top blue or purple ribbon exhibits which meet State Fair guidelines.
3. The information that accompanies the UAS must be limited to the 4-H STEM Exhibit Information Form which is affixed to a 10" x 13" envelope. This envelope should NOT be attached to the UAS. This may be downloaded from [www.STEM4KS.com](http://www.STEM4KS.com). Any UAS exhibit not including this completed envelope will receive an automatic participation ribbon. All revisions of forms previously released for the STEM division dated prior to current year are void for use and

new forms must be obtained and used that are dated by the Kansas State 4-H Office for the current year.

4. Each exhibit **MUST** include a video of the youth operating their UAS. This allows judges to get a better understanding of the exhibit and allows the youth the opportunity to fully demonstrate their exhibit. The video should be no longer than 8 minutes and should be placed on the CD, DVD, USB drive, or similar. These videos may also be considered for inclusion in a running video loop in the STEM area at the State Fair after review by judges, chair(s) and extension staff. Adult guardians must complete Video Release included with the exhibit form. If the release is not completed the video will not be included in the video loop on display in the STEM area of the Kansas State Fair.
5. Unmanned aerial system exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent. The exhibit must be returned to display immediately after the demonstration/illustrated talk or the exhibit will be disqualified.
6. Exhibitor's name, county or district, age, and years(s) in project must be tagged or labeled in a prominent location on the exhibit, educational display, notebook, and/or poster.
7. Unmanned Aerial System that include or depict weaponry of any kind will be disqualified.
8. See the last section for full details about exhibiting posters, display boards and notebooks.
9. If modifications are made to the exhibit a page should be attached noting those modifications.
10. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor's exhibit, at the judges' discretion, will receive a participation ribbon.
11. UAS exhibits may be checked out for use in a Kansas State Fair 4-H demonstration or 4-H illustrated talk with prior permission. For permission, check with the superintendent or the information desk in 4-H Centennial Hall. The exhibit must be returned to display immediately after the demonstration/illustrated talk, or the exhibit will be disqualified. Exhibitors and/or their designees may not remove exhibits from 4-H Centennial Hall prior to the exhibit release time on Sunday evening without the express consent of State 4-H staff, any exhibit removed before release time will be disqualified.

### **Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** –Best in show is applied across all STEM exhibit areas and may not be awarded.

### **Classes**

#### **Intermediate Division (Ages 9 – 13 years)**

- 5701 Unmanned Aerial System designed and constructed by exhibitor that is operated by a remote-controlled device. The UAS must not be a mere modification of an existing kit or plan. You may not exhibit a UAS that is purchased off the shelf in this class.
- 5702 Practical application of an Unmanned Aerial System constructed from a commercial (purchased) kit. This includes the UAS, plus one or more of the following: video, notebook, poster, display board, etc. This class is separate from educational exhibits. A tangible use would be mapping Russian olive trees, eroded soils, and bindweed in fields, etc. There are also many other non-agricultural UAS uses that would be appropriate for this class.

### **Senior Division (Ages 14 and older)**

- 5706 Unmanned Aerial System designed and constructed by exhibitor that is operated by a remote-controlled device. The UAS must not be a mere modification of an existing kit or plan. You may not exhibit a UAS that is purchased off the shelf in this class.
- 5707 Practical application of an Unmanned Aerial System constructed from a commercial (purchased) kit. This includes the UAS, plus one or more of the following: video, notebook, poster, display board, etc. This class is separate from educational exhibits. A tangible use would be mapping Russian olive trees, eroded soils, and bindweed in fields, etc. There are also many other non-agricultural UAS uses that would be appropriate for this class.

### **Resources:**

- Project Area – [STEM UAS](#)

### **Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

### **State Staff Contact**

Pending

## **STEM EDUCATIONAL EXHIBITS (Posters, Notebooks, and Display Boards)**

To allow 4-Hers to explore STEM outside the bounds of traditional projects for rockets, robotics, astronomy, computers and unmanned aerial system. All posters, notebooks and display boards are listed in this section and have been removed from the individual sections to save space.

### **Rules**

1. The General Exhibit rules for ALL categories apply.
2. Entries must have been selected at the county level for entry at the Kansas State Fair. Counties/Districts should select top blue or purple ribbon Educational Rocketry Exhibits which meet State Fair guidelines.



3. For notebooks, display boards, and posters, no additional exhibit information is required; no manila envelope is needed for these exhibits.
4. Exhibits are to have a **clear link to the STEM areas** of astronomy, computers, rocketry, robotics, or unmanned aerial systems, educational exhibits outside of these STEM areas should be displayed in the other program areas. Just because an educational exhibit relates to the broad concept of STEM does not qualify it to be displayed in the STEM Educational Exhibit area. Exhibits that do not clearly show a clear and direct relationship to the STEM project areas of ag-mechanics, ABC, astronomy, computers, robotics, rocketry, or UAS as previously defined will be disqualified.
5. Exhibits in posters, notebooks and display boards must contain substantial supporting educational materials.
6. Educational display boards, posters and notebooks should be creative and showcase details about the knowledge learned in the project during the current 4-H year. Value is placed on youth who can demonstrate how their skills have increased while completing the project. Each exhibit will be judged on uniqueness, creativity, neatness, accuracy of material, knowledge gained, and content. An exhibit judging score sheet available at [www.STEM4KS.com](http://www.STEM4KS.com). For example, a rocket that may have crashed and/or is highly damaged may be made into an educational display or poster that tells a great story with many lessons learned.
7. Follow copyright laws, citing all sources of information in a standard notation. Sources of information must be cited on the front of your exhibit, including all posters and educational display boards.
8. Educational displays are not to exceed a standard commercial 3' x 4' tri-fold display board. No card table exhibits will be allowed. Care should be taken to use durable materials that will withstand Kansas State Fair conditions.
9. "Construction Kits" that are part of Educational displays must be contained in cases (tackle boxes, sealable containers, etc.) that may not be larger than 1' x 2' x 2' and must have a latch which securely keeps all components contained in the "Construction Kits". Other components are to adhere to appropriate dimensions as stated elsewhere.
10. Educational Project notebooks must be organized in a 3-ring binder.
11. Any three-dimensional poster or display board exhibits may not be thicker than 2 inches.
12. Engines and igniters for rockets ARE NOT permitted with the exhibit and constitute an immediate disqualification. This is for safety reasons and includes both spent and live engines.
13. Exhibitor's name, county or district, age, and year(s) in project must be tagged or labeled in a prominent location on the, notebook, and/or "Construction Kit." For education displays and/or posters the exhibitor's name, county, or district, age, and year(s) in project must be tagged or labeled on the back of the exhibit. Exhibit cards are not sufficient as they may be removed or repositioned for display. Failure to label an exhibit may result in one ribbon placing deduction.
14. Exhibits should possess the following qualities (in no particular order):
  - a. A Central theme



- b. What you want others to learn
  - c. Be designed and constructed in a manner befitting the exhibit
  - d. Be something you are interested in
  - e. Be related to Astronomy. Computer System, Robotics, Rocketry, or Unmanned Aerial System
  - f. As well as those characteristics described above.
15. If a safety violation is noted by the judges, superintendent, or other staff, the exhibitor's exhibit, at the judge's discretion, will receive a participation ribbon.
16. Posters, Notebooks, and Display Boards may be checked out for use in a Kansas State Fair 4-H demonstration or illustrated talk with prior permission. For permission, check with the superintendent(s). The exhibit must be returned to display immediately after the demonstration/illustrated talk, or the exhibit will be disqualified.

**Eligibility** - Exhibits must have been constructed and/or completed during the current 4-H year. The exhibit must have been selected at the county level for entry at the State Fair. Counties or districts should select only top blue or purple ribbon robot exhibits which meet State Fair guidelines.

**Scoresheets, Forms, and Contest Study Materials:**

- [www.STEM4KS.com](http://www.STEM4KS.com)

**Awards/Recognition** – Purple, blue, red, white, participant ribbons as well as disqualified, and best in show. Best in show is applied across all STEM exhibit areas and may not be awarded.

**Classes**

**Astronomy – Intermediate Division (Ages 9 – 13)**

- 5731 Junior Astronomy Educational Display
- 5732 Junior Astronomy Educational Notebook
- 5733 Junior Astronomy Educational Poster

**Astronomy – Senior Division (Ages 14 years and older)**

- 5736 Senior Astronomy Educational Display
- 5737 Senior Astronomy Educational Notebook
- 3738 Senior Astronomy Educational Poster

**Rocketry – Intermediate Division (Ages 9 – 13)**

- 5741 Rocketry Educational Display
- 5742 Rocketry Notebook
- 5743 Rocketry Poster Board

**Rocketry – Senior Division (Ages 14 years and older)**

- 5746 Rocketry Educational Display
- 5747 Rocketry Notebook

5748 Rocketry Poster Board

**Robotics – Intermediate Division (Ages 9 – 13)**

5756 Robotics Educational Display  
5757 Robotics Educational Notebook  
5758 Robotics Educational Poster

**Robotics – Senior Division (Ages 14 years and older)**

5761 Robotics Educational Display  
5762 Robotics Educational Notebook  
5763 Robotics Educational Poster

**Robotics Team Robotics Project**

5766 Team Robotics Educational Display  
5767 Team Robotics Educational Notebook  
5768 Team Robotics Educational Poster

**Computers – Intermediate Division (Ages 9 – 13)**

5771 Junior Computer Educational Poster  
5772 Junior Computer Display Board  
5773 Junior Computer Notebook

**Computers – Senior Division (Ages 14 years and older)**

5776 Senior Computer Educational Poster  
5777 Senior Computer Display Board  
5778 Senior Computer Notebook

**Unmanned Aerial System – Intermediate Division (Ages 9 – 13)**

5781 Junior Unmanned Aerial System Educational Poster  
5782 Junior Unmanned Aerial System Display Board  
5783 Junior Unmanned Aerial System Notebook

**Unmanned Aerial System – Senior Division (Ages 14 years and older)**

5786 Senior Unmanned Aerial System Educational Poster  
5787 Senior Unmanned Aerial System Display Board  
5788 Senior Unmanned Aerial System Notebook

**Superintendent(s)**

Tony Foster, Central Kansas District and Wabaunsee County Volunteer

**State Staff Contact**

Pending

## VISUAL ARTS

The visual arts project teaches artistic skills and the elements and principles of design. 4-H members explore techniques, study art history, culture, and discover their talents. Be creative; draw, paint and work with different mediums. There are five classes that are judged at the Kansas State Fair: Fine Arts, Clay and Ceramics, Leather and Jewelry, Three Dimensional, and General Crafts.

### Rules

1. **Each county may submit one entry from each of the five categories (Fine Arts, Clay and Ceramics, Leather and Jewelry, Three-Dimensional, and General Crafts).**
2. Articles exhibited must be an original design created by the exhibitor. See copyright guidelines in the general rules section of the Fair Book (page 5). \*
3. All visual arts exhibits are evaluated using a visual arts rubric, which takes into account correct use of design elements, craftsmanship, and creativity.
4. **A member may display only one visual arts item.**
5. Large art items will not be accepted. Exhibits must be of manageable size and be easily transported and displayed by one person.
6. All exhibits which need to be hung (including all fine arts) must have a wire or saw tooth hanger attached (no string or tape). If necessary, hardware is not attached, it will be deducted a ribbon and will not be displayed.
7. Multi-piece items should be marked accordingly.
8. 4-H members should exhibit in the project in which they are enrolled. The Fiber Arts Project offers classes for quilting, embroidery, counted-cross stitch, etc.
9. No plants or plant materials needing watering can be entered as an art display or item.
10. Art Release Form covers items while on display at Rock Springs and must accompany art exhibit to be considered for Rock Springs display.
11. All exhibits are entered at your own risk. Art Release Form covers items while on display at Rock Springs.

### Quota –

Each county may submit one entry from each of the five categories (Fine Arts, Clay and Ceramics, Leather and Jewelry, Three-Dimensional, and General Crafts). A member may display only one visual arts item.

### Scoresheets, Forms, and Contest Study Materials:

- [Kansas 4-H Visual Arts Scoresheet](#)

### Awards/Recognition –

Some artwork will be selected to be on display at Rock Springs 4-H Center during 2022-2023. 4-H members should include an Art Release Form, available from their Extension Office, with their exhibit indicating their willingness to have their art displayed at Rock Springs for a year. The release form will be removed at check-in and filed by county/district to expedite the selection process. Previous Rock Springs display items

will be returned to Extension Units upon the conclusion of the State Fair.

### **Classes**

- 4501 Fine Arts: Oil, chalk, charcoal, dyes, pastels, pencil, ink, acrylic, or watercolor on canvas, canvas board, paper, wood, metal, or textiles, framed as a picture, prepared for hanging. Stretched canvas art on a wooden frame is considered prepared for hanging provided that frame has a hanger.
- 4502 Clay and Ceramics: Any original item made of clay; may be fired or unfired, hand formed, or thrown on a wheel. Self-hardening, fire/oven-cured, and/or cornstarch clays are acceptable. Items can include, but are not limited to, clay statues, bowls, etc.
- 4503 Leather and Jewelry: Any leather stamping, carving, tooling, lacing, or stitching piece or any jewelry piece made from any medium are acceptable exhibits.
- 4504 Three Dimensional: The piece must be observable on at least three sides and should be either free-standing or prepared to be hung. Craft and pre-formed or assembled projects are not acceptable.
- 4505 General Crafts: This category incorporates miscellaneous pieces that do not correspond to the four, above-mentioned categories.

### **Resources:**

- Project Area – [Visual Arts](#)

### **Copyright**

Kits and preformed molds are not considered original and are not acceptable in any Visual Arts Class. Combining parts of different patterns (pictures, photographs, images from the internet or a magazine) with the member's own ideas can result in an original design, but simply changing the color, pattern, and/or size of a pattern does not make the design original. If you create a replica of what you see somewhere else (i.e. Pinterest), it is not your original design. If a photo, sketch, or other idea source was used, submit it with your entry, firmly attached to your exhibit.

### **Superintendent(s)**

Allison Lecklider, Central Kansas District Volunteer,  
Robyn Deines, Walnut Creek District 4-H Youth Development Agent

### **State Staff Contact**

Pending

## **WILDLIFE**

This project is for all youth, whether living in the city, the country, or in between. Kansas wildlife are an important part of our state heritage and environment, 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.

## Rules

1. Exhibitors must comply with state and federal laws. It is illegal to possess threatened or endangered wildlife, or the feathers, nests, or eggs of non-game birds. Game birds and game animals taken legally during an open season may be used. The use of live wild animals in educational exhibits is prohibited.
2. KSRE, 4-H Youth Development and the Kansas State Fair are not responsible for damage during the exhibition period.
3. Name, county or district, age and year in project should be in a prominent location on the exhibit.

**Quota** – A member may make only one entry in this division.

## Scoresheets, Forms, and Contest Study Materials:

- [Educational Display Score Sheet](#)
- [Promotional Display Score Sheet](#)

## Classes

- 5400 Notebook. Contents pertain to some phase, results, story or information about the wildlife project.
- 5401 Promotional Poster. Must be related to something learned in the wildlife project. (Flat poster board or foam board no larger than 22" x 28").
- 5402 Educational Display. Must be directly related to the wildlife project. Maximum tri-fold size is 3' x 4'.
- 5403 Taxidermy/Tanning Exhibit. Should include an attachment that shows the work in progress through photos with captions, or a detailed journaling of the process.

## Resources:

- Project Area - [Wildlife](#)

## Superintendent(s)

Keith VanSike, Twin Creek District Extension Agent

## State Staff Contact

Chandra Plate, Kansas 4-H Youth Development Specialist

# WOOD WORKING

The Wood Science project allows youth to exhibit a wide variety of items they made working with wood, using tools. Learn to create and read plans to build projects for the farm, shop, household or other areas.

## Rules

1. The plan from which it was constructed **must** be with the article exhibited. The plan may be a photocopy, the actual pattern, or a scale drawing. It must be

complete and accurate to the extent that a duplicate article could be built using the plan as a guide. Please note: a set of step by step instructions is not a plan.

2. Projects with missing or insufficient plans will be lowered one ribbon placing (i.e. a blue ribbon exhibit will receive a red ribbon).
3. The use of materials other than wood should be kept to a minimum.
4. Projects that have unsecured glass, i.e., glass shelves, glass top of a coffee table, etc., should not be brought to the fair. Glass that is secured in the project, i.e., glass front of a gun case or cabinet, etc., is permissible since it cannot be easily removed.
5. The entry card, plans and all other paperwork should be enclosed in a zip top plastic bag with a hole punched through it and tied or otherwise secured to the project in some manner. Tape is usually not adequate to accomplish this.
6. Refinished/ repaired furniture should be exhibited in Home Environment Class 4400 - Single Exhibit.
7. Projects made from pre-cut kits are not allowed.
8. In judging woodwork articles, consideration will be given to: Workmanship, including accuracy to the plan; Design; Choice of wood; Suitability and quality of finish; and Usefulness.
9. Firearms and weapons are not to be entered or exhibited at the Kansas State Fair in the Kansas 4-H Youth Development Department.

### **Eligibility**

Each exhibitor is limited to one exhibit in this division.

### **Scoresheets, Forms, and Contest Study Materials:**

- [Kansas 4-H Woodscience Scorecard](#)

### **Classes**

4700 Article for farm or shop use

4701 Furniture for household or lawn use

4702 Other woodwork. Articles not included in above classes. Examples: bird houses, bird feeders, household equipment such as knife racks, bread boards, door stops, etc.

### **Resources:**

- Project Area - [Woodscience](#)

### **Superintendent(s)**

Ginger Kopfer, Geary County Agent

### **State Staff Contact**

Chandra Plate, Kansas 4-H Youth Development Specialist

## **CONTESTS AND OR SMALL LIVESTOCK**

### **CROPS IDENTIFICATION CONTEST**

4-H Crops and Weeds Contests help 4-H members develop their skills in plant and seed identification. This activity can be a vital part of the 4-H Crops Project. When 4-H'ers become members of a team, they learn how to work with one another and to respect the differences of each individual. In addition, as they learn to identify plant and seed samples, they gain an appreciation for the importance of attention to detail and improve their decision-making skills.

#### **Rules**

In keeping with National 4 H rules, contestants who have participated in post-high school course work or training for post-high school competition in the subject area of this contest are not eligible to compete. College freshmen who are enrolled in agronomy

coursework and/or who are on a collegiate agronomy team of any type are not eligible to participate in the contest. The official Kansas State Fair Contest guidelines are provided in the K-State publication 4-H 713 (Revised, 2014) "4-H Crops and Weeds Contest."

### **Contest Dates, Times and Locations**

Saturday September 9<sup>th</sup> – 1pm - Encampment Building

### **Eligibility**

Intermediate division (age 9, but not yet 14) and senior division (age 14, but not yet 19) before January 1 of current year. Contestants in National 4-H Competitive Events cannot have reached their 19th birthday as of January 1 of the year in which the National 4-H Competitive Event is held. To register, Extension Staff must complete the Qualtrics registration form for Teams and can enter individuals in the Fair Entry system. Payments of \$5 per exhibitor should be sent to the office with the Fee Schedule found [here](#), prior to the beginning of the Kansas State Fair.

### **Quota**

There are Intermediate and Senior Divisions in this contest. Each County Extension Council may enter one team of four regularly enrolled 4-H members in each division. Each District Extension Council may enter teams of four regularly enrolled 4-H members equal to the number of counties comprising the Extension District in each division. The score of the three highest team members being totaled for the team score. An individual may compete for individual awards if less than three persons are available to form a team. All teams and team members must be pre-entered. Enter county/district teams in class 5940 or 5942, and team members in class 5941 or 5943. Substitutions may be made at check-in.

### **Scoresheets, Forms, and Contest Study Materials:**

- Plant Identification: 50 pressed plant samples mounted on cardstock will be identified. Participants earn 1 point for correct identification of each specimen, for a total of 50 points.
- Seed Identification: 50 seed samples will be identified. Participants earn 1 point for correct identification of each seed sample, for a total of 50 points.

### **Awards/Recognition**

The Kansas State Fair will provide judging medals to the three highest scoring individuals in the Senior Divisions of this contest, rosettes to members of the first-place team in the Intermediate and Senior Divisions of this contest and will sponsor up to \$200 for an educational trip for the first-place senior team. Plans for the trip must be approved by the State 4-H Office. Funds will be awarded after the trip has been taken. The County Weed Directors' Association of Kansas, (Ryan Witt, Executive Director, P.O. Box 95, St. John, KS, 67576. Office (620) 549-3594; Email - [coweed@gbta.net](mailto:coweed@gbta.net)) will award plaques to the three high individuals in the Senior Division, the 3<sup>rd</sup> place team plaque in the Senior Division and Intermediate Divisions, and first, second and third place medallions for the Senior and Intermediate Divisions. The Eric and Jackie



Chandler Family, 6080 County Road 3300, Neodesha, KS 66757. Email: [jlchandler18@gmail.com](mailto:jlchandler18@gmail.com) will sponsor award plaques to the three high individuals in the Intermediate Division, and the first and second place team plaques for the Senior Division and Intermediate Divisions.

### **Classes**

- 5940 Senior Crops Identification Co/Dist. Team Name
- 5941 Senior Crops Identification Contestant Name
- 5942 Intermediate Crops Identification Co/Dist. Team Name
- 5943 Intermediate Crops Identification Contestant Name

### **Resources:**

- USDA Plants Database, <https://plants.usda.gov>
- Bugwood Image Database System (Weed Images, Invasive.org, Forestry Images), <http://images.bugwood.org>
- Weed ID Guide, University of Missouri, <https://weedid.missouri.edu>
- Weed Identification, Kansas State University, <https://www.agronomy.k-state.edu/extension/weed-management/weed-identification/index.html>
- Weeds of the Great Plains, Nebraska Department of Agriculture, <https://nda.nebraska.gov/forms/nw11.pdf>
- Weeds of the North Central States, University of Illinois Bulletin 772, <https://www.ideals.illinois.edu/handle/2142/3395>
- Weeds of the Midwestern United States and Central Canada, University of Georgia Press, <https://ugapress.org/book/9780820335063/weeds-of-the-midwestern-united-states-and-central-canada/>
- Weed Seeds of the Great Plains: A Handbook for Identification, University Press of Kansas, 2502 Westbrooke Circle, Lawrence, KS 66045, Available online.
- Weed Science Society of America, <https://wssa.net/wssa/weed/weed-identification/>

### **Superintendent(s)**

Jay Wisby, Central Kansas District Extension Agent; Shannon Blocker, Wabaunsee County Extension Agent

### **State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist

## **FAMILY & CONSUMER SCIENCES JUDGING**

The FCS judging contest will include three components: 1) judging classes 2) Group Think and 3) hands-on puzzle room experience. These categories are chosen from the same list that the Western National Roundup uses for their contest. The Group

Think activity is modeled from the Western National Roundup. In this activity, youth work as a team to come up with a solution to the challenge presented. There will also be a puzzle room experience which will involve the group working together to solve a series of puzzles.

### **Rules**

1. Teams must be pre-entered by August 15 via Qualtrics form.
2. An entry fee of \$15 per team (2-4 people) will be due with the August 15 pre-entry date.
3. Local Units MUST select their contest participation time when pre-entry information is submitted.
4. All participating team members must check in and be prepared to start the contest at the same time. Please have one adult check in with the team. Adults and team members will be separated after the orientation session. 4-H members will be escorted to and from the various contest components. Adults are encouraged to volunteer to assist with various contest aspects.
5. There will be three components to complete as part of the contest:
  - a. Class judging and reasons for selected classes (Individual)
  - b. A hands-on immersion activity (Team)
  - c. A presentation inviting the team's perspective in response to the situation presented on the day of competition.
6. Teams will deliver their presentation before a judge. Spectators will not be allowed in the presentation room.
7. All cell phones and other communication devices must be turned off while participating in the contest.
8. Efforts will be made to accommodate participants in multiple State Fair 4-H events.

### **Contest Dates, Times and Locations**

Saturday September 16<sup>th</sup> – 9am - Encampment Building

Awards will happen prior to the Fashion Revue at 3:30pm in Hansen Auditorium

### **Eligibility**

Youth ages 9-13, as of January 1 of the current year, are eligible to participate in the Intermediate division. Youth ages 14-19 as of January 1 of the current year, are eligible to participate in the Senior Division. To register, Extension Staff must complete the Qualtrics registration form for Teams. Payments of \$15 per team should be sent to the office with the Fee Schedule found [here](#), prior to the beginning of the Kansas State Fair.

### **Quota**

Each team must have at least 2 members and no more than 4 members. Participants can only register as a team. Individuals are not permitted to enter this contest. Each County Extension Council may enter a team in each division (Intermediate and Senior). Each District Extension Board may enter, in each division, teams equal to the number of counties comprising the Extension District. Intermediates may participate in the Senior Division to complete a team, but may not be on two teams in the same year. Seniors

may not participate in the Intermediate Division.

### **Awards/Recognition**

Rosettes will be presented to the top two teams in each age division. The first-place team in each age division will be eligible to take an educational FCS related trip, for reimbursement, up to \$200. Additional prizes may be awarded. Scores and contest winners will be shared at 3:30 p.m. in the Encampment Building Auditorium. Contest packets will be returned to present teams after the results are announced.

### **Classes**

5940 Intermediate FCS Judging Team

5965 Senior FCS Judging Team

### **Resources:**

- Project Area – [FCS Contest](#)

### **Superintendent(s)**

Becky Reid, Cowley County, FCS Extension Agent

### **State Staff Contact**

Amy Sollock, Kansas 4-H Youth Development Specialist

## **FASHION REVUE**

This project will introduce you to a whole new world of options with outfits, clothing and accessories. The advanced units will teach you how to take the design of your choice and customize it for the perfect look, color and fit. Buymanship will give you that edge on knowing your wardrobe, planning a budget for an outfit, choosing between different shades of colors and analyzing clothing advertisements.

### **Rules**

1. The following forms and fees must be post marked and submitted to the State 4-H Office by August 15.
  - a. Completed Cost per Wear & Evaluation Score Card Form.
  - b. \$5 entry fee, make checks payable to: Kansas 4-H Foundation – non-refundable.
2. Participants should communicate judging time preference to their Extension Agent. When offices complete the state fair entry online, approximate judging times will be selected and filled on a first come basis.
3. Participants should provide a written script to their Extension Agent so that the office may submit it as part of the fair entry process. Scripts should be 4-6 sentences in length. Write it exactly as you want it read during the public revue. Include member's name and local unit somewhere in the first sentence. Some descriptors may include: fabric, colors, patterns, where you will wear the outfit,

- what you like best, etc. Feel free to include hobbies and other info about yourself.
4. State Fair clothing, fiber arts or visual arts exhibits cannot be used in any of the three fashion revue classes.
  5. Participant may model only what can be worn. Garments cannot be carried. Contestants should use good sense in choosing items that are appropriate to be modeled publicly.
  6. Youth must participate and be present at the Public Fashion Revue to receive recognition or awards. Ribbons and prize money will be withheld if participants do not participate in the Public Revue.
  7. Judging will take place at Hutchinson Community College Stringer Fine Arts Center, on 11th Ave, just east of the Kansas Cosmosphere. The judging schedule will be available on the web and at Local Extension Offices before the Fair.
  8. **Constructed Garments Revue:** Majority of the outfit must be constructed and modeled by the 4-H member who made the garment/outfit. **Everything which is commonly considered an outer garment must be constructed** (vest, jacket, dress, skirt, pants, coat, etc.). A sweater, blouse or shirt that is worn underneath another constructed garment can be purchased or made.
  9. **Buymanship Revue:** Majority of the outfit must be purchased (not borrowed) and modeled by the 4-H member or made by another individual for the 4-H member if the fabric and pattern were chosen by the 4-H member. Everything which is commonly considered an outer garment must be purchased by the 4-H member or constructed by another person (vest, jacket, dress, skirt, pants, coat, etc.).

### **Contest Dates, Times and Locations**

**The Public Fashion Revues will be held in Hansen Auditorium in the Encampment Building on Saturday, September 16, 2023. The Constructed Garment Fashion Revue will be held at 4:00 pm and the Buymanship Fashion Revue will be at 5:00 pm.**

### **Eligibility**

4-H members wishing to participate must be enrolled in the Clothing & Textiles project must have been declared a winner at the county or district level. Alternates may participate if winners cannot attend. Participants must be 14, but not yet 19, before January 1 of the current year. No younger children can model in the senior classes. No live animals may accompany participant; exception needed service animals. To register, Extension Staff enter individuals in the Fair Entry system. Payments of \$5 per exhibitor should be sent to the office with the Fee Schedule found [here](#), prior to the beginning of the Kansas State Fair.

### **Quota**

Each 4-H member may compete in only one class. Each County Extension Council may enter two contestants per class. Each District Extension Council may enter contestants equal to the number of counties comprising the district x 2.

### **Scoresheets, Forms, and Contest Study Materials:**

- [Fashion Revue Scorecard & Cost Per Wear Form](#)

### **Awards/Recognition**

All members will receive a purple, blue, red or white ribbon. Champions and Reserve Champions will be named in all three classes and will receive special awards from The Kansas State Fair and The College of Human Ecology; Kansas State University will provide \$250 scholarships in each division for the champion and reserve winners who enroll in the college.

### **Classes**

6000 For 4-H members enrolled in the Clothing & Textiles – Construction project.

6010 For young women enrolled in the Clothing and Textiles - Buymanship project.

6020 For young men enrolled in the Clothing and Textiles - Buymanship project.

### **Resources**

- [Shopping in Style](#)
- [Clothing Challenge: Thrifty Threads: Kansas 4-H Project Challenge](#)

### **Superintendent(s)**

Lora Horton, Hamilton County Extension Agent

Jennifer LaSalle, West Plains District FCS Agent

### **State Staff Contact**

Amy Sollock, Kansas 4-H Youth Development Specialist

## **PHOTOGRAPHY JUDGING CONTEST**

Contest consists of 6 classes of photographs, one problems class and a knowledge test. The contest gives each contestant the opportunity to judge photographs using the same criteria that 4-H photography judges use: composition, technique, and eye appeal to judge each class. The problems class and the knowledge test are geared to help the 4-Her solve a problem with critical thinking and to gauge their knowledge of photography.

### **Rules**

1. Enter county/district teams in class 5980 (Senior Team) or 5985 (Intermediate Team).
2. Enter team members in class 5981 (senior team member) or 5986 (Intermediate team member).
3. Intermediates must be 9-13 as of January 1 of the current year. Seniors must be 14-18 as of January 1 of the current year.
4. Cost will be \$10 per team or \$5 per individual per Extension Unit. Payment due to the State 4-H Office by August 15
5. Substitutions may be made during registration on the day of the contest.
6. Each County Extension Council may enter a team of three or four regularly

enrolled 4-H members in each division (Intermediate and Senior). Each District Extension Board may enter, in each division, teams of three or four regularly enrolled 4 H members equal to the number of counties comprising the Extension District. If more than four members are listed as a team, the first four members listed will constitute the team. Counties or Districts may not enter a team plus individuals in a division. An individual may compete for individual awards if less than three are available to form a team. Intermediates may participate in the Senior Division to complete a team but may not be on two teams in the same year. Seniors may not participate in the Intermediate Division.

7. In keeping with national 4-H rules, contestants who have participated in post-secondary course work or training for post-secondary competition in the subject area of this contest are not eligible to compete.
8. **Group 1 Schedule**  
10:00-10:30 am.....Check-in, Encampment Building (check-in by one representative per county/district).  
10:30-10:45 am.....Orientation, Hansen Auditorium, Encampment Building  
11:00 am-12:00 pm.....Contest, Encampment Building
9. **Group 2 Schedule – Participants will be divided by counties/districts into two similar sized groups.**  
11:00-11:30 am.....Check-in, Encampment Building (check-in by one representative per county/district).  
11:30-11:45 am.....Orientation, Hansen Auditorium, Encampment Building  
12:00-1:00 pm.....Contest, Encampment Building
10. There will be no awards ceremony on the day of the contest due to time constraints and busy schedules. A copy of the results will be place in the Kansas State Fair county/district packets and will be posted to the Kansas State Fair 4-H results page.
11. Each contestant is expected to bring a clipboard or writing board and one or more #2 pencils to the contest.
12. The contest shall consist of photographs to judge, photographic problems, and a written exam. The written exam will consist of multiple choice, and/or matching questions. Each photo judging class, problem class, and exam will be valued at 50 points for a perfect score. Color or black and white photographs will be used in judging classes.
13. The team score will be the total of highest three individual scores of the team members. Individual scores will also be recognized.

### **Contest Dates, Times and Locations**

Sunday, September 10<sup>th</sup> – 10:30am - Encampment Building

### **Eligibility**

Intermediates must be 9-13 as of January 1 of the current year. Seniors must be 14-18 as of January 1 of the current year. To register, Extension Staff must complete the Qualtrics registration form for Teams and can enter individuals in the Fair Entry system. Payments of \$5 per exhibitor or \$10 per Team should be sent to the office with the Fee Schedule found [here](#), prior to the beginning of the Kansas State Fair.

### **Scoresheets, Forms, and Contest Study Materials:**

- [Study material and practice classes](#)
- [Kansas 4-H Photography Judging webpage](#)

### **Awards/Recognition**

The Kansas State Fair will provide medals to members of the first, second, and third place teams in each division and the top three individuals in each division.

### **Classes**

5980 Senior Photography Judging Co/Dist. Team Name  
 5981 Senior Photography Judging Contestant Name  
 5985 Intermediate Photography Judging Co/Dist. Team Name  
 5986 Intermediate Photography Judging Contestant Name

### **Resources**

- [4-H Photography Judging Contest Information](#)

### **Superintendent(s)**

Hannah Fox, Coffey County Volunteer and Susan Stich Southwind District Volunteer

### **State Staff Contact**

Amy Collins, Kansas 4-H Program Coordinator

## **RABBIT JUDGING CONTEST**

The primary purpose of the Rabbit Judging Contest is to develop judging skills in those 4-H members exhibiting rabbits at the State Fair. Participation in judging and other competitive events helps 4-Hers learn to compare rabbits and make decisions. Rabbit judging provides an excellent opportunity for 4-Hers to learn about a variety of rabbits and apply their knowledge of the ARBA Standards of Perfection.

### **Rules**

1. Evaluation will consist of four classes with four animals in each class. Rabbits will be provided by KSRBA members. A time limit of seven minutes per class is allowed. Placing will be recorded on forms provided. No written or oral reasons are required.
2. All evaluations will occur concurrently with showmanship from 8:00 am – 12:00 noon at the Rabbit Building.
3. All contestant's will be placed in ribbon groups. No special premiums offered.

### **Contest Dates, Times and Locations**

Sunday, September 17<sup>th</sup> – 8am - Rabbit Building

### **Eligibility**



Open to any member exhibiting rabbits in the 4 H Division at the Kansas State Fair.

**Scoresheets, Forms, and Contest Study Materials:**

- [Sample Rabbit Scoresheet](#)

**Awards/Recognition**

Class champions and reserve champions will receive Grand Champion and Reserve Grand Champion Rosettes. Sedgwick County Hare Raisers 4-H Rabbit Project Club will award trophies to the winners and runner-up of each class.

**Classes**

- 3470 Judging Contest, members 15 years and older.
- 3471 Judging Contest, members 13 and 14 years old.
- 3472 Judging Contest, members 11 and 12 years old.
- 3473 Judging Contest, members 9 and 10 years old.

**Resources**

- [Kansas 4-H Rabbit project webpage](#)
- [National Rabbit Curriculum](#)

**Superintendent(s)**

Karlee Wigton, Lyon County Volunteer

**State Staff Contact**

Beth Hinshaw, Kansas 4-H Youth Development Specialist

## **POULTRY JUDGING CONTEST**

The primary purpose of the poultry judging contest is to develop 4-H club members. Participation in judging and other competitive events helps 4-Hers learn to make and defend decisions and to speak in public. Poultry judging provides an excellent opportunity for 4-Hers to learn about live chickens and the basis of grade and quality of poultry products.

**Rules**

1. Enter COUNTY/DISTRICT TEAM MEMBERS and INDIVIDUALS NOT COMPETING ON TEAMS in class 5931 if Seniors or 5936 if Intermediates (i.e. Jane Doe, John Smith, Mary Harper, Todd Wilson). Substitutions may be made at check-in.
2. Time: 10:30 am. Contest begins at 11:00 am. Awards will begin at 2:00 pm.
3. Eight Classes to be Judged:
  - a. One class of hens judged on past production
  - b. One class of ready to cook carcasses to be graded on USDA quality grades



- c. One class of ready to cook parts to be graded on USDA quality grades
  - d. One class of breaded, boneless, processed poultry products
  - e. One class of parts identification
  - f. One class of exterior egg grading
  - g. One class of interior egg grading by candling
  - h. One class of interior egg grading by broken out
4. Contestants who have competed at the National 4-H Poultry Judging Contest are not eligible to compete in this contest.
  5. In keeping with National 4-H rules, contestants who have participated in post-secondary course work or training for post-secondary competition in the subject area of this contest are not eligible to compete.
  6. Oral reasons will not be given at the state contest. The winning team should be prepared to present reasons at the national contest.

### **Contest Dates, Times and Locations**

Saturday, September 16<sup>th</sup> – 10:30am - Encampment Building

### **Eligibility**

Intermediate division (age 9, but not yet 14) and senior division (age 14, but not yet 19) before January 1 of current year. Contestants in National 4-H Competitive Events cannot have reached their 19<sup>th</sup> birthday as of January 1 of the year in which the National 4-H Competitive Event is held. All team members competing in out of state contest must be 14 before January 1 of current year and meet other eligibility requirements listed in special rules. To register, Extension Staff must complete the Qualtrics registration form for Teams and can enter individuals in the Fair Entry system. Payments of \$5 per exhibitor should be sent to the office with the Fee Schedule found [here](#), prior to the beginning of the Kansas State Fair.

### **Quota**

A County may enter a maximum of one team (three or four individuals) in each division – intermediate and senior. Each District may enter a maximum of one team (three or four individuals) in each division – intermediate and senior, equal to the number of counties comprising the extension district. Intermediates may judge in the Senior Division to complete a team; however, the team will forfeit the opportunity to participate in the National 4-H Poultry Judging contest. An individual may compete for individual awards if less than three persons are available to form a team. If a county/district enters a team, they must provide at least one person to assist with the contest. Extension units may enter individual contestants beyond the designated team members.

### **Awards/Recognition**

The first place Senior team plus the first-place Senior individual will represent the state at the national contest. The first-place individual may not be on the first-place team; however, they may still attend the national contest. If the first-place Senior team cannot attend, then the next placing team will substitute in its place and so on up to the fifth-

place team. Judging medals will be provided for the three high scoring individuals in the Intermediate and Senior Divisions of this contest, and rosettes to members of the first-place team in the Intermediate and Senior Divisions of this contest.

### **Classes**

5930 Senior Poultry Judging Co/Dist. Team Name  
5931 Senior Poultry Judging Contestant Name  
5935 Intermediate Poultry Judging Co/Dist. Team Name  
5936 Intermediate Poultry Judging Contestant Name

### **Resources**

- [National 4-H Poultry Judging Contest Manual](#)
- [Market Poultry Grading](#)

### **Superintendent(s)**

Dr. Scott Beyer, Extension Specialist, Poultry Sciences, K-State Research and Extension  
Bernadette Trieb, Wabaunsee County Extension Agent

### **State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist

## **DAIRY CATTLE**

The dairy cattle project equips youth with the essential knowledge to care for and engage safely with dairy cattle.

### **Rules**

1. **Entries will be made on the Kansas State Fair website in the open class Dairy cattle show entries on or before August 15th**
2. Please see the schedule posted [here](#) to see all check-in times and release times for each of the breeds.
3. Be prepared to show registration or transfer papers dated before June 15 of current year, when checking in your animal at the fair. Animals may be co-owned and co-registered by two or more 4-H members of the same family, but may not be registered in a farm name or include names of adults. Animals registered or transferred to youth after June 15 of the current year cannot be shown at the fair.
4. All grade or leased animals must provide official "4-H Grade Dairy Cattle or Leasing Identification Form", MG54 revised, to be eligible to show. An animal exhibited in the open show with registration papers cannot show as a grade animal in the 4-H show.
5. Youth must have carried the 4-H dairy project at least 100 days. The superintendent of the 4-H office may grant exceptions to this rule in case of unusual or emergency conditions.

6. 4-H dairy animals are stalled in the open class dairy buildings and must be in the space assigned.
7. 4-H may show in the open class. Refer to the open class premium list for rules and closing date for entries
8. Age in the dairy classes will be determined by standard classifications.
9. Holstein and Jersey exhibitors will be released at 3:00 pm or following the completion of the show on Monday. Ayrshire, Brown Swiss, and Milking Shorthorn exhibitors will be released at 3:00 pm on the second Sunday of the fair.
10. Kansas 4-H members are expected to exhibit their own animals and projects. An exhibitor substitution may be allowed only in the following cases:
  - a. Exhibitor is ill/injured; must have physician's order and be present at the time of the show.
  - b. Exhibitor has more than one animal entered in the same species
  - c. Exhibitor has animals simultaneously being judged in more than one species
  - d. Substitute exhibitors must be entered and exhibiting their own project(s) in the respective species department at the Kansas State Fair in which they are serving as a substitute.

## **Classes – See the Open Class Entry System for Kansas State Fair**

### **Champion and Reserve Champion Rosettes**

Dairy cattle will be placed by the judge into blue, red, and white ribbon groups. The size of the premium is not guaranteed and is dependent on the number and quality of animals exhibited. The fitting and showing classes also will be judged by breeds according to the plan of blue, red, and white ribbon groups and ribbons only awarded.

### **Superintendent(s)**

Bill Toews, Harvey County Volunteer

### **State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist

## **DAIRY GOATS**

The dairy goat project equips youth with the essential knowledge to care for and engage safely with dairy goats.

### **Rules**

1. **Entries will be made on the Kansas State Fair website in the open class Dairy goats show entries on or before August 15th.**
2. Per the Kansas State Fair's rules and schedules. See here for details

[https://cdn.saffire.com/files.ashx?t=fg&rid=KansasStateFair&f=Dairy\\_Goat\\_Rules\(1\).pdf](https://cdn.saffire.com/files.ashx?t=fg&rid=KansasStateFair&f=Dairy_Goat_Rules(1).pdf) . All 4-H dairy goats must be on premises by 6:00pm on the second

Friday of the fair. 4-H Participants check in through the Open Show checkin.

There is no 4-H special meeting. Stalls will be assigned to you in the Sheep Barn by the Open Dairy Goat Show Secretary.

3. This is an ADGA sanctioned 4-H Youth Show. Therefore, only American Dairy Goat Association, American Goat Society, and Canadian Goat Society registered recorded or applied-for animals that are recognized by ADGA as dairy animals may be shown in official American Dairy Goat Association Shows. Registration papers or stamped duplicate registration applications for goats fewer than 6 months of age will be required for all animals. Registration Papers must be in the sole name of the 4 H exhibitor by May 1. No joint herd names or multiple owners are allowed. All papers must be presented at check-in for verification. All ADGA and 4-H rules will govern.
4. Entries will be placed in classes by age with the day of judging being the base date. Each exhibitor is limited to a maximum of six head total. Only does are allowed to show.
5. Exhibitors are requested to be neatly and appropriately dressed (preferably in white) when showing animals.
6. The showmanship class will begin at 8:00 am the second Saturday of the fair. Breed classes will follow in this order: ALPINE, LaMANCHA, NIGERIAN DWARF, NUBIAN, ALL OTHER PUREBREDS (consist of Oberhasli, Saanen, Sable, & Toggenburg), and RECORDED GRADES. Show order is not subject to change.
7. Dairy goats will be released at 4:00 pm on the second Sunday of the fair.
8. The Junior and Senior shows are not separately sanctioned.
9. A fitting and showing contest for 4-H goat exhibitors will be held at the beginning of goat judging, Saturday at 8:00 am. Any exhibitor of dairy goats may enter the showmanship class. Fitting and Showing classes will be divided into Intermediate, 9 thru 13, and Senior, 14 thru 18 before January 1 of the current year. 4-H/FFA exhibitors must own the animal that is used in showmanship.

**Classes – See the Open Class Entry System for Kansas State Fair Superintendent(s)**

Ashley Dester, Dickinson County Volunteer

**State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist

## **DOG SHOW**

The purpose of the State Fair Dog Show is to provide an opportunity for Kansas 4-H members to demonstrate the proficiency of the dogs they have personally trained and groomed in their 4-H project. The different classes being judged are showmanship, obedience, agility, and rally.

**Showmanship:** The purpose of Showmanship is to provide 4-H'ers the opportunity to show their dog and themselves to the best of their ability. The purpose of

**Obedience:** Kansas 4-H Obedience is to provide 4-Hers the opportunity to demonstrate the teamwork necessary to work under a variety of conditions. In obedience, the intent is to evaluate the proficiency by which the dog and handler are able to perform various exercises as a team in much the same way as might be done in demonstrating the behavioral activities in normal life.

**Agility:** The purpose of Kansas 4-H Dog Agility is to provide 4-H members the opportunity to demonstrate the teamwork necessary to work under a variety of conditions that challenge both the handler and dog. By teaching a series of obstacles, the 4-H'er provides the basic training and exercise that leads to a more versatile, well-conditioned dog. Different obstacles and courses present unique tests of speed, confidence, technical skills, athleticism, balance, communication, attentiveness, distance, and directional control. The task of leaders, judges, trainers, and handlers is to incorporate all these elements while maintaining a fun, safe environment for the dogs and 4-H'ers. The sport of agility provides a basis for other activities such as search and rescue. Agility is exciting for both exhibitors and spectators, as well as motivating for the dogs.

**Rally O:** The purpose of Kansas 4-H Rally Obedience is to provide 4-Hers the opportunity to demonstrate the teamwork necessary to work under a variety of conditions. In Rally Obedience, the intent is to evaluate the proficiency by which the dog and handler are able to perform various exercises as a team in much the same way as might be done in undertaking different activities outside the show ring.

## **Rules**

1. Check in for all classes is at 8:00 am
2. All teams, comprising of 4-H members who are 9-18 years of age and their dog, who have met county or district annual qualifications receiving a qualifying blue or purple in showmanship, obedience, agility or rally obedience can compete in the State 4-H Dog Show.
3. 4-H Dog Show Immunization Record (only MG-34 Revised, October 2017 accepted) must be completed for each dog entered at the State 4-H Dog Show. The record may be printed on any color paper. Originals or photocopies are acceptable. The fully completed form must be presented to the veterinarian at health check on the day of the show to be eligible to compete. Teams without the immunization record will not be allowed to show. Required vaccinations include: Bordetella, Distemper, Hepatitis, Parvovirus, Parainfluenza, and Rabies. The rabies vaccination must be administered by a licensed veterinarian. All vaccinations must be current. Dogs must be at least 6 months of age at time of show, but one year old for agility.
4. Any abuse of dogs on grounds or in the ring, will result in disqualification.
5. No dog in season will be allowed to show.

6. A well-fitting collar of leather, chain, or fabric is to be used for obedience and Rally Obedience; for Agility, a buckle or snap collar or no collar; for Showmanship, a show lead that serves as both collar and lead or a fine link chain collar, a “snake” chain or a fabric slip collar with a narrow, lightweight fabric or leather lead. No spiked, pinch, special training collars, and hanging objects from collars are allowed.
7. Any dog fouling the ring will receive a white ribbon. Owners should collect all dog waste in plastic bags and put in trash.
8. Baiting dogs is not allowed in the ring.
9. No mobile phones and/or other electronic devices are allowed in the ring.
10. **DOGS ARE NOT ALLOWED TO RUN AT LARGE OR ACCOMPANY OWNER ANYWHERE ON FAIRGROUNDS AT ANY TIME.**
11. The Kansas State Fair Dog Show will follow rules as listed in the published Kansas 4-H Dog Show Rule Book 4H1120, January 2023.
12. For time constraints, teams receiving a non-qualifying score may be excused from the ring at the show committee’s discretion for long performance times (more than 5 minutes) AND repeated failures at obstacles.
13. Score sheets are available at <https://www.kansas4-h.org/projects/animal-science/dog/Kansas%20Dog%20Show%20Rules%20Scoresheets%202021.pdf> or through your local Extension Office for showmanship and obedience.

**Eligibility** – All teams, comprising of 4-H members who are 9-18 years of age and their dog, who have met county or district annual qualifications receiving a qualifying blue or purple in showmanship, obedience, agility or rally obedience can compete in the State 4-H Dog Show.

#### **Scoresheets, Forms, and Contest Study Materials:**

- [Kansas 4-H Dog Show Rule Book 4H1120, January 2023](#)

#### **Awards/Recognition**

**Cares, Inc.**, Concordia, KS 66901 offers awards for the champions and reserve champions who receive at least a blue in each class.

State Dog Scholarship winner, State Dog Project winner and any Special Leader Recognition will be announced during the show.

#### **Classes**

##### **SHOWMANSHIP COMPETITION**

**Time: 9:00 am**

Entries will be judged on fitting of the dog: clean and well brushed, tone and condition of coat, healthy appearance, teeth, toenails, and eyes. Handler will be judged on alertness, grace, and ease, coordination with dog and reaction of dog to handler with straight and even gait and movement of dog.

3600 Junior Showmanship, 4-H members 9 - 11 years old

3602 Intermediate Showmanship, 4-H members 12 - 14 years old

3605 Senior Showmanship, 4-H members 15 and older

Showmanship ribbon groups:

- Purple 95100 points
- Blue 9094.5 points
- Red 8089.5 points
- White 79.5 points or less

## **OBEDIENCE COMPETITION**

**Time: 9:00am**

A 4H member may enter only one dog per class. See rule 2 to enter the proper class. A score of 170 points or greater (blue or purple) is a qualifying score, with at least 50% in each exercise. In case of tie, a runoff on the heel free exercise will be held with one team performing at a time. Pre-Novice is offered only at the local level.

3610 Novice

3615 Graduate Novice

3620 Open A

3625 Open B

3630 Utility A

3635 Utility B

Obedience ribbon groups:

- Purple 190200 points
- Blue 170189.5 points
- Red 150169.5 points White 149.5 points or less

Advancement: After receiving two qualifying scores (blue or purple) from two different judges, an obedience level team must advance to the next level at the start of the next 4-H year.

## **AGILITY COMPETITION**

**Time: Agility IV will begin at 9:00 am, followed by III, II and I**

Dogs must be at least 12-months-old before competing.

Divisions for all Agility classes are:

I Small dogs – under 15” at the withers

II Medium dogs – 15-20” at the withers

III Large dogs – more than 20” at the withers

Note: Pre-Agility or Agility I on lead is for local shows only.

### **Classes**

3640 Agility I

3641 Agility II

3642 Agility III  
3643 Agility IV

Agility ribbon groups:

- Purple 190 – 200 points
- Blue 170 – 189.5 points
- Red 150 - 169.5 points
- White 149.5 points or less

Advancement: After receiving two qualifying scores (purple) from two different judges, an agility team must advance to the next level at the start of the next 4-H year.

### **RALLY OBEDIENCE COMPETITION**

**Time: Immediately follows Obedience.**

Note: Rally Level I is on lead and for local shows only.

#### **Classes**

3645 Rally Level II  
3646 Rally Level III

Rally O ribbon groups:

Purple 90-100 points  
Blue 80-89 points  
Red 70-79 points  
White 69 points or less

Advancement: After receiving two qualifying scores (blue or purple) from two different judges, a rally obedience team must advance to the next level at the start of the next 4-H year.

### **Contest Dates, Times and Locations**

Saturday, September 2nd –9am - Expo Center

#### **Resources**

- [Kansas 4-H Dog Show Rule Book 4H1120, January 2023](#)

#### **Superintendent(s)**

Karen Riedmiller, Sedgwick County, Volunteer  
Chris Otto, Riley County, Volunteer

#### **State Staff Contact**

Pending



## HORSE SHOW

The horse project equips youth with the essential knowledge to care for and engage safely with horses. In addition to riding and showing with basic horsemanship, this project will help youth learn basic coat colors, breeds, and horse anatomy; study horse health; participate in judging contests, quiz bowl, and hippology; and give presentations. If a member chooses to show at county, district, or state shows they may own or lease a horse, but must manage the horse 75% of the time, whether owned or leased. Youth are encouraged to participate in learning opportunities throughout the 4-H year even if they don't own or have access to a leased horse.

### Rules

1. Refunds available for classes only from August 1 until August 15. 4-H member is responsible to contact the State 4-H Office. No refunds after August 15.
2. Horse stall and jump out reservations are available at the [Kansas State Fair web site](#). Reservation and payment done online only. [Prices are set by KSF, and can be viewed here](#). One horse per stall. Tack stalls can be purchased only if available upon arrival; cannot be reserved in advance. All bedding must be purchased from the State Fair. All stalls must be bedded. Kansas State Fair does not offer refunds once submitted.
3. 4-H member must have current 4-H Horse ID papers present at check-in to pick up show packet.
4. The age of a horse is determined as of January 1, of the year in which it is born.
5. Stallions cannot be exhibited in any class.
6. Show Management has the right to determine age and check bits on any horse being shown.
7. No animal or 4-H member may show in the same class more than one time.
8. The use of protective headgear, in place of a hat, is encouraged in any and all classes, including judged, timed and futurity classes.
9. 4-H Hunter Hack (classes 3033 and 3034) must complete the safety check at the designated time before the classes; however, if during the safety check a) horse refuses to jump three times; b) 4-H members falls off horse during the practice course or c) the horse cannot complete both jumps, the 4-H member will be disqualified from the class.
10. The Horse Show Management Team has the authority to combine classes. Classes of less than five will be reviewed. Extension Offices will be notified after entry deadline if a class is not held
11. Lunging is allowed in designated areas. Designated areas will be posted.
12. Stall Decorating Contest based on attractiveness and educational value with posters and pictures. No staples.
13. Exhibitors wanting to declare an unauthorized entry or rule violation etc. must follow the Protest Procedure as outlined by the [Kansas 4-H Horse Show Rule Book](#) and/or [Kansas State Fair General Rules](#).
14. Health Requirements (in-state origin):

- a. All horses are required to have a evidence of a negative equine infectious anemia (EIA/Coggins) test conducted within 12 months before exhibition. In state horses are required to have a current coggins test but not a CVI.
- b. All horses must be VSV inspected by vet before unloading
- c. Animals with lesions of ringworm or club lamb fungus, warts, sore mouth or infested with mange as determined by officials of the KDAH or exhibition staff will not be permitted to exhibit.
- d. All required tests must be conducted by a state-approved laboratory.
- e. All animals are subject to examination by officials of the KDAH or those designated by the exhibition staff, and shall be free of clinical signs of infectious or contagious disease.

**Eligibility – To be eligible to enter the State 4-H Horse Show at the Kansas State Fair, a 4-H member must be between the ages of 9 and 18 before January 1.**

Kansas 4-H Horse Project Members, who are currently enrolled in the 4-H Horse Project are eligible to compete at the Kansas State Fair 4-H Horse Show if the following are met between October 1 and August 1 of the 4-H program year:

1. The horse is properly identified for the Kansas 4-H Horse Project. A properly identified horse is either a) registered with a breed association in the 4-H's or an immediate family member's name by June 1 of the current 4-H program year, or b) identified with a Kansas 4-H Horse ID Form signed by the local Extension Agent by June 1 of the current 4-H program year. The 4-H member must have a copy of the 4-H Horse ID form signed by the local agent or a copy of the horse's registration papers on file with their local Extension Office by June 1 of the current 4-H program year. Please see "Horse Ownership" for more clarification.
2. Exhibit a properly identified horse at a horse show in a class group and be qualified to exhibit in any class included in that group. The horse show need not be a "4-H" show. Shows may include: open shows, circuits, local associations (SCSHA, etc), breed/discipline associations (AQHA, APHA, NRHA etc.). Qualification for each group is based on one horse/rider combination. Exception: If a 4-Her qualifies more than one mare/gelding in the same halter class. In this case, another 4-Her can show the second horse in the appropriate halter class at the State Fair.
  - Group 1** Halter, Showmanship
  - Group 2** Hunter Under Saddle, Hunt Seat Equitation, Hunter Hack, Saddleseat Pleasure, Saddleseat Equitation
  - Group 3** Western Pleasure, Western Horsemanship, Trail,
  - Group 4** Ranch Rail, Ranch Pattern, Ranch Trail, Reining
  - Group 5** Barrels, Poles, Flags
3. Complete the Kansas 4-H Equine Webinar Safety Episode with quiz annually before completing the State Fair Entry.
4. Complete online entry information for the Kansas State 4-H Horse Show via ShoWorks by August 1 of the current program year.

Exhibitors will be limited to entering only those classes in which they qualified for a particular horse.

Exhibitors should be prepared to show proof of exhibition via [signed affidavit](#) by show

management.

The qualification period will be from October 1- August 1 of the current 4-H program year. 4-H Horse Project Members are not limited in the total number of horses they may exhibit. Exhibitors may show more than one horse in the following classes: Halter, Trail, Reining, Ranch Horse Pattern, Ranch Horse Trail, Barrel Racing, Flag Race, and Pole Bending. If a 4-H member has multiple horses in a halter class, the horse must be exhibited by another currently enrolled Kansas 4-H member.

- **Level II Horsemanship Class 3010** – To be eligible, a 4-H member must have met the requirements of all three sections of Achievement Level I and II prior to the State 4-H Horse Show entry deadline of August 1. After advancing to Level III Horsemanship, an exhibitor is no longer eligible to enter Level II (Class 3012)
- **Level III Horsemanship Class 3011** – To be eligible, a 4-H member must have met the requirements of all three sections of Achievement Level I, II and III prior to the State 4-H Horse Show entry deadline of August 1. After advancing to Level IV Horsemanship, an exhibitor is no longer eligible to enter Level III (Class 3013).
- **Level IV Horsemanship Class 3016** – To be eligible, a 4-H member must have met the requirements of all three sections of Achievement Level I, II, III and IV prior to the State 4-H Horse Show entry deadline of August 1.
- **Halter Classes** – An exhibitor may show in only one halter class. No weanlings will be shown. The term “stock-type” includes, but is not limited to, Appaloosa, Buckskin, Paint, Palomino and Quarter Horse. The term “non-stock-type” includes, but is not limited to, Arabian, Morgan, Thoroughbred, American Saddlebred, and mules. For additional Halter Class rules, check Kansas 4-H Horse Show Rule Book.
  - **Additional Requirements** –
    - **Three-Year-old-Class** – To exhibit at the State 4-H Horse Show, a 4-H member must have properly submitted a horse identification certificate, nomination form, and nomination fee to the State 4-H Office **by June 1**. They must also have met all requirements for Achievement Level I and enter the State Fair 4-H Horse Show **by August 1**. Interviews for the Three-Year-Old Class will be held online prior to the State 4-H Horse Show.

#### Quota –

- 4-H Horse Project Members are not limited in the total number of horses they may exhibit. Exhibitors may show more than one horse in the following classes: Halter, trail, Reining, Ranch Horse Pattern, Ranch Horse Trail, Barrel Racing, Flag Race, and Pole Bending. If a 4-H member has multiple horses in a halter class, the horse must be exhibited by another currently enrolled Kansas 4-H member

#### Scoresheets, Forms, and Contest Study Materials:

- [Horse Achievement Level Study Guides](#)
- [Horse Show Rule Book](#)

#### Awards/Recognition

The Kansas State Fair has provided \$1,000 for awards. This amount will be used to purchase awards and ribbons. The first and second place winners in each class will receive appropriate recognition. Ribbons given to 1 through 10 placings. No premium money given. High point award will be given to one 14-18-year-old 4-H exhibitor and one 9-13-year-old exhibitor. Qualifications based on one horse and one rider.

## **Classes**

### **Halter Classes:**

- 3001 Stock Type Geldings (any age)
- 3002 Non-stock Type, Miniatures and Pony Geldings (any age)
- 3003 Stock Type Mares (any age)
- 3004 Non-stock Type, Miniatures and Pony Mares (any age)
- 3005 Showmanship 14-18
- 3006 Showmanship 9-13
- 3007 Trail 14-18
- 3008 Trail 9-13
  
- 3009 \*3 Year Old Snaffle Bit, Phase 1 (Rail)
- 3010 \*Level II Horsemanship
- 3011 \*Level III Horsemanship
- 3012 Pleasure Pairs
- 3013 Western Pleasure 14-18
- 3014 Western Pleasure 9-13
- 3015 Non-stock/Pony Western Pleasure
- 3016 \*Level IV Horsemanship
- 3017 Horsemanship 14-18
- 3018 Horsemanship 9-13
  
- 3019 Reining 14-18
- 3020 Reining 9-13
- 3021 Ranch Horse Rail 14-18
- 3022 Ranch Horse Rail 9-13
- 3023 Ranch Horse Pattern 14-18
- 3024 Ranch Horse Pattern 9-13
- 3025 Ranch Horse Trail 14-18
- 3026 Ranch Horse Trail 9-13
- 3027 \*3 Year Old Snaffle Bit, Phase 2 (Interview, Online prior to KSF)
  
- 3028 Hunter Hack 14-18
- 3029 Hunter Hack 9-13
- 3030 English Pleasure 14-18
- 3031 English Pleasure 9-13
- 3032 English Equitation 14-18
- 3033 English Equitation 9-13

- 3034 \*3-Year Old Snaffle Bit, Phase 3 (Pattern)
- 3035 Barrel Racing 14-18
- 3036 Barrel Racing 9-13
- 3037 Flag Race 14-18
- 3038 Flag Race 9-13
- 3039 Pole Bending 14-18
- 3040 Pole Bending 9-13
- 3041 \* Stall Decorating

**Schedule will be published in June.**

**Resources:**

- Project Area - [Kansas 4-H Horse project](#)

**Superintendent(s)**

**State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist

## **RABBITS**

The rabbit project will help you learn how to raise and care for rabbits. It is best to enroll in the fall to prepare for receiving your first rabbit. Youth will also learn how to identify breeds, handle and show rabbits, identify rabbit parts and equipment, recognize a healthy rabbit, read a pedigree and kindle a litter.

**Rules**

1. **Check-in Time:** 4-H rabbits must be checked-in from noon to 9:00 pm on Thursday, September 15, or 8:00 am to noon on Friday, September 16. No late entries will be accepted. In case of emergency call 620 669 3871. Only 4-H rabbits, entered in Open Show (1<sup>st</sup> weekend), can be transferred to 4-H before noon Thursday. Any youth transferring from open show must leave all information and changes (including breed, ear number, class & sex) for their 4-H entry. Rabbits arriving for the 4-H show only (not exhibited in open show) any time prior to noon Thursday, will be charged \$1 per head and approval of the open show Superintendent before they arrive with animals to be sure there is room. Rabbits not removed or transferred to 4-H show by 9:00 pm Wednesday will be charged \$1 each. **Release time is based on the Kansas State Fair's determination. Please see their website for more <https://www.kansasstatefair.com/p/competitions/livestock-competitions/rabbitscopy1>** Release time is at 3:00 pm on the second Sunday of the fair. Any rabbits not picked up by 5:30 pm on Sunday become the property of the Kansas State Fair.

2. Selling Rabbits:

- All rabbits for sale must be registered at the Rabbit Office in the rabbit barn.
- All rabbits sold will be charged \$3 each paid by the exhibitor/owner.
- Any rabbit officially entered in the 4-H show and sold after 9 pm on Wednesday is not eligible to leave until 4-H release time, 3:00 pm on the second Sunday of the fair.

**General Guidelines for 4-H Rabbit Exhibitors**

1. Only rabbits entered in 4-H competitions and 4-H Judging Classes are allowed on State Fairgrounds between noon, Thursday September 15, through 5:30 PM, the last Sunday of the State Fair
2. Exhibitors that qualify a junior or intermediate rabbit at their fair or qualifying show must show the rabbit in the correct class according to its age and weight at State Fair time. Pre-junior (under 3 months) classes only available in the following breeds: Argente Braun, Beveren, Blanc de Hotot, Californian, Champagne D'Argent, Checkered Giant, American Chinchilla, Giant Chinchilla, Cinnamon, Creme D'Argent, New Zealand, and Palomino. Juniors (under 6 months). Intermediate (6-8 months) classes only available in the following breeds: American, Giant Angora, Argente Braun, Beveren, Blanc de Hotot, Californian, Champagne D'Argent, Checkered Giant, American Chinchilla, Giant Chinchilla, Cinnamon, Crème D'Argent, Flemish Giant, English Lop, French Lop, New Zealand, Palomino, Satin and Silver Fox. Senior, six months of age or over for breeds other than those listed as having Intermediate classes, eight months of age or over for breeds having Intermediate classes.
3. All rabbits will be divided into classes by ages and judged according to their breed standard as listed in the ARBA "Standard of Perfection". Only breeds approved by ARBA may be shown, no mixed breed rabbits will be allowed.
4. The exhibits in this division will be placed into four award groups: Purple, Blue, Red, White. (All breeds exhibiting 5 or more rabbits in the breed will receive rosettes for Best of Breed and Best Opposite Sex of Breed).

**Eligibility** – All contestants must have qualified through county, district or other competitive events or be approved by their local K-State Research and Extension Office. All exhibitors should check with their Local Extension Unit about county/district requirements that are in place to enter exhibits at the Kansas State Fair. Only those rabbits receiving a blue or purple ribbon award in a previously designated qualifying show may be entered. A different animal than the one exhibited at the qualifying show may be shown at the State Fair, provided the quality is equal to the one exhibited at the qualifying show; it has been carried in the same project phase; and is the same breed, variety, sex and class. Any rabbit shown at the State Fair must have been owned and in the possession of the 4-H member before July 1 of the current year, except meat pens which are not to be over 70 days old.

**Quota** – Each exhibitor may bring no more than 18 different rabbits if qualified at a previously designated show. However, only one entry per class, per variety, per breed

may be shown. (Example: May show one junior New Zealand White doe, one junior New Zealand Red doe, and one junior New Zealand Black doe if qualified at a designated contest).

### **Scoresheets, Forms, and Contest Study Materials:**

- Judging Guidelines come from the [ARBA Standard of Perfection](#).

### **Awards/Recognition**

The Salt City Rabbit Club, Ken Wilson, Hutchinson, Kansas 67502 will provide awards for 12 Best of Breeds AND River Valley Rabbit Club, President: Elizabeth Wright, 785-265-3019, PO Box 65, Morrowville, KS 66958 will provide awards for 12 Best of Breeds.

The Sunflower Rabbit Breeders Association, Will Johnson, 4716 SW Birch Ct., Towanda, KS 67144 will provide awards for the Best in Show, Reserve in Show and the 2<sup>nd</sup> Reserve in Show.

### **Classes**

- 3400 Senior buck. Eight months of age and over for breeds with Intermediate classes; six months and over for all other breeds.
- 3401 Senior doe. Eight months of age and over for breeds with Intermediate classes; six months and over for all other breeds.
- 3402 Intermediate buck. Only breeds listed above with Intermediate classes.
- 3403 Intermediate doe. Only breeds listed above with Intermediate classes.
- 3404 Junior buck. Under six months of age.
- 3405 Junior doe. Under six months of age.
- 3406 Pre-junior buck. Only breeds listed above with pre-juniors.
- 3407 Pre-junior doe. Only breeds listed above with pre-juniors.
- 3420 Meat pen. Three (3) rabbits, all one recognized breed and variety (broken varieties must be same color). Minimum weight 3½ pounds each. Maximum weight 5½ pounds each, and not over 70 days of age. Will be judged on their meat qualities, condition, uniformity and fur.

Note to advisors, agents and leaders: Class 3420: Qualifying shows are held prior to the State Fair and meat pens that qualified will usually be too large and heavy by this show. Members may select a new, younger substitute meat pen of like quality to exhibit at the State Fair.

### **Resources:**

- [Kansas 4-H Rabbit Project Resources](#)
- [National Rabbit Curriculum and Links](#)

### **FUR CLASSES**

Friday, September 16

To be judged at 6:00 pm at their coops

### **Contest Dates, Times and Locations**

4-H rabbits must be checked-in from noon to 9:00 pm on Thursday, September 15, or 8:00 am to noon on Friday, September 16. No late entries will be accepted. In case of emergency call 620 669 3871. Only 4-H rabbits, entered in Open Show (1<sup>st</sup> weekend), can be transferred to 4-H-before noon Thursday. Any youth transferring from open show must leave all information and changes (including breed, ear number, class & sex) for their 4-H entry. Rabbits arriving for the 4-H show only (not exhibited in open show) any time prior to noon Thursday, will be charged \$1 per head and approval of the open show Superintendent before they arrive with animals to be sure there is room. Rabbits not removed or transferred to 4-H-show by 9:00 pm Wednesday will be charged \$1 each. **Release time is based on the Kansas State Fair's determination. Please see their website for more <https://www.kansasstatefair.com/p/competitions/livestock-competitions/rabbitscopy1>** Release time is at 3:00 pm on the second Sunday of the fair. Any rabbits not picked up by 5:30 pm on Sunday become the property of the Kansas State Fair.

**Eligibility** – Colored and white fur entries must be made from rabbits that are entered in the regular breed classes 3400 through 3407.

**Quota** – One entry per class per exhibitor, not one entry per breed.

### **Classes**

- 3450 Normal white fur
- 3454 Normal Colored fur
- 3451 White Satin fur
- 3455 Colored Satin fur
- 3452 White Rex fur
- 3456 Colored Rex fur
- 3453 White Wool fur
- 3457 Colored Wool fur

### **Awards and Recognition**

Fur exhibits in this division will be placed into four award groups. No premiums offered.

### **RABBIT SHOWMANSHIP**

Sunday, September 17

### **Rules**

1. Pre-Entry required through your Local Extension Unit.
2. Ages are before January 1 of current year.
3. All contestants will be placed in ribbon groups. No special premiums offered.
4. Callbacks if needed to determine class winners will be held at 1 p.m.

**Eligibility** – Open to any member exhibiting rabbits in the 4-H division at the Kansas State Fair. However, the rabbit used in showmanship must be entered in the 4-H rabbit show in their name. Therefore, the rabbit must qualify at a previously designated show.



## **Awards and Recognition**

Class Champions and reserve champions to receive Grand Champion and Reserve Grand Champion rosettes, KAW Valley Rabbit Club, Clarence Linsey, Secretary, 316 S. Manhaffie, Olathe, KS 66061 will award trophies for the Class Champions and Reserve Champions.

## **Classes**

- 3460 Showmanship, members 15 - 18. Report to Rabbit Building at 8:00 am
- 3461 Showmanship, members 13 - 14 years old. Report to Rabbit Building at 8:00am
- 3462 Showmanship, members 11 - 12 years old. Report to Rabbit Building at 8:00 am
- 3463 Showmanship, members 9 - 10 years old. Report to Rabbit Building at 8:00 am

## **Superintendent(s)**

Rabbit Show - Daryl Gardner, Cowley County Volunteer  
Show Secretary: Nancy Kennedy, Cowley County Volunteer  
Rabbit Showmanship - Estell Johnson, Butler County Volunteer

## **State Staff Contact**

Beth Hinshaw, Kansas 4-H Youth Development Specialist

## **POULTRY**

4-H members in the Poultry project may exhibit birds raised and cared for by the member to showcase their project. The primary purpose of the poultry exhibit is to provide a positive learning experience for youth in the poultry project, evaluating against industry standards. 4-H members learn to care for, select and prepare their poultry project for exhibit. An exhibit does not measure or illustrate all that a 4-H member has achieved but is an example of the accomplishments for a particular project within the 4-H program year.

## **Rules**

1. Exhibitors are encouraged to carefully consider the welfare of poultry during transportation to and from shows. For helpful information, consult "Safely Transporting Exhibition Poultry and Market Broilers" by Scott Beyer, available from your local extension office.
2. Judging of classes 3201, 3202, 3203, 3204, 3209, 3210, 3211 and 3212 will be done primarily on the basis of exhibition qualities as described in "The American Standard of Perfection". Disqualification will bar competition in these classes. Judging of classes 3205, 3206, 3207, 3208 will be done on the basis of production qualities only. Classes 3205 and 3208 may be combined if entries are low.
3. The Kansas State Fair Poultry Department will furnish all feed, water and care for birds that are exhibited.
4. The Poultry Department will not be responsible for marketing any birds. If 4-

H/FFA exhibitors want to make a private treaty, they may do so. Otherwise, 4-H/FFA exhibitors will be responsible for seeing that their poultry is claimed after the Fair.

5. All chickens and turkeys must be blood tested within 90 days of state show. For more information about the blood testing requirements, consult Information about Disease Testing Requirements for Poultry and Game birds in Kansas by Scott Beyer, available from your local extension office.
6. Chair has the right to combine Pen of three classes (3205-3208) when there are too few entries.

**Quota** – Each member may exhibit a maximum of 3 total entries and one entry in class 3209. It is required that poultry be banded to insure proper identification.

### **Awards/Recognition**

The Kansas State Fair will award rosettes to the Best in Show and Reserve Best in Show birds.

### **Classes**

- 3201 Standard Breeds; Large Fowl; One young bird of either sex.
- 3202 Standard Breeds; Large Fowl; One old bird of either sex.
- 3203 Standard Breeds; Bantams; One young bird of either sex.
- 3204 Standard Breeds; Bantams; One old bird of either sex.
- 3205 Production Pullets- Pen of 3. Standard bred, crossbred or strain cross pullets to be judged on egg production qualities.
- 3206 Production Hens- Pen of 3. Standard bred, crossbred or strain cross hens to be judged on egg production qualities.
- 3207 Dual purpose pullets; Pen of 3. Such as Rhode Island Reds, New Hampshire, Plymouth Rocks, etc.
- 3208 Dual purpose hens; Pen of 3. Such as Rhode Island Reds, New Hampshire, Plymouth Rocks, etc.
- 3209 Turkeys, all breeds; one bird of either sex.
- 3210 Ducks, Call or Bantam, all breeds; one bird of either sex.
- 3211 Ducks, all breeds; one bird of either sex.
- 3212 Geese, all breeds; one bird of either sex.

### **Contest Dates, Times and Locations**

All birds must be checked in and in place by 8:00 pm the first Friday of the fair.

4-H poultry will be released at 6:00 pm on the second Sunday of the fair. No crates will be allowed in the building until 6:00 pm.

### **Resources:**

- [Selecting and Preparing Poultry for Exhibition](#)

**Superintendent(s)**

Ryan Flaming, Harvey County Agriculture Agent

Marcus Preuninger, Reno County Agriculture Agent

Dr. Scott Beyer, Extension Specialist, Poultry Science, K-State Research and Extension

**State Staff Contact**

Kelsey Nordyke, Kansas 4-H Youth Development Specialist