knowledge about insects and insect displays. This category has multiple projects that allow 4-H'ers to progress over numerous years.

CURRICULUM & RESOURCES			
Insectigator	B	I	A
Entomology 1	B		
Entomology 2		I	
Entomology 3			A

Entomology exhibits will be entered Tuesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – ENTOMOLOGY

1. Specimens in display collections should be mounted properly and labeled with location and date of collection, name of collector, and order name. Follow mounting and labeling instructions in the Nebraska 4-H Entomology Manual. Boxes are preferred to be 12" high x 18" wide and landscape orientation so they fit in display racks. Purchase of commercially made boxes is allowed. All specimens are to be pinned and labeled by the exhibitor. No purchased specimens allowed – all specimens must be from the collector.
2. No projects over 50 pounds allowed.

DEPARTMENT H – DIVVISION 800 – ENTOMOLOGY

Division	Class	Pay	Purple	Blue	Red	White
800	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Entomology Display, First-Year Project (SF186) – Collection to consist of 25 or more different kinds (species) of insects representing at least 6 orders. Limit one box.

SF) 002 Entomology Display, Second-Year Project (SF186) – Collection to consist of a minimum of 50 kinds (species) of insects representing at least 8 orders. Replace damaged or broken specimens. At least 25 species must be present from after July 1 of the previous year. Limit 2 boxes.

SF) 003 Entomology Display, Third-Year or More Project (SF186) – Collection to consist of a minimum of 75 kinds (species) of insects representing at least 10 orders. Replace damaged or poorly mounted specimens. At least 25 species must be present from after July 1 of the previous year. Limit of 3 boxes.

SF) 004 Special Interest or Advanced Insect Display (SF187) – Educational display developed according to personal interests and/or advanced identification capability. This is also an opportunity to highlight favorite insects in a creative arrangement. Insects should conform to pinning and mounting standards as in Classes 001-003 and be protected in an insect box. Each specialty display should include the names of the insects, interesting information about them, and why the display was made. Advanced identification collections should have insects grouped with labels that correspond with identification level (e.g., family, genus, species). A specialty collection may consist of insects by taxonomic group (e.g., butterflies, grasshoppers, dragonflies, scarab beetles) or by host, subject, or habitat (e.g., insect pests of corn, aquatic insects, insect mimicry, insects' galls, insect from goldenrod, insect pollinators, etc.)

SF) 005 Insect Habitats (SF186) – Habitats consist of any handcrafted objects, made of natural or artificial materials, to be placed outdoors, which promote or conserve insects in the environment. Insects may include bee pollinators, butterflies, beneficial insects, etc. A one-page report describing activities must accompany the exhibit. Report should include placement, target insect, why materials were chosen, functional design, and indicators of success. See the following resources for reports:

1. Nebraska Extension NebGuide: Creating a Solitary Bee Hotel (G2256)
2. University of Minnesota: Wild Bees and Building Wild Bee Houses
3. National Wildlife Federation: How to Provide Water in Monarch Gardens

SF) 006 Macro Photography (SF189) – Subjects should be insects, spiders, or other arthropods, or any nests, webs, or constructions they make. All exhibit prints should be either 8" x 10" or 8 ½" x 11" and mounted on a rigid, black 11" x 14" poster or mat board. Framing is allowed. A caption of a few sentences should explain the subject and be printed on white paper and glued below the print on the poster board.

SF) 007 Insect Poster/Display Exhibits (SF190) – Exhibits can be posters or three-dimensional displays, and artistic creativity is encouraged. Posters should be no larger than 22" x 28". They should be instructional and can be attractive and have pictures, drawings, charts, or graphs. Posters and displays may show any aspect of insect life, habitat, or related conservation or management. Examples include life history and other facts about an insect; insect anatomy; how to manage insects in a farm, home, lawn, or garden setting; experiences rearing one kind of insect; survey of an important insect; insect behavior (e.g., nesting, finding food, mobility, defenses, etc.); habitats (e.g. forests, grasslands, wetlands, rivers, or lakes) and what insects are found there, etc. Three-dimensional displays, such as dioramas, sculptures, models, or decorative boxes should have a page of explanatory information accompanying them and should fit within a 22" x 28" area.

SF) 008 Reports or Journals (SF191) – Reports and journals should be in a 3-ring binder. A report may be informational, that is, an original article about a favorite insect, a history of insect outbreaks, diseases caused by insects, insects as food, etc. Or it may be a research report about an investigation or experiment done in a scientific manner. It then should have a basic introduction of the insect studied, methods used, observations, and results of the project. Tables, graphs, and images are helpful to include. A journal is an observational study over a period of time with personal impressions. It may cover watching changes in kinds of butterflies over the summer, rearing a specific insect from egg to adult, managing a beehive, observations of insects in a specific habitat, accounts of insect behavior in a forest or flower garden, etc.

DEPARTMENT: ENVIRONMENTAL EDUCATION & EARTH SCIENC
AREA: Forestry
Superintendents: Monty Lovelace, Syracuse

This category provides 4-H'ers with an opportunity to prepare displays that show their expertise in many aspects of forestry. Involvement in this category will lead to expansion of seed, twig, wood, leaf, and tree knowledge for 4-H'ers. In addition, participants will learn more about common Nebraskan trees.

CURRICULUM & RESOURCES			
Tree Identification	B	I	A
Leafing Out	B	I	A
Trees of Nebraska	B	I	A
Plant a Tree	B	I	A

Forestry exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – FORESTRY

1. The official reference for all forestry projects is the Tree Identification Manual (4-H 332) (https://marketplace.unl.edu/ne4h/4h332.html) which was recently revised and is available for purchase from UNL Marketplace. Other helpful forestry references include Trees of Nebraska (EC 92-1774-X), Leafing Out (4-H 431), and Plant a Tree (EC 17-11-80) (https://marketplace.unl.edu/ne4h/leafing-out.html).
2. Display boards must be made from wood or wood composite, e.g., plywood, fiberboard, or Masonite and must be ¼" to ½" thick and no larger than 24" x 24". Display boards may be coated e.g., painted or varnished, on both sides to prevent warping.
3. Display "posters" must be made from a material, e.g., foam board or poster board, that will stand upright without buckling, and be no larger than 24" x 24".
4. Display "books" must measure no more than 16" x 16".
5. At least 5 of the 10 samples in Class 002, 003, 004, and 005 must be from the list of 60 species described in 4-H 332. Samples must be from 10 different tree species. For example, Emerald Queen Maple and Crimson King Maples are both varieties of the same species (Norway Maple), and thus have the same genus and species name, i.e., Acer platanoides. All samples must be from trees, NO shrubs. If more than 10 samples are included in the display, only the first 10 samples from the current year will be judged.
6. Due to emerald ash borer infestation, no true ash species (Green Ash, White Ash, Black Ash, or Blue Ash) may be included in any collections. Inclusion of a true ash species will result in the project being disqualified.
7. Remember that other general labeling standards apply. For example, scientific names are always italicized or underlined. Also, the first letter of a Genus name is always capitalized. The first letter of a species name is always lowercase. When required, always indicate complete scientific names (Genus and species) and common names, (e.g., Norway Maple) even when "variety names" are included. For example, the scientific name of Emerald Queen Maple is Acer platanoides and the common name is Norway Maple. "Emerald Queen" may be included as the variety name, but variety names are not required.
8. How well the exhibitor follows written directions is an important factor in judging.

DEPARTMENT D – DIVISION 320 – FORESTRY

Division	Class	Pay	Purple	Blue	Red	White
320	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Design Your Own Exhibit – Prepare an educational exhibit about some aspect of trees, forests, or forestry that is of special interest to you. Possible topics include paper recycling, wildfire, forest products, forest wildlife, or forest pests. The only requirement is that the display must be no larger than 24" x 24" x 24". Photographs, drawings, samples, charts, posters, etc. can be used, but include enough information to adequately explain the topic. Your display should be substantially different from other display classes. Be as creative as you like.

SF) 002 Leaf Display – The Leaf Display must include samples of "complete leaves" from at least 10 different tree species. The display must include at least two samples of simple leaves, compound leaves, and conifer leaves. Leaves should be pressed, dried, and mounted.

1. **Collection:** Whenever possible, collect leaves from mature trees. Collect leaves any time after they have reached full size, usually beginning in early summer. Leaf samples should be in good condition and representative of the average leaves on the tree. Keep in mind that shaded leaves are often much larger than normal. Carefully remove leaves from the twig with the entire petiole or rachis intact. After collection, fresh leaf samples can be temporarily stored within the pages of an old magazine, but they should be properly pressed and dried for display. Be sure to record pertinent information during collection. All collections must be made by the exhibitor.
2. **Mounting:** Leaves may be displayed in a notebook or on a display board. Any method may be used to mount leaves, e.g., wire, glue, tape, staples, plastic bags, but be sure all their features can be clearly identified.
3. **Labeling:** The label for each sample must include:
   A. Common Name
   B. Scientific name
   C. Leaf type
   D. Leaf arrangement (for broadleaf trees)
   E. Leaf composition (for broadleaf trees)
   F. Collector's name
   G. Collection date (be specific – state and county at a minimum)

   If a twig is included with a sample, indicate "twig included" on the label. For example, the twig may be included with an eastern red cedar sample because the leaves are very small and difficult to remove from the twig.
4. **Supplemental Information:** E.g., general uses, common products, fall color, etc., may be included to enhance educational value.

SF) 003 Twig Display – The twig display must include twig samples from at least 10 different tree species. The display must include at least two samples of opposite and alternate leaf arrangements from broadleaf trees.

1. **Collection:** Twig samples should be collected during the dormant season (November – April) when the buds are mature. Twig samples must be at least 6 inches long and exhibit buds. Leaves must be removed, and side branches must be trimmed to less than 1" in length. All collections must be made by the exhibitor.
2. **Mounting:** Twigs must be mounted on a display board. Any method, e.g., wire, tape, staples, plastic bags, etc., may be used to mount twigs, but be sure all features can be clearly identified. The non-terminal end must be cut at a slant so the pitch can be seen.
3. **Labeling:** The label for each sample must include the following:
   A. Common name
   B. Scientific name
   C. Leaf Arrangement (for broadleaf trees)
   D. Collector's name
   E. Collection date
   F. Collection location (be specific, state and county at a minimum)
4. **Supplemental Information:** E.g., general uses, tree characteristics, etc., may be included to enhance educational value.

SF) 004 Seed Display – The seed display must include seed samples from at least 10 different tree species.

1. **Collection:** Tree seeds should be collected at the time of year when they mature, which varies widely depending upon tree species. For example, silver maple seeds mature in May while red oak acorns do not mature until September. Seed samples should be free of insect or disease symptoms. Remember to display seeds, not fruit. For example, the seed of honey locust is enclosed in a pod. Remove and display the seed, not just the pod. It is acceptable to display the fruit with the seed, but clearly label each. All collections must be done by the exhibitor.
2. **Mounting:** Seeds may be displayed in a variety of ways, e.g., mounted on a display board, displayed in jars in a rack, etc., but they must be securely mounted and easily viewed. Be as creative as you like.
3. **Labeling:** The label for each sample must include the following:
   A. Common name
   B. Scientific name
   C. Type of fruit, if known (e.g., samara, pod, nut, legume, etc.)
   D. Collector's name
   E. Collection date
   F. Collection location (be specific, state and county at a minimum)
4. **Supplemental Information:** E.g., maturity date, average number of seeds in the fruit, etc., may be included to enhance educational value.

SF) 005 Wood Display – The Wood Display must include wood samples from at least 10 different tree species.

1. **Preparation:** Samples may be of any shape, e.g., sections from a board, wood cylinders turned on a lathe, horizontal or vertical cross-sections of a small log with bark attached, etc., but all samples should be the same shape, e.g., all wood cylinders or all sections of a board. Each sample can be no larger than 4" x 4" x 4". Cut surfaces should be sanded to show the grain. Treating samples with a clear finish (no stain) is optional. All collections must be made by the exhibitor.
2. **Mounting:** Samples may be displayed in a variety of ways, e.g., mounted on a display board, displayed in a box or rack, etc., but they must be securely mounted and easily viewed. Be as creative as you like.
3. **Labeling:** The label for each sample must include the following:
   A. Common name
   B. Scientific name
   C. Wood type (softwood or hardwood)
   D. Collector's name
   E. Collection date
   F. Collection location (be specific, state and county at a minimum)
4. **Supplemental Information:** E.g., common products, wood density, etc., may be included to enhance educational value.

SF) 006 Cross Section Display – A disc cut from a tree species listed in 4H 332. The sample must be collected, by the exhibitor, within one year of the state fair judging day. The disc must measure 6" to 12" in diameter and 1" to 3" thick. The bark should be firmly attached, which may be difficult if the tree was dead when the disc was cut. Sand at least one side of the disc so the grain can be easily seen. If the disc is treated with a clear finish, both sides must be treated to minimize warping. As the disc dries, some cracking or checking can be expected and is allowed.

1. **Labeling**: The following parts must be clearly and accurately labeled on the cross section with pins, paper tags, or some other form of identification
   A. Pith
   B. Heartwood
   C. Sapwood
   D. One growth ring (beginning and end)
   E. Cambium
   F. Bark

   On a separate label attached to the back of the disc, the following information should be included:
   A. Common name
   B. Scientific name
   C. Tree classification (softwood or hardwood)
   D. Age (of the cross section)
   E. Collector's name
   F. Collection date
   G. Collection location (be specific, state and county at a minimum)

SF) 007 Parts of a Tree – (This project is only for ages 8-11) Prepare a poster, no larger than 24" x 24" that clearly identifies the main external parts of any tree: Trunk, Crown, Roots, Leaves, Flowers, Fruit, Buds, and Bark. Identifying other internal parts, e.g., phloem, xylem, cambium, annual ring, pith, etc., is optional. Attach a separate label on the back of the poster that includes the exhibitor's name and age.

SF) 008 Living Tree Display – A living tree seedling grown by the exhibitor from seed in the display container. The seed must be from a species listed in 4H 332. The seedling must be 60 days to 1 year old (on State Fair judging day). The display container must contain at least 8" of soil (potting mix or suitable natural soil), have a drainage hole(s), and a drain pan to catch drainage water.

A. **Labeling:** A waterproof label must be attached and include the following:
   1. Common name
   2. Scientific name
   3. Seed treatments (if any)
   4. Planting date
   5. Emergence date
   6. Collector's name

B. **Supplemental Information About the Tree:** E.g., where the seed was collected, growth measurements, uses for that species, etc., may be included in an attached notebook, poster, etc. to enhance educational value. Supplemental information will be an important factor in judging.

SF) 009 Forest Product Display – Prepare a visual display and/or collection tracing the origin of one non-lumber product that comes from trees and/or forests. The display must be no larger than 24" x 22" x 28". Photographs, drawings, samples, charts, posters, etc. can be used. Poster submitted may be no larger than 22" x 28" and may be either vertical or horizontal. The contestant must identify what species of tree the product is derived from and where the product is harvested, grown, or otherwise collected. The product listed must be partially or fully derived from trees; if partial, the approximate percentage should be articulated in the display.

A. The goal of this exhibit is for students to learn that many products come from trees and forests and to explore one of these products through an in-depth study.
B. Information about the tree or forest product: e.g., information about harvesting, processing, industry information, and environmental or other benefits may be included to enhance educational value. Supplemental information will be an important factor in judging but should not exceed three printed pages of text. Cite sources of information.
C. Personal interviews with industry professionals are encouraged as a source of information.

SF) 010 Forest Health Display – Prepare a visual display outlining a specific forest health issue, such as a tree disease, insect pest, animal- or human- caused damage, or an abiotic issue such as weather damage. The display must be no larger than 24" x 24" x 24". Original photographs, drawings, samples, charts, posters, etc. can be used. Actual specimens are strongly encouraged, but they must be properly preserved, i.e., insects pinned or placed in vial of alcohol, leaves pressed and dried, etc. Posters submitted may be no larger than 24" x 24". Include the following information:

A. Explain through the display what species of trees the health issue affects, diagnostic features of the issue (symptoms in trees, identifying features of the pest, etc.), and management options.
B. Include common and scientific names of trees and pests.
C. Supplemental information about the tree or forest health issue may include origin, proliferation in Nebraska/United States, and physiological effects on the tree. These may be included to enhance educational value. Supplemental information will be an important factor in judging but should not exceed three printed pages of text. Cite sources of information.
D. Attach a separate label to the back of the display that includes the exhibitor's name and age.

SF) 011 Wildfire Prevention Poster – Prepare a poster, no larger than 24" x 24", that promotes wildfire prevention strategies. Strategies articulated in the poster can include personal and/or land management actions. Attach a separate label on the back of the poster that includes the exhibitor's name and age.

A. Supplemental information about wildfire prevention should be attached to the poster e.g., frequency of wildfire in Nebraska/United States, financial costs of wildfires, environmental factors that contribute to wildfires, etc. to enhance educational value. Supplemental information will be an important factor in judging but should not exceed three printed pages of text. Cite sources of information.

SF) 012 Sustainable Landscape Diorama – Box must be no larger than 24" x 24". The exhibit must show a Nebraska landscape that includes elements such as windbreaks, fields, pastureland, CRP, public lands, and/or community/municipal landscapes. The goal of this exhibit is for students to articulate conservation and sustainability best-practices that can be implemented on a landscape, while addressing landowner and other stakeholder interests.

A. Label point/nonpoint sources of pollution, carbon sequestration, water-wise practices, wildfire prevention strategies, renewable energy sources, and other conservation practices as well as at least 10 species of plants included in the diorama.
B. Attach to the exhibit a brief report including supplemental information describing the diorama, defining conservation practices, and outlining opportunities for landscape improvements to enhance educational value. Supplemental information will be an important factor in judging but should not exceed three printed pages of text. Cite sources of information.

SF) 013 Tree Planting Project Display – Plant a tree in your community. Prepare a visual display where the student articulates proper tree planting techniques, why the individual tree species was chosen, as well as steps taken to continue care for the tree after initial planting. The display must be no larger than 24" x 24" x 24". Photographs, drawings, samples, charts, posters, etc. can be used. Posters submitted may be no larger than 24" x 24". The tree must have been planted 60 days to 1 year prior to State Fair judging day. Students must obtain permission from necessary authorities and property owners before planting any trees.

A. Labeling: The following information about the tree must be included in the display:
   a. Common name
   b. Scientific name
   c. Planting location
   d. Planting date
   e. Tree source
   f. Planter's name
   g. Proper tree planting steps
   h. Tree care (after planting)
B. Supplemental information about the tree e.g., why the species was chosen, growth measurements, uses for that species, etc. may be included in an attached notebook, poster, etc. to enhance educational value. Supplemental information will be an important factor in judging but should not exceed three printed pages of text. Cite sources of information.

DEPARTMENT: ENVIRONMENTAL EDUCATION & EARTH SCIENC
AREA: Shooting Sports
Superintendents: Monty Lovelace, Syracuse

Conservation, wildlife, and shoot sports gives 4-H members an opportunity to share their knowledge and field experiences about conservation, wildlife, and shooting sports. When creating an exhibit, make sure to take close account of the rules, while also considering the different laws that surround those areas.

Shooting Sports exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – SHOOTING SPORTS

1. 4-H Shooting Sports requires youth to be under the direct leadership of a certified 4-H Shooting Sports Leader in either shotgun, rifle (bb gun), archery, pistol, black powder/muzzleloader, and/or hunting skills. No firearms can be entered as an exhibit, nor live ammunition; however, information can be shared through pictures. Classes 004-009 can be entered by anyone in the conservation and wildlife area.
2. **Show What You Did and Learned:** All exhibitors must show evidence of their personal field experiences, study, or observations that relate to their exhibit. This helps judges understand what the 4-H'er did and learned in the process that led to the exhibit.
3. **Proper Credit:** Show proper credit by listing the sources of plans or other supporting information used in exhibits. An example can be found at https://4hfairbook.unl.edu/fairbookview.php/exhibits/8.
4. **Whose Exhibit?** The exhibitor's name, county, and age must be on the back or bottom of all displays.
5. **Wildlife and Wildlife Laws:** "Animal" or "wildlife" in the following classes includes wild fish, amphibians, reptiles, birds, or mammals. Please make sure you are following all wildlife laws.
6. **Project Materials:** Related project booklets include Exploring Your Environment Series, 4-H Shooting Sports, Amphibians, Bird Behavior (EC 59381), Fishing for Adventure Project Manuals, Wildlife Conservation (4-H 125), Geology, and Outdoor Adventure. Other resources include Outdoor Skills: Learning Science in the Outdoors Series (Science Signature Outcome Program) at outdoornebraska.gov/afterschool/ and www.whep.org.
7. **Board and Poster Exhibits:** Mount all board exhibits on ¼" plywood, Masonite, or similar panel no larger than 24" x 24". Poster exhibits should be on regular poster sheets, no larger than the standard size (22" x 28") but half size, 22" x 14", is recommended.

DEPARTMENT D – DIVISION 347 – SHOOTING SPORTS

Division	Class	Pay	Purple	Blue	Red	White

347	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Shooting Aid or Accessory (SF253) – Any item which helps the shooter/hunter better perform their sport. Examples include rifle sling, kneeling roll, arm guard, shotgun vest, target boxes, shooting stick, etc. Include your design or plans you adapted and what the item is used for.

SF) 002 Storage Case (SF254) – Any item with the purpose to safely hold a firearm, bow, ammunition, and/or arrows. Examples include soft sided shotgun case, quivers, firearm safe, etc. Include your design or plans you adapted. Explain how the storage case is used.

SF) 003 Practice Game or Activity (SF255) – Invent or adapt an activity to practice or teach a project skill. Include pictures of youth playing the game, testimonials of 4-H members who played the game, what skill is being worked on, and directions for the game. Explain how you came up with the game or adapted it to fit the needs of your group members.

SF) 004 Science, Engineering, and Technology Advancements of Shooting Sports, Conservation, or Wildlife Essay or Display (SF256) – Choose a specific area of shooting sports and share how it has advanced. Include a timeline and photos or illustrations. Keep your topic narrow and manageable. Essays are limited to 1000 words and should be on 8 ½" x 11" paper.

SF) 005 Healthy Lifestyles Plan (SF257) – Include a shooter's (hiker's, camper's, angler's) diet and exercise plan, and how the 4-H member will benefit or improve from following the plan. Ideally, the 4-H member would follow the plan and include some journal entries about adaptations or improvements made while following the plan.

SF) 006 Citizenship/Leadership Project (SF258) – Share a display on a citizenship project or leadership project the 4-H member took on individually or with a group to improve some aspect related to 4-H Shooting Sports, Conservation, or Wildlife. Examples could include range development, conservation planting to attract wildlife, a camp, or a 4-H recruitment event. Include who benefitted from the project, what the 4-H member's role was, and any results.

SF) 007 Career Development/College Essay, Interview, or Display (SF252) – Research opportunities for careers related to this area or opportunities for college majors or college activities to help discover using project skills beyond a person's 4-H career. Essays are limited to 1,000 words and should be on 8 ½" x 11" paper. Interviews need to include a picture of the interviewee in their work setting, questions asked, and a transcript of answers.

SF) 008 Community Vitality Display (SF251) – Explore the difference shooting sports, conservation, fishing, and hunting make in keeping Nebraska vibrant, especially in rural areas. Present facts and research in an interesting way for the public to learn from.

SF) 009 Ag Literacy-Value Added Agriculture Interview or Research Project (SF250) – Explore how traditional ag producers are adding value to their production agriculture operations through conservation efforts, hunting, raising pheasants, shooting sports related tourism, etc. Present findings in an interesting way for the public to learn from.

C) 900 A Different Finished Item – Made in this project.

C) 901 Shooting Sports Journal – Completed journal should be placed on an 8 ½" x 11" x 3" 3-ring binder. Include an appropriate cover, detailed entries, photos, etc. Journal should build upon itself each year (additional pages may be added each year but should be dated).

DEPARTMENT: ENVIRONMENTAL EDUCATION & EARTH SCIENCE
AREA: Conservation & Wildlife
Superintendents: Monty Lovelace, Syracuse

Conservation, wildlife, and shoot sports gives 4-H members an opportunity to share their knowledge and field experiences about conservation, wildlife, and shooting sports. When creating an exhibit, make sure to take close account of the rules, while also considering the different laws that surround those areas.

	CURRICULUM & RESOURCES
Eco Wanter	
Amphibians	B I A
Bird Behavior	B I A
Eco-Wanders 1: Exploring Your Environment	
Eco-Wanders 2	
Eco-Wanders 3	
Fishing for Adventure 1: Take the Bait	B
Fishing for Adventure 2: Reel in the Fun	I
Fishing for Adventure 3: Case into the Future	A
Wildlife Conservation 1: The Worth of Wild Root	B
Wildlife Conservation 2: Living Wild in an Ecosystem	I
Wildlife Conservation 3: Living in a World with You and Me	A

Wildlife exhibits exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – WILDLIFE

1. **Show What You Did and Learned:** All exhibitors must show evidence of their personal field experiences, study, or observations that relate to their exhibit. This helps judges understand what the 4-H'er did and learned in the process that led to the exhibit.
2. **Proper Credit:** Show proper credit by listing the sources of plans or other supporting information used in exhibits. An example can be found at https://4hfairbook.unl.edu/fairbookview.php/exhibits/8.
3 Whose Exhibit?: The exhibitor's name, county, and age must be on the back or bottom of all displays.
4. Wildlife and Wildlife Laws: "Animal" or "wildlife" in the following classes includes wild fish, amphibians, reptiles, birds, or mammals. Please make sure you are following all wildlife laws.
5. **Project Materials:** Related project booklets include Exploring Your Environment Series, 4-H Shooting Sports, Amphibians, Bird Behavior (EC 59381), Fishing for Adventure Project Manuals, Wildlife Conservation (4-H 125), Geology, and Outdoor Adventure. Other resources include Outdoor Skills: Learning Science in the Outdoors Series (Science Signature Outcome Program) at outdoornebraska.gov/afterschool/ and www.whep.org.
6. **Board and Poster Exhibits:** Mount all board exhibits on ¼" plywood, Masonite, or similar panel no larger than 24" x 24". Poster exhibits should be on regular poster sheets, no larger than the standard size (22" x 28") but half size, 22" x 14", is recommended. These displays are to show educational information about a topic of interest. Board exhibits can hold objects such as fishing equipment or casts of animal tracks.

DEPARTMENT D – DIVISION 321 – ECO-WONDERS (LEVEL 1)

Division	Class	Pay	Purple	Blue	Red	White
321	All Classes	4	$2.00	$1.75	$1.50	$1.00

C) 901 Build Your Own Ecosystem – Follow directions and diagram on page 11 of the Level 1 manual.

C) 902 Food Web – Make a poster illustrating a food web for the ecosystem found in your backyard. See pages 14 and 15 of the Level 1 manual. Follow the guidelines for posters outlined in the General Static Rules.

C) 903 Weather Instrument or Weather Log – Make a rain gauge or pinwheel to determine the direction of the wind. See pages 19 and 20 of the Level 1 manual.

DEPARTMENT D – DIVISION 321 – ECO-ADVENTURES (LEVEL 2)

Division	Class	Pay	Purple	Blue	Red	White
321	All Classes	4	$2.00	$1.75	$1.50	$1.00

C) 904 Identify Flower Parts – Make a poster illustrating all the parts of a flower. See pages 17-19 of the Level 2 manual. Follow the guidelines for posters outlined in the General Static Rules.

C) 905 Groundwater Model – Using the diagram on page 27 of the Level 2 manual, construct a groundwater model of your area using colored clay or play dough. Include a key to describe the colors. Use poster board no larger than 12" x 12" for the base.

C) 906 Soil Profile Poster – Dig a hole approximately 1 foot deep. Illustrate the different soil types using crayons or colored pencils. Use page 15 in the Level 2 manual for reference.

DEPARTMENT D – DIVISION 321 – ECO-ACTIONS (LEVEL 3)

Division	Class	Pay	Purple	Blue	Red	White
321	All Classes	4	$2.00	$1.75	$1.50	$1.00

C) 907 Global Positioning System Chart – Using a GPS, choose 5 landmarks and chart locations. For example, your house – make sure to include the street address along with a GPS description.

C) 908 Biotechnology – Inventory items found in your refrigerator. In any essay no longer than 2 typed pages, explain how biotechnology is used to create these products and its benefits.

DEPARTMENT D – DIVISION 340 – WILDLIFE AND HOW THEY LIVE

DIVISION RULES – WILDLIFE AND HOW THEY LIVE

1. Classes 001-004 are board or poster exhibits. Display may show any aspect of wildlife, wildlife habitat, or related conservation. Examples include the life history or other facts about one type of wildlife, how to manage wildlife on a farm or in town, managing habitat for one kind of wildlife, requirements for one kind of wildlife during one season or through the year, and wildlife behavior and habitats. For more ideas, refer to project booklets. Remember to look at General Rules for this area.

Division	Class	Pay	Purple	Blue	Red	White
340	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Mammal Display (SF154) – Examples include life history or other facts about one type of wildlife, how to manage wildlife on a farm or in town, managing habitat for one kind of wildlife, life requirements for one kind of wildlife during one season or through the year, wildlife behavior and habitats.

SF) 002 Bird Display (SF154) – Examples include life history or other facts about one type of wildlife, how to manage wildlife on a farm or in town, managing habitat for one kind of wildlife, life requirements for one kind of wildlife during one season or through the year, wildlife behavior and habitats.

SF) 003 Fish Display (SF155) – Examples include life history or other facts about one type of wildlife, how to manage wildlife on a farm or in town, managing habitat for one kind of wildlife, life requirements for one kind of wildlife during one season or through the year, wildlife behavior and habitats.

SF) 004 Reptile or Amphibian Display (SF156) – Examples include life history or other facts about one type of wildlife, how to manage wildlife on a farm or in town, managing habitat for one kind of wildlife, life requirements for one kind of wildlife during one season or through the year, wildlife behavior and habitats.

SF) 005 Wildlife Connections (SF157) – Board or poster exhibit. The purpose of this display is to show interconnections and related aspects among animals, plants, and other habitat components. All displays should show two or more interactions (connections) that occur between/among animals or between animals and their habitat. Displays might show how animals interact with other animals, with people, or with their habitat. Examples: Food Chain Display (Use pictures, drawings, or other items to illustrate the source of food energy and where it goes – who eats who or what. Use arrows to show the direction of the energy/food flow.); Show the role of predators, scavengers, insect eaters, or others in nature; Show how wildlife numbers (populations) change through the year; Show predation, competition, or other behavioral interactions of wildlife; Choose one kind of wildlife and make observations through a season or year, keep notes of interactions, then make a display of what you saw.

SF) 006 Wildlife Tracks (SF158) – Board or diorama-type box exhibit. Make a display of animal tracks using plaster-of-paris casts. There are 3 options. **For all options, include a brief description of your experiences in making the tracks so the judges better understand what you did and what you learned.** Positive casts (impressions as they would be in nature) are preferred.

1. Show plaster-of-paris tracks of five or more kinds of wildlife along with a picture or illustration of each kind of animal.
2. Show two or more plaster-of-paris tracks of one specific kind of wildlife and should include a picture or illustration of the animal, what the animal may eat, and what may eat the animal.
3. Show two tracks and include the animal's habitat needs including preferred food, shelter, water, and space in addition to a picture or illustration of the animal.

SF) 007 Wildlife Knowledge Check (SF159) – Use electrical circuits, pictures, or other methods of teaching wildlife identification or other wildlife conservation or shooting sports-related knowledge. Plan size and shape to fit transportation and display. Maximum size

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24" x 24".

SF) 008 Wildlife Diorama (SF160) – Exhibit must be no larger than 24" x 24". The exhibit might show a grassland, prairie, agricultural, woodland, riparian (stream or river corridor), wetland, and/or other area with wildlife habitat. Examples: Show an area interspersed with several habitats such as windbreaks, farm fields, woods, waste areas, ditches, and pastures for edge-adapted species such as white-tailed deer, Northern bobwhite, mourning doves, cottontail rabbits, fox, squirrels, Northern cardinals, or blue Jays. Label the habitats displayed and show at least five kinds of wildlife in their proper habitats.

SF) 009 Wildlife Essay (SF161) – Learn how to share educational information by writing. Choose a conservation or wildlife topic that interests you and write an essay about it. For example, write about a particular species of wildlife that you have observed or about the values of wildlife. You might write about wildlife on a farm, in town, in a backyard, at a backyard feeder, or at other places. You might write about ethics, proper behavior in the outdoors, hunting, or fishing. The essay is between 100 and 1000 words long and type, double-spaced on 8 ½" x 11" paper. You might also use books, magazines, or personal interviews as resources, but you must give credit to all sources by listing them.

SF) 010 Wildlife Values Scrapbook (SF162) – Make a scrapbook about the various values of wildlife. This would include aesthetic, scientific, commercial, game, genetic, and/or ecological. A helpful resource is the Wildlife Conservation project booklet (4-H 125).

SF) 011 Wildlife Arts (SF163) – The purpose of this class is to allow artistic exhibits that contain educational information about conservation and wildlife. Examples might include paintings, photographs, wood carvings, painted duck decoys, or songs or poems written by the exhibitor. Entries must be appropriate for fair display and no larger than 24" x 24". For example, painting or photographs should be displayed in notebook format or mounted on a sturdy display panel. All entries must include a title and brief explanation of the purpose or message (what the exhibit is meant to show).

DEPARTMENT D – DIVISION 342 – WILDLIFE HABITAT

Division	Class	Pay	Purple	Blue	Red	White
342	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Houses (SF165) – Make a house for wildlife. Examples include birdhouse (bluebird, purple martin, wood duck, kestrel, barn owl, etc.) or bat house, no insect houses. Make the house functional so that dimensions, hole size, etc. are appropriate to fit the intended species' needs. Include the following information:
1. The kind(s) of animal(s) for which the house is intended.
2. Where and how the house should be located for best use.
3. Any seasonal maintenance needed.
4. Any evidence of your personal observations

Tips: Check NebGuide on bird houses and shelves.

SF) 002 Feeders/Waterers (SF166) – Make a bird bath or feeder. Examples include seed, suet, or nectar feeders. Squirrel feeder okay; no insect feeders. Include the following information:
1. The kind(s) of animal(s) for which the house is intended.
2. Where and how the water/feeder should be located for best use.
3. Any seasonal maintenance needed.
4. Any evidence of your personal observations or experiences

Tips: Check NebGuide on feeding birds.

SF) 003 Wildlife Habitat Design Board or Poster Exhibit (SF167) – Choose a backyard, acreage, or farm, and design a habitat plan to meet the food, water, shelter, and space needs of at least three kinds of animals you would like to attract. Draw an outline of the area and show what plants or other habitat will be provided. Indicate how the various parts of your plan provide the desired habitat needs. You might include an aerial photo of the area if you have one.

DEPARTMENT D – DIVISION 343 – HARVESTING EQUIPMENT

Division	Class	Pay	Purple	Blue	Red	White
343	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Fish Harvesting Equipment (SF168) – Board Exhibit. Display of equipment used in fish harvesting. Examples include fishing knots, hooks (with corks over ends for safety, and lures. Label all items displayed. Include in your exhibit the following information: the purpose of each item, when or where each item is used, and any personal experiences you've had with the item(s).

SF) 002 Build a Fishing Rod (SF169) – Rod building kits with instructions are available for this purpose. A fishing rod educational exhibit may not exceed 96" in length. Exhibit must be mounted on a board. Included with the exhibit: Explanation of cost of materials/components, where materials/components were purchased, and how many hours were required for construction. Label all parts. Necessary components which must be included are grip, line guides (based on manufacturers specifications), guide wraps, and hook keeper. Reel seat needs to be aligned with guides, and guides aligned accurately down the rod. Guide wraps of size A to D, nylon, or silk thread. Exhibit will be judged on workmanship, labeling of parts, information, and neatness.

SF) 003 Casting Target (SF170) – Make a casting target for exhibit and use. Target must be under 48" x 48". The bullseyes must be 2', the outer band must be 1' in diameter and can have up to 3 rings. The exhibit must be easy to store, durable, and weather resistant. Include the purpose and rules of using your casting target.

SF) 004 Wildlife Harvesting Equipment Board Exhibit (SF171) – Display of equipment used in harvesting wildlife. Examples include expended ammunition casings (no live ammunition permitted), steel traps, hide stretchers, fleshers, etc. For displays of shotguns, rifles or bows – use drawings or pictures. Label all items displayed, the purpose of each item, when or where it is used, and any personal experiences you've had with the item(s).

SF) 005 Inventing Wildlife/Fish Harvesting Equipment, Aid, or Accessory (SF168) – Use engineering principles to invent or adapt equipment that helps you harvest fish or wildlife. This could include wildlife calls, adapted fishing poles for shallow water, a blind, decoys, etc. Share your drawing (or adapted plans), how the equipment works, how you tested it, and the results of testing your prototype, and any adjustments you made.

DEPARTMENT D – DIVISION 341 – OUTDOOR ADVENTURES: LEVEL 1 (HIKING TRAILS AND BACKPACKING)

DIVISION RULES – OUTDOOR ADVENTURES:

1. See General Rules
2. Display posters must be made of material, e.g., foam board or poster board, and measure no larger than 22" x 28". Poster material should be sturdy enough to hold items.
3. Display exhibits other than posters to be no larger than 18" x 24".
4. Journal/binder exhibits measure no larger than 16" x 16".
5. Consider neatness and creativity.

Division	Class	Pay	Purple	Blue	Red	White
341	All Classes	3	$3.00	$2.50	$2.00	$1.00

C) 900 Poster (281) – Create a poster or display no larger than 22" x 28". Topics may include one of the following but is not limited to: Trail map(s) you have hiked, hiking essentials, your hiking adventures, wildlife or plants observed while hiking (birds, animal prints, butterflies, etc.), plan a hike, explain "Leave No Trace" and how it was followed during hiking, or a collection of photos from your hikes.

C) 901 Journal/Binder (281) – Written report of actual, virtual, or imagined trail(s) hiked with observations, OR a field journal (notes of actual experiences, sights, sounds, smells, etc.), OR a camping trip diary. Feathers/leaf/flower pressings must be securely attached if included. Photos or drawings of observations are encouraged. Exhibits must measure no larger than 16" x 16".

C) 902 Hiking Safety (281) – Must include an explanation of the use of the item and why it was selected/purpose of the item and how it meets hiking needs. May include, but is not limited to, one of the following: a compact hiking safety kit, a homemade compass, or a homemade water purifier. Exhibits measure no larger than 18" x 24".

C) 903 Hiking Adventure Game (281) – Create a game of trails of outdoor adventures. Must be educational, including one or more aspects of hiking. The game must include clear instructions as to the purpose of the game and what can be learned by playing the game. Exhibits must measure no larger than 18" x 24".

C) 904 Other Hiking Items (281) – Must include what inspired the creation of the item and its purpose. May include, but is not limited to, one of the following: hiking backpack, nature art, nature poem or story, or homemade hiking snack mix displayed in a resealable bag (include the recipe and why the ingredients were selected, along with their nutritional value). Exhibits must measure no larger than 18" x 24".

DEPARTMENT D – DIVISION 341 – OUTDOOR ADVENTURES: LEVEL 2

Division	Class	Pay	Purple	Blue	Red	White
341	001-005	3	$3.00	$2.50	$2.00	$1.00

SF) 001 Poster (SF281) – Create a poster display no larger than 22" x 28". Topics may include, but are not limited to one or more of the following: hot to pitch a tent, knot tying, cooking over a campfire, how to start a campfire, wildlife and plants identified while camping, how to set up emergency shelter, dealing with weather, collection of photos from camping trips, "Leave No Trace" and how that was followed while camping, plan a camping trip, camping essentials, environmental issues/protecting natural resources, park or trail clean up, sanitation/hygiene while outdoors, or use of GPS.

SF) 002 Journal/Binder (SF281) – Written report of virtual or actual camping/hiking trips with observations OR field journal (notes of actual experiences, sights, sounds, smells, etc.), OR camping or hiking trip diary. Explain growth in project, leading the hikes, planning the camping trip, now being able to identify the wildlife and nature around you and how you identified (sight/sound/shape/smell/color). Feathers/leaf/flower pressings must be securely attached, if included. Photos or drawings of observations are encouraged. Exhibits must measure no larger than 16" x 16".

SF) 003 Camping/Hiking Safety (SF281) – Must include an explanation of the use of the item and why selected/purpose and how it fits hiking/camping needs. May include, but is not limited to, one of the following: travel sized poisonous plants guide, camping first aid kit, weather/water safety, or hand hygiene kit. Exhibits measure no larger than 18" x 24".

SF) 004 Digital Media (SF281) – Use digital media to show a video/slideshow/presentation of setting up a tent (include why the site is chosen) or protecting natural resources or environmental issues or computer video camping/hiking game. Submit a USB drive or DVD inside a report cover or notebook. If using a slideshow, include printed slides inside the report cover or notebook.

SF) 005 Other Camping Items (SF281) – Must include what inspired the creation of the item and its purpose. May include, but is not limited to, one of the following items: nature art, nature haiku poem, spider web sketches, or knot display. Exhibits measure not larger than 18" x 24".

DEPARTMENT D – DIVISION 341 – OUTDOOR ADVENTURES: LEVEL 3

Division	Class	Pay	Purple	Blue	Red	White
341	006-010	3	$3.00	$2.50	$2.00	$1.00

SF) 006 Poster (SF281) – Create a poster display, no larger than 22" x 28". Topics may include, but are not limited to, one of the following: Topographic map, backpacking trip plan, camp layout, plan an expedition (can be dreamed or lived), collection of photos from your expedition, trails hiked, cost comparison of rental vs purchase, or using GPS/compass.

SF) 007 Journal/Binder (SF281) – Written report of actual, virtual, or imagined expeditions/camping/hiking, OR field journal (notes of actual experiences, sights, sounds, smells, etc.). Explain growth in project, challenges in leading a group, teaching others about wildlife and nature identification, and "Leave No Trace". Exhibits measure no larger than 16" x 16".

SF) 008 Expedition Safety (SF281) – Must include an explanation of use of items, why selected/purpose of item, and how it meets hiking/camping/expedition needs. May include, but is not limited to, travel sized edible plants, creepy crawly guide, tent repair kit, travel first aid kit, or weather/water safety. Exhibits measure no larger than 18" x 24".

SF) 009 Digital Media (SF281) – Use digital media to show a video/slideshow/presentation on one of the following, but not limited to, building a non-tent shelter (include why you needed), packing your backpack/equipment and getting it onto you, teaching others about environmental issues or a computer video backpacking expedition game. Submit a USB drive or DVD inside a report cover or notebook. If using a slideshow, include printed slides inside the report cover or notebook.

SF) 010 Other Expedition Items (SF281) – Must include what inspired the creation of the item and the purpose of the item. May include, but are not limited to, nature art, nature cinquain poem, backpacking food recipes, hiking/expedition conditioning plan, charcoal etching, dehydrated meal or snack (at least 1 cup displayed in a resealable plastic bag with ingredients, instructions, and nutritional facts included). Exhibits measure no larger than 18" x 24".

DEPARTMENT D – DIVISION 346 – TAXIDERMY

Division	Class	Pay	Purple	Blue	Red	White
346	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Tanned Hides (SF172) – Any legal fish, bird, or other wild animal properly processed by the 4-H member. No requirement as to size or mounting. Include the following information: the animal's name, information about the exhibitor's personal field experiences, and study and/or observations that relate to the exhibit.

SF) 002 Taxidermy (SF172) – Any legal fish, bird, or other wild animal properly processed by the 4-H member. No requirement as to size or mounting. Include the following information: the animal's name, information about the exhibitor's personal field experiences, and study and/or observations that relate to the exhibit.

DEPARTMENT D – DIVISION 361 – OTHER NATURAL RESOURCES

Division	Class	Pay	Purple	Blue	Red	White
361	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Design Your Own Exhibit in Natural Resources, Conservation, Geology, or Ecology (SF164) – This class is for educational exhibits about natural resources, conservation, wildlife, or ecology that do not fit into other categories. Entries must be appropriate for fair display and no larger than 24" x 24". All entries must include a title and should be clear (a brief explanation or other method) about the intended purpose or message – what the exhibit is meant to show. Think about accuracy, creativity, educational value for viewers, and evidence of the exhibitor's personal experiences and learning.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Veterinary Science
Superintendents: Monty Lovelace, Syracuse

DEPARTMENT H – DIVISION 840 – VETERINARY SCIENCE

Veterinary Science exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

Division	Class	Pay	Purple	Blue	Red	White
840	All Classes	2	$5.00	$4.00	$3.00	$2.00

The purpose of the Veterinary Science exhibit is to inform the public about a common health problem of animals or a veterinary principle. Do not confuse veterinary science exhibit topics with animal husbandry, history, or promotion topics. A Veterinary Science exhibit may consist of a poster, notebook, or a display. The exhibit may represent material from exhibitors enrolled in Animal Disease or Animal Health. If photographs are to be part of the exhibit, remember that they will be viewed by the public. Make sure that the photographs are in good taste and will not be offensive to anyone. Graphic photographs of excessive bleeding, trauma or painful procedures are not appropriate. For exhibits related to veterinary surgical procedures, aseptic techniques need to be shown, for example, use of drapes, use of sterile procedures, wearing of gloves, and other appropriate veterinary medical practices. First -Aid Kits: Because of public safety concerns and risk of theft of firstaid kit contents (veterinary drugs/equipment) with perceived potential for drug abuse, animal first aid kits containing any drugs or medications will be immediately disqualified and not displayed. First Aid kits wishing to include medication information should instead utilize written descriptions, photographs, drawings, computer generated printouts, or empty packaging of pharmaceuticals. Veterinary Science Posters: This exhibit presents the viewer with a design that is simple and direct, unlike a display that usually presents more information. A poster should not exceed 22" x 28" and may be either vertical or horizontal. Veterinary Science Displays: A display may include but is not limited to a 3- dimensional exhibit, a scale model, the actual product (for example: skeleton; teeth; samples of leather, fur, or dried skin damaged by disease or parasites) or a notebook. A display is not a poster. A display may be mounted on poster board not to exceed 22" x 28" or on 1/4" plywood or equivalent that does not exceed 24" high or 32" wide or in a three-ring binder or another bound notebook format. Appropriate Veterinary Science Topics: • Maintaining health • Specific disease information • Photographic display of normal and abnormal characteristics of animals • Animal health or safety • Public health or safety • Proper animal management to ensure food safety and quality • Efficient and safe livestock working facilities • Or a topic of the exhibitors choosing related to veterinary medicine or veterinary science *Remember, since these are science displays, all references and information needs to be properly cited. Proper sources include but are not limited to: Professional journals and publications, professional AVMA accredited websites, interviews with Veterinarians and excerpts from Veterinary Educational Literature. Plagiarism will result in disqualification. Please study your topic and present the information to your audience in your own words.

SF) C001 4-H Veterinary Science Large Animal Display -Poster, Notebook, or Display

SF) S002 4-H Veterinary Science Small Animal Display -Poster, Notebook, or Display

PLANT SCIENCE

DEPARTMENT: PLANT SCIENCE
AREA: Agronomy
Superintendents: Monty Lovelace, Syracuse

Individuals in the Crop Production, Field Crops project may exhibit grain or plants to prepare an educational display representing their project. The purpose of these exhibits is to 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.

CURRICULUM & RESOURCES

Crop Projects Level 1: Seedy Business B
Crop Projects Level 2: Green and Growing I
Crop Projects Level 3: Be'an All You Can Be A

Agronomy exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – FIELD CROPS
1. Crop Production Worksheet – A completed Crop Production Worksheet (available at https://4hfairbook.unl.edu/fairbookview.php/exhibits/13) must accompany grain and plant exhibits, or it will automatically be deducted one ribbon placing.

DEPARTMENT G – DIVISION 750 – FIELD CROPS (GRAIN OR PLANT EXHIBITS)

DIVISION RULES – FIELD CROPS (GRAIN OR PLANT EXHIBITS)
1. Individuals in the Crop Production Field Crops project may exhibit grain or plants or prepare an educational display representing their project.
2. A completed Crop Production Worksheet (available at https://cropwatch.unl.edu/Youth/Documents/Crop%20Production%20Project%20Worksheet%20Final.pdf) must accompany grain and plant exhibits, or it will automatically be lowered one ribbon placing. The worksheet must include the exhibitor's name and address, county, plant hybrid or variety, plant population, whether crop production was irrigated or dryland, and general information including farm cropping history, soil type, and weather effects.
3. The worksheet also must include an economic analysis of the project, listing individual expenses and income, on a per acre basis. Other topics to discuss are the selection of variety or hybrid, impacts of tillage and conservation practices, inputs (fuel, fertilizer, irrigation, labor, pesticides, etc.), any observations made during the growing season, and what you learned from your crops project. The worksheet counts as 50% of the total when judged.
4. Worksheet must be the original work of the individual exhibitor, or it will be lowered one ribbon placing.
5. Attach the worksheet to the entry in a clear plastic cover such that it can be read without removing it from the cover. In addition to the worksheet, grain and plant exhibits will be judged on condition, appearance (i.e., disease and insect damage, grain fill), uniformity (size, shape, color, maturity), and quality of exhibit.
6. Grain exhibits must be one gallon per sample. Grain exhibits harvested in the fall (e.g., corn or soybeans) may be from the previous year's project. Display containers will be furnished.
7. Plant exhibits, with the exception of ears of corn, must be the result of the current year's project.
8. Corn – 10 ears of 3 stalks (cut at ground level with no roots or soil and bound together)
9. Grain Sorghum – 4 stalks (cut at ground level and bound together)
10. Soybeans – 6 stalks (cut at ground level and bound together)
11. Small Grains (Oats, Barley, Wheat, Triticale) – Sheaf of heads 2" in diameter at top tie with stems about 24" long.
12. Other Crops (Alfalfa, Millet, etc.) – Sheaf of stems 3" in diameter at top tied with stems cut at ground level or half size small square bale.

Division	Class	Pay	Purple	Blue	Red	White
750	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Corn (SF264) – Includes yellow, white, pop, waxy, or any other type (10 ears or 3 stalks, cut at ground level with no roots or soil and bound together)

SF) 002 Soybeans (SF264)

SF) 003 Oats (SF264)

SF) 004 Wheat (SF264)

SF) 005 Any Other Crop (SF259) – Includes grain sorghum, alfalfa, millets, barley, rye, triticale, amaranth, dry beans, sugar beets, mung beans, canola, forage sorghum, safflowers, etc.

DEPARTMENT G – DIVISION 750 – FIELD CROPS (DISPLAYS)

DIVISION RULES – FIELD CROPS (DISPLAYS)
1. The purpose of the display is to tell an educational story to those that view the display.
2. The display is a visual representation (pictures, charts, graphs) no larger than 28" x 28" on plywood or poster board.
3. The display should be neatly titled. Make sure to label the display with the exhibitor's name, address, and county on the back side. Explain pictures and graphs clearly and concisely.
4. Consider creativity and neatness.
5. Each display must have a one-page essay (minimum) explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used.
6. The essay should be in a clear plastic cover with the exhibitor's name outside.
7. If a display does not have an essay, it will automatically be lowered one ribbon placing.

Division	Class	Pay	Purple	Blue	Red	White
750	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 006 Crop Production Display (SF259) – The purpose of this class is to allow original and creative exhibits that contain educational information about crop production aspects, such as crop scouting, alternative crops, pest management, etc.

SF) 007 Crop Technology Display (SF259) – Display information about aspects of technology used in crop production, such as genetic engineering, crop breeding, GPS, yield mapping, computers, etc.

SF) 008 Crop End Use Display (SF259) – Display information about the final product or end uses for a crop, such as food, feed, fuel, or other products (i.e., corn can be processed into livestock feed, ethanol, plastics, etc. of soybeans can be processed into biodiesel, pet bedding, crayons, oil, etc.). This should not be about the process of crop production, but focus on an end product(s)

SF) 009 Water or Soil Display (SF259) – Display information about water or soils, such as how soils are being used for crop production, range, conservation, wildlife, or wetland use, or ways to protect or conserve water and soil resources.

SF) 010 Career Interview Display (SF259) – The purpose of this class is to allow youth to investigate a career in agronomy. Youth should interview one person that works with crops about such topics as, what parts of their job do they enjoy or dislike, why did they choose that career, what was their education, etc. Include a picture of the person interviewed.

DEPARTMENT G – DIVISION 750 – SPECIAL AGRONOMY PROJECT

The 2024 Crop of the Year is Sugar Beets.

Youth experience a crop that is grown, was grown, or has the potential to be grown in Nebraska by growing it, researching traits of that crop, and determine viability of that crop in the part of the state they live in.

Each year, seeds will be mailed to extension offices or ag ed classrooms across the state, as ordered by that location. Offices will distribute to youth on a first come, first serve basis. A different seed will be selected every year. Youth-will grow seeds in their garden or pots. Written resources materials will be available for youth, in addition to virtual, live, or recorded videos/field trips. Youth will be eligible to enter an exhibit at both the county and/or State Fair in the agronomy project area.

Division	Class	Pay	Purple	Blue	Red	White
750	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 011 Special Agronomy Project – Educational Exhibit (SF259) – Educational exhibit based on what was learned from the project. Present information on a poster 14" x 22" either vertical or horizontal arrangement or in a clear plastic report cover. The 4-H member's name, age, and county must be on the back of the poster or report cover. Each

display must have a one-page essay (minimum) explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used.

SF) 012 Special Agronomy Project – Video Presentation – 4-H exhibitor designs a multimedia presentation related to the crop. This could include narration of the growing process, presenting facts about the crop, or any other innovative multimedia practices. The presentation should be at least 2 minutes in length and no more than 5 minutes in length, appropriate graphics, sound and either a video clip, animation or voice over, and/or original video clip. Any of the following formats will be accepted: mp4, .mov, .ppt, or .avi.

SF) 013 Special Agronomy Project – Freshly Harvested Crop – Plant exhibits must be the result of the current year's project. Depending on the type of crop selected for the current year:

A. Corn – 10 ears or 3 stalks (cut at ground level with no roots or soil and bound together)
B. Grain Sorghum – 4 stalks (cut at ground level and bound together)
C. Soybeans – 6 stalks (cut at ground level and bound together)
D. Small Grains (Oats, Barley, Wheat, Triticale) – Sheaf of heads 2" in diameter at top tied with stems about 24" long.
E. Other Crops (Alfalfa, Millet, etc.) – Sheaf of stems 3" in diameter at top tied with stems cut at ground level.

Supporting documentation (1/2 to 1 page in length) should include the following:

A. Economic Analysis and/or research that supports feasibility of this crop in Nebraska or how the crop has evolved over time.
B. Other topics to discuss are past/current commercial production of this crop. This includes the selection of variety or hybrid, impacts of tillage and conservation practices, inputs (fuel, fertilizer, irrigation, labor, pesticides, etc.), any observations made during the growing season about this crop, and what you learned from your crops project. This ½ to 1-page summary counts as 50% of the total when judged.
C. In addition to the summary, grain and plant exhibits will be judged on condition, appearance (i.e. disease and insect damage, grain fill), uniformity (size, shape, color, maturity), and quality of exhibit.

DEPARTMENT G – DIVISION 751 – WEED SCIENCE (BOOKS)

DIVISION RULES – WEED SCIENCE (BOOKS)

1. Plants must be mounted on sheets that are no larger than 14" x 14". Proper plant mount should include root as well as stem and leaf tissue. Plants should be glued rather than taped, and the mounts should be protected with a clear cover.
2. Exhibits will be judged based on completeness of plant mount, accuracy of identification, label, neatness, and conformity to exhibit requirements.
3. Each completed mount must have the following information in the lower right corner of the mounting sheet (example in parenthesis):
   A. Scientific name (in italic or underlined), with authority (Abutilon theophrasti Medik)
   B. Common name (Velvetleaf)
   C. County of collection (Otoe County)
   D. Collection date (6 July 2022)
   E.Collector's name (Jane Doe)
   F. Personal collection number, indicating the order that plants were collected in your personal collection (3)
   G. Other information depending on class selected, i.e., noxious, life form. (Life Cycle – Annual)

<u>This information should be typed or printed neatly.</u>

Division	Class	Pay	Purple	Blue	Red	White
751	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Weed Identification Book (SF261) – A collection of a minimum of 15 plant mounts including at least two of the following prohibited noxious weeds (Canada thistle, musk thistle, plumeless thistle, saltcedar, leafy spurge, purple loosestrife, diffuse knapweed, spotted knapweed, Japanese knotweed, bohemian knotweed, giant knotweed, sericea lespedeza, or phragmites) and at least three weeds that are a problem primarily in lawns.

SF) 002 Life Span Book (SF261) – A collection of 7 perennials, 1 biennial, and 7 annual weeds.

DEPARTMENT G – DIVISION 751 – WEED SCIENCE (DISPLAYS)

DIVISION RULES – WEED SCIENCE (DISPLAYS)

1. The purpose of the display is to tell an educational story to those that view the display. The display is a visual representation (pictures, charts, graphs) no larger than 28" x 28" on plywood or poster board. The display should be neatly titled.
2. Make sure to label the display with the exhibitor's name, address, and county on the back side. Explain pictures and graphs clearly and concisely.
3. Each display must have a one-page essay explaining why the exhibitor chose the area of display and what they learned from their project. Include any references used.
4. The essay should be in a clear plastic cover with the exhibitor's name outside.

Division	Class	Pay	Purple	Blue	Red	White
751	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 003 Weed Display (SF259) – The purpose of this class is to allow original and creative exhibits that contain educational information about weeds, such as interesting information about a weed species, the effects of weed control, herbicide-resistant weeds, what makes a weed a weed, or uses for weeds.

DEPARTMENT: PLANT SCIENCE
AREA: Horticulture
Superintendents: Monty Lovelace, Syracuse

The purpose of Horticulture is to encourage participants to start and maintain vegetable and herb gardens. In addition, 4-H'ers can participate in planting, growing, and caring for flowers and houseplants. There is also a Special Gardening Project in this category that 4-H'ers can participate in.

CURRICULUM & RESOURCES			
The World of Flowers	B	I	A
Flowers 2: All About Flowers	B	I	A
Growing Great Houseplants	B	I	A
Everyone a Gardener	B	I	A
Gardening A: See Them Sprout	B		
Gardening B: Let's Get Growing		I	
Gardening C: Take Your Pick			A
Gardening D: Growing Profits			
Growing a Beautiful Space 1	B		
Growing a Beautiful Space 2		I	
Growing a Beautiful Space 3			A

Horticulture exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – HORTICULTURE

1. The cultivar or variety name must be included on all entry cards. If a potted container contains several cultivars or varieties, identify each individually within the pot. Failure to identify the cultivar or variety will drop the entry one ribbon placing. Proper identification is the responsibility of the exhibitor, not the Extension Staff or Office Personnel. Exhibits entered under an incorrect class number or containing an incorrect number of vegetables will be dropped one ribbon placing.

DEPARTMENT G – DIVISION 770 – FLORICULTURE (CUT FLOWER ANNUALS AND BIENNIALS)

DIVISION RULES – CUT FLOWER ANNUALS AND BIENNIALS

1. Youth must be enrolled in the World of Flowers, Annual Flowers, and/or Growing Great Houseplants to exhibit in classes G001-G046 and G050-G053.
2. **<u>Exhibit 5 stems of a single variety (cultivar) unless otherwise noted in parenthesis.</u>**
3. Punch a hole in the top center of the entry tag and use a rubber band to securely attach the entry tag to containers.
4. Exhibits entered under an incorrect class number or containing an incorrect number of stems will be dropped one ribbon placing. In Classes 023, 045, and 046, do not duplicate entries from the already listed classes or entry will be dropped one ribbon placing. For example, 4-H'ers with two cultivars or varieties of marigolds can only enter the marigold class and cannot enter the other cultivar or variety in any other class.
5. An annual is a plant that grows from seed each season, whether self-seeded or planted by the gardener.
6. A biennial is a plant that germinates, grows, and overwinters as a crown, blooms the following year, and dies.
7. Foliage will be considered when the exhibit is judged.
8. All 3 or 5 stems of cut flowers should be the same cultivar and color, do not mix cultivars and colors. Containers will not be judged; however, they should be CLEAR GLASS CONTAINERS that won't tip over (No plastic containers at County or State Fair) and of adequate size to display blooms. Any exhibit not in a clear glass container will be dropped one ribbon placing. Containers may not be returned from State Fair.
9. Follow the guidelines in 4-H Preparing Cut Flowers for Exhibits (4H227) (revised 2016) when preparing entries the fair.

Division	Class	Pay	Purple	Blue	Red	White
770	001-023	4	$2.00	$1.75	$1.50	$1.00

SF) 001 Aster (SF106)
SF) 002 Bachelor Buttons (SF106)
SF) 003 Bells of Ireland (SF106)
SF) 004 Browallia (SF106)
SF) 005 Calendula (SF106)
SF) 006 Celosia (SF106) – Crested or plume, 3 stems
SF) 007 Cosmos (SF106)
SF) 008 Dahlia (SF106)
SF) 009 Dianthus (SF106)
SF) 010 Foxglove (SF106)
SF) 011 Gladiolus (SF106) – 3 stems
SF) 012 Gomphrena (SF106)
SF) 013 Hollyhock (SF106) – 3 stems
SF) 014 Marigold (SF106)
SF) 015 Pansy (SF106)
SF) 016 Petunia (SF106)
SF) 017 Salvia (SF106)
SF) 018 Snapdragon (SF106)
SF) 019 Statice (SF106)
SF) 020 Sunflower (SF106) – Under 3" diameter – 5 stems, 3" or more in diameter – 3 stems
SF) 021 Vinca (SF106)
SF) 022 Zinnia (SF106)
SF) 023 Any Other Annual or Biennial (SF106) – Under 3" diameter – 5 stems, 3" or more in diameter – 3 stems, do not duplicate entries in Classes 001 - 022

DEPARTMENT G – DIVISION 770 – FLORICULTURE (CUT FLOWER PERENNIALS)

DIVISION RULES – CUT FLOWER PERENNIALS

1. **<u>Exhibit 5 stems of a single variety (cultivar) unless otherwise noted in parenthesis.</u>**
2. Punch a hole in the top center of the entry tag and use a rubber band to securely attach the entry tag to containers.
3. Exhibits entered under an incorrect class number or containing an incorrect number of stems will be dropped one ribbon placing. In Classes 023, 045, and 046, do not duplicate entries from the already listed classes or entry will be dropped one ribbon placing. For example, 4-H'ers with two cultivars or varieties of marigolds can only enter the marigold class and cannot enter the other cultivar or variety in any other class.
4. A perennial is defined as a plant of which the crown overwinters.
5. Foliage will be considered when the exhibit is judged.
6. All 3 or 5 stems of cut flowers should be the same cultivar and color, do not mix cultivars and colors. Containers will not be judged; however, they should be CLEAR GLASS CONTAINERS that won't tip over (No plastic containers at State Fair) and of adequate size to display blooms. Any exhibit not in a clear glass container will be dropped one ribbon placing. Containers may not be returned from State Fair.
7. Follow the guidelines in 4-H Preparing Cut Flowers for Exhibits (4H227) (revised 2016) when preparing entries for fair.

Division	Class	Pay	Purple	Blue	Red	White
770	030-046	4	$2.00	$1.75	$1.50	$1.00

SF) 030 Achillea/Yarrow (SF106)
SF) 031 Chrysanthemum (SF106)
SF) 032 Coneflower (SF106)
SF) 033 Coreopsis (SF106)
SF) 034 Daisy (SF106)
SF) 035 Gaillardia (SF106)
SF) 036 Helianthus (SF106)
SF) 037 Hydrangea (SF106) – 3 stems
SF) 038 Liatris (SF106) – 3 stems
SF) 039 Lilies (SF106) – 3 stems, <u>not Daylilies</u>
SF) 040 Platycodon (SF106)
SF) 041 Rose (SF106) – 3 stems
SF) 042 Rudbeckia/Black-Eyed Susan (SF106)
SF) 043 Sedum (SF106)
SF) 044 Statice (SF106)
SF) 045 Any Other Perennial (SF106) – Under 3" diameter – 5 stems, 3" or more in diameter – 3 stems, do not duplicate entries in Classes 030 - 044
SF) 046 4-H Flower Garden Collection of 5 Different Cut Flowers (SF106) – Flowers are to be cut, not potted. Each flower in the collection should be exhibited with the number specified for Classes 001 – 045. Display in a box or other holder not more than 18" in any dimension. If a collection is exhibited at the State Fair, boxes may not be returned. Do not duplicate entries in Classes 001 – 045 with any in the group collection.

DEPARTMENT G – DIVISION 770 – EDUCATIONAL EXHIBITS

Division	Class	Pay	Purple	Blue	Red	White
770	050-053	3	$3.00	$2.50	$2.00	$1.00

SF) 050 Flower Notebook (SF100) – Exhibit a notebook containing pictures of flowers grown in Nebraska. There must be at least 10 different species of annuals and/or biennials and 10 different species of perennials hardy to Nebraska. Bulbs may be included in a separate section. 4-H'ers may show more than one cultivar of the same species, but they will only count as one species. The notebook must be the result of the current year's work. Pictures from garden catalogs, hand drawn pictures, or photographs may be used. Each species/cultivar must be labeled with the correct common name and scientific name, the height and spread of the plant, and the growing conditions (e.g., needs full sun and dry sandy soil) the species prefers. In addition to this information, bulbs should also be labeled as spring or summer flowering. Give proper credit by listing the sources of pictures and information used. The 4-H member's name, age, county, and years in the project(s) must be on the back of the notebook.

SF) 051 Flower Garden Promotion Poster (SF103) – Individual poster promoting flower gardening, size 14" x 22", either vertical or horizontal arrangement. Poster may be in any medium: watercolor, ink, crayon, etc. as long as it is not 3-dimensional. Posters using copyrighted material will not be accepted. Entry card must be stapled to the upper right-hand corner. The 4-H member's name, age, county, and years in the project(s) must be on the back of the poster.

SF) 052 Educational Flower Garden Poster (SF104) – Prepare a poster 14" x 22" x 2" (3-dimensional if needed), either vertical or horizontal arrangement, illustrating a skill or project you have done or learned about in a 4-H flower or houseplant project. One might show a special technique used or equipment incorporated in the garden. Refer to the 4-H Horticulture project manuals but use your own creativity. Entry card must be stapled to the upper right-hand corner. The 4-H member's name, age, county, and years in the project(s) must be on the back of the poster.

SF) 053 Flower Gardening History Interview (SF105) – Neatly handwritten or typed account of a gardening history interview whose flower garden has inspired you. Maximum of 4 pages of text and 2 pages of pictures (include 1 picture of the person you interviewed) of their flower garden if the individual is still gardening. Protect with a clear report cover. The 4-H member's name, age, county, and years in the project(s) must be on the back of the report cover.

DEPARTMENT G – DIVISION 770 – HOUSEPLANTS

DIVISION RULES – HOUSEPLANTS

1. Youth must be enrolled in the Growing Great Houseplants project to exhibit in Classes 60-66.
2. Container Grown Houseplants: The choice of container and soil quality will be considered in judging. Each houseplant must be identified by listing the names on the entry tag or on a card attached to the container. Identify each plant individually if there is more than one cultivar or variety. Houseplants should be grown in the display container for a minimum of six weeks. Plants grown as houseplants must be used. NebGuide G2205 "Guide to Growing Houseplants" and NebGuide G837 "Guide to Selecting Houseplants" includes a listing of common houseplants. **Containers of annual flowers or annual plants (i.e., petunias, geranium, impatiens) will be disqualified and will not be judged.**
3. Entries in Classes 060-066 must have been designed and planted by the 4-H member.
4. Container grown houseplants shall be in pots no greater than 12" in diameter (inside opening measurement). Dish gardens, fairy or miniature gardens, desert gardens, and terrariums may be up to 12" in diameter (inside opening measurement). Any container grown plant in Classes 060-066 that is greater than 12" in diameter (inside opening measurement) will be dropped one ribbon placing.
5. Exhibitors in Classes 060-065 must have and provide a saucer to catch drainage water. The 4-H members name, age, county, and years in the project(s) must be on the bottom or back of the container and saucer.

Division	Class	Pay	Purple	Blue	Red	White
770	060-066	4	$2.00	$1.75	$1.50	$1.00

SF) 060 Flowering Potted Houseplant(s) (SF107) – Should be blooming for exhibition! Container may have one or more houseplants in the container. Label with the name of each plant. Non-blooming plants will be disqualified.

SF) 061 Foliage Potted Houseplant (SF107) – One variety of tropical or cacti or succulent plant. Label with name of plant.

SF) 062 Hanging Basket (SF107) – Flowering and/or foliage houseplants. Container may have one or more houseplants in the container. Label with the name of each plant.

SF) 063 Dish Garden (SF107) – An open/shallow container featuring a variety of houseplants excluding cacti and succulent. Label with the name of each plant.

SF) 064 Fairy or Miniature Garden (SF107) – A miniature "scene" contained in an open container and featuring miniature or small, slow-growing houseplants. The garden needs to have an imaginative theme and miniature accessories, i.e. bench, fence made from tiny twigs, small shell for bathtub, etc. Label with the name of each plant.

SF) 065 Desert Garden (SF107) – An open/shallow container featuring a variety of cacti and/or succulents grown as houseplants. Label with the name of each plant.

SF) 066 Terrarium (SF107) – A transparent container, partially or completely enclosed; sealed or unsealed. Label with name for each plant.

DEPARTMENT G – DIVISION 771 – "BEST DRESSED EAR OF CORN"

Division	Class	Pay	Purple	Blue	Red	White
771	060-066	4	$2.00	$1.75	$1.50	$1.00

C) 900 "Best Dressed Ear of Corn" – Awards are as follows:
1st Place: $10.00
2nd Place: $7.50 **3rd Place: $5.00**

DEPARTMENT G – DIVISION 775 – SPECIAL GARDENING PROJECT

DIVISION RULES – SPECIAL GARDENING PROJECT

1. **<u>The 2024 Special Gardening Project is Princess India Nasturtium.</u>**
2. Youth must be enrolled in the current years' Special Garden project to exhibit.

Division	Class	Pay	Purple	Blue	Red	White
775	All Classes	3	$3.00	$2.50	$2.00	$1.00

SF) 001 Special Garden Project (SF109) – Educational exhibit based on what was learned from the project. Present information on a 14" x 22" poster, either vertical or horizontal arrangement or in a clear plastic report cover. The 4-H member's name, age, and county must be on the back of the poster or report cover.

SF) 002 Special Gardening Project Fresh Cut Flowers, Herbs, or Harvested Vegetables (SF109) – The current years' Special Gardening Project fresh cute flowers, herbs, or harvested vegetables should be entered in this class. Refer to Classes 001 – 045 for quantity to exhibit if the Special Gardening Project is a Fresh Cut Flower (SF106). Refer to Classes 201-252 for quantity to exhibit if the Special Gardening Project is a vegetable (SF108). Flowers and herbs must be cut, not potted.

DEPARTMENT G – DIVISION 773 – VEGETABLES

DIVISION RULES – VEGETABLES

1. Youth need to be enrolled in the Everyone a Gardener project and/or Gardening Unit 1-4 project.
2. In Classes 252, 255, 268, 269, 285, and 286, do not duplicate entries from any of the other classes, or entry will be dropped one ribbon placing. For example, 4-H'ers with two cultivars or varieties of red tomatoes can only enter the red tomatoes class and cannot enter the other cultivars or varieties in any other vegetable class.
3. Follow the guidelines in Selecting and Preparing Vegetables, Herbs, and Fruits for Exhibit (4H226) (https://4h.unl.edu/4hcurriculum/preparingvegetabesherbsandfruit) when preparing entries for the fair. At State Fair, plates will be provided for the exhibitor.

Division	Class	Pay	Purple	Blue	Red	White
773	201-256	4	$2.00	$1.75	$1.50	$1.00

SF) 201 Lima Beans (SF108) – 12
SF) 202 Snap Beans (SF108) – 12
SF) 203 Wax Beans (SF108) – 12
SF) 204 Beets (SF108) – 5
SF) 205 Broccoli (SF108) – 2
SF) 206 Brussels Sprouts (SF108) – 12
SF) 207 Green Cabbage (SF108) – 2
SF) 208 Red Cabbage (SF108) – 2
SF) 209 Carrots (SF108) – 5
SF) 210 Cauliflower (SF108) – 2
SF) 211 Slicing Cucumbers (SF108) – 2
SF) 212 Pickling Cucumbers (SF108) – 5
SF) 213 Eggplant (SF108) – 2
SF) 214 Kohlrabi (SF108) – 5
SF) 215 Muskmelon/Cantaloupe (SF108) – 2
SF) 216 Okra (SF108) – 5
SF) 217 Yellow Onions (SF108) – 5
SF) 218 Red Onions (SF108) - 5
SF) 219 White Onions (SF108) – 5
SF) 220 Parsnips (SF108) – 5
SF) 221 Bell Peppers (SF108) – 5
SF) 222 Sweet (Non-Bell) Peppers (SF108) – 5
SF) 223 Jalapeno Peppers (SF108) – 5
SF) 224 Hot (Non-Jalapeno) Peppers (SF108) – 5
SF) 225 White Potatoes (SF108) – 5
SF) 226 Red Potatoes (SF108) – 5
SF) 227 Russet Potatoes (SF108) – 5
SF) 228 Other Potatoes (SF108) – 5
SF) 229 Pumpkin (SF108) – 2
SF) 230 Miniature Pumpkins (SF108) – Jack Be Little Type, 5
SF) 231 Radish (SF108) – 5
SF) 232 Rhubarb (SF108) – 5
SF) 233 Rutabaga (SF108) – 2
SF) 234 Green Summer Squash (SF108) – 2
SF) 235 Yellow Summer Squash (SF108) – 2
SF) 236 White Summer Squash (SF108) – 2
SF) 237 Acorn Squash (SF108) – 2
SF) 238 Butternut Squash (SF108) – 2
SF) 239 Buttercup Squash (SF108) – 2
SF) 240 Other Winter Squash (SF108) – 2
SF) 241 Sweet Corn (SF108) – In husks, 5
SF) 242 Swiss Chard (SF108) – 5
SF) 243 Red Tomatoes – 2" or more in diameter, 5
SF) 244 Roma or Sauce/Type Tomatoes – 5
SF) 245 Salad Tomatoes (Under 2" Diameter) (SF108) – 12
SF) 246 Yellow Tomatoes (SF108) – 2' or more in diameter, 5
SF) 247 Turnips (SF108) – 5
SF) 248 Watermelon (SF108) – 2
SF) 249 Dry Edible Beans (SF108) – 1 pint
SF) 250 Gourds, Mixed Types (SF108) – 5
SF) 251 Gourdes, Single Variety (SF108) – 5
SF) 252 Any Other Vegetable (SF108) – 2, 5, or 12 (do not duplicate entries in Classes 201-251) that doesn't fit in any other class.
SF) 255 4-H Vegetable Garden Collection (SF108) – Collection should include five (5) kinds of vegetables. Display the Garden Collection in a box not more than 24" in any dimension. If exhibited at the State Fair, boxes may not be returned. Showmanship will be considered in judging, but plastic grass, cotton, figurines, etc. should not be used in exhibit boxes. Each vegetable in the collection should be exhibited with the number specified for the individual class (Classes 201-252). Do not duplicate entries in Classes 201-252 with any in the group collection.
SF) 256 4-H Cultivar Vegetable Collection (SF108) – Vegetables entered in the collections are 5 cultivars from a single exhibit: for example, 5 cultivars of all types of peppers or squash or onions or tomatoes, etc. Display in a box not more than 24" in any dimension. If exhibited at the State Fair, boxes may not be returned. Showmanship will be considered in judging; but plastic grass, cotton, figurines, etc. should not be used in exhibit boxes. Each vegetable in the collection should be exhibited with the number specified for the individual class (Classes 201-252).

DEPARTMENT G – DIVISION 773 – HERBS

DIVISION RULES – HERBS
1. Youth need to be enrolled in the Everyone a Gardener project and/or Gardening Unit 1-4 project.
2. In Classes 252, 255, 268, 269, 285, and 286, do not duplicate entries from any of the other classes, or entry will be dropped one ribbon placing. For example, 4-H'ers with two cultivars or varieties of red tomatoes can only enter the red tomatoes class and cannot enter the other cultivars or varieties in any other vegetable class.
3. Follow the guidelines in Selecting and Preparing Vegetables, Herbs, and Fruits for Exhibit (4H226) (https://4h.unl.edu/4hcurriculum/preparingvegetabesherbsandfruit) when preparing entries for the fair. At State Fair, plates will be provided for the exhibitor.
4. Herbs will be judged using the same general criteria used for vegetables.
5. Those grown mainly for their seed, such as dill and caraway, should be exhibited on a plate. Those grown for their leaves, such as basil, parsley, etc. should be exhibited in a CLEAR GLASS CONTAINER of water (no plastic containers at State Fair). Containers may not be returned from State Fair.
6. Potted herb plants will be disqualified and will not be judged.

Division	Class	Pay	Purple	Blue	Red	White
773	260-269	4	$2.00	$1.75	$1.50	$1.00

SF) 260 Basil (SF108) – 5
SF) 261 Dill (SF108) – Dry, 5
SF) 262 Garlic (SF108) – Bulbs, 5
SF) 263 Mint (SF108) – 5
SF) 264 Oregano (SF108) – 5
SF) 265 Parsley (SF108) – 5
SF) 266 Sage (SF108) – 5
SF) 267 Thyme (SF108) – 5
SF) 268 Any Other Herb (SF108) – 5 (Do not duplicate entries in Classes 260 – 267)
SF) 269 4-H Herb Garden Display (SF108) – Display of 5 different cut herbs. Herbs are to be cut, not potted. Displayed in a box or other holder not more than 18" in any dimension. If exhibited at the State Fair, boxes may not be returned. Each herb in the collection should be exhibited with the number specified for Classes 260-268. Do not duplicate entries in Classes 260-268 with any in the group collection.

DEPARTMENT G – DIVISION 773 – FRUITS

DIVISION RULES – FRUITS
1. Youth need to be enrolled in the Everyone a Gardener project and/or Gardening Unit 1-4 project.
2. In Classes 252, 255, 268, 269, 285, and 286, do not duplicate entries from any of the other classes, or entry will be dropped one ribbon placing. For example, 4-H'ers with two cultivars or varieties of red tomatoes can only enter the red tomatoes class and cannot enter the other cultivars or variety in any other vegetable class.
3. Follow the guidelines in Selecting and Preparing Vegetables, Herbs, and Fruits for Exhibit (4H226) (https://4h.unl.edu/4hcurriculum/preparingvegetabesherbsandfruit) when preparing entries for the fair. At State Fair, plates will be provided for the exhibitor.
4. Fruits will be judged using the same general criteria used for vegetables. Fruit will be judged for the stage of maturity normal for that season and growing location. Emphasis will be placed on how well fruit approaches market quality.

Division	Class	Pay	Purple	Blue	Red	White
773	280-286	4	$2.00	$1.75	$1.50	$1.00

SF) 280 Strawberries (SF108) – Everbearers, 1 pint
SF) 281 Grapes (SF108) – 2 bunches
SF) 282 Apples (SF108) – 5
SF) 283 Pears (SF108) – 5
SF) 284 Wild Plums (SF108) – 1 pint
SF) 285 Other Small Fruit or Berries (SF108) – 1 pint (do not duplicate entries in Classes 280-284)
SF) 286 Other Fruits OR Nuts (SF108) – 5 (do not duplicate entries in Classes 280-284)

DEPARTMENT G – DIVISION 773 – EDUCATIONAL EXHIBITS

Division	Class	Pay	Purple	Blue	Red	White
773	290-294	3	$3.00	$2.50	$2.00	$1.00

SF) 290 Garden Promotion Poster (SF103) – Individual poster promoting vegetable or herb gardening, size 14" x 22" either vertical or horizontal arrangement. Poster may be in any medium so long as it is not 3-dimensional. Posters using copyrighted material will not be accepted. Entry card must be stapled to the upper right-hand corner. The 4-H member's name, age, county, and years in the project(s) must be on the back of the poster.
SF) 291 Educational Vegetable or Herb Garden Poster (SF104) – Prepare a poster 14" x 22" x 2" (3-dimensional if needed) either vertical or horizontal arrangement illustrating a skill or project the 4-H'er has done or learned about in a 4-H vegetable gardening project. One might show a special technique used or equipment incorporated in the garden (e.g., drip irrigation system, composing, or special techniques learned). Refer to 4-H Horticulture project manuals but use your own creativity. Entry cards must be stapled to the upper right-hand corner. The 4-H member's name, age, county, and years in the project(s) must be on the back of the poster.
SF) 292 Vegetable and/or Herb Gardening History Interview (SF105) – Neatly handwritten or typed account of a gardening history interview of someone whose vegetable or herb garden has inspired you. Maximum of 4 pages of text and 2 pages of pictures (include 1 picture of the person you interviewed) of their garden, if the individual is still gardening. Protect with a clear report cover. The 4-H member's name, age, county, and years in the project(s) must be on the back of the report cover.
SF) 293 Vegetable Seed Display (SF101) – Each display must include seeds representing the following families: Cucurbit, Brassica (cabbage), Solanaceous (nightshade), and Legume (pea) families, plus representatives from 5 other families. Group the seeds by family and type. Glue seeds or otherwise fasten clear containers of seeds to a board or poster mat board no larger than 22" x 24". Label each group and each individual vegetable type with the common and scientific names. Use only one variety or cultivar of each vegetable, except for beans, where several examples of beans may be shown. Attach a card to the back of the display explaining why and how it is important to know which vegetables are related and cite references on where the scientific name information was found. The 4-H member's name, age, county, and years in the project(s) must be on the back of the display. Information on vegetable family members can be obtained from your Extension Office.
SF) 294 World of Vegetables Notebook (SF102) – Choose a favorite foreign cuisine and learn what vegetables and/or herbs are common to it (e.g., Mexican, African, Chinese, Italian, etc.). Include a report talking about a minimum of 5 vegetables and/or herbs from each country chosen. Include the scientific and common names, pictures of the plants from your garden or seed catalogs, tell how they are grown, and how the foods are used. Also, list a source for buying the seed or plants. Favorite recipes using some of all of the vegetables described may be included. Give proper credit by listing the source of pictures and information used. Protect in a clear report cover or 3-ring notebook. The 4-H member's name, age, county, and years in the project(s) must be on the back of the report cover or notebook.

DEPARTMENT: PLANT SCIENCE
AREA: Range Management
Superintendents: Monty Lovelace, Syracuse

The purpose of this category is to help 4-H'ers identify and collect range plants. In addition, participants will learn the basics of range management, and Nebraska's range. Through the creation of range boards, 4-H'ers will become more proficient in knowledge of Nebraska's range. Gardening Project in this category that 4-H'ers can participate in.

CURRICULUM & RESOURCES

Reading the Range	I
Using Nebraska Range	A
Common Forbs & Shrubs of Nebraska Prairies, Rangeland, Pasture Lands	B I A
Common Weed Control, Herbicide Resistant Weeds, What Makes a Week a Weed, or Uses for Weed	B I A

Range exhibits will be entered Wednesday, July 24th from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – RANGE
1. Each exhibit must be properly identified with the Unit and Class.
2. All plant displays and display covers must be the result of the current year's work.
3. Plant identification and lists of appropriate plants in each category (grasses, forbs, shrubs, and grass-like plants) can be found in the Range Judging Handbook and Contest Guide (EC150, Revised July 2016), Common Grasses of Nebraska (EC170), and Common Forbs and Shrubs of Nebraska (EC118).
4. The purpose of these exhibits is to 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.
5. Any individual in the Conservation, Environment 1, 2, or 3, Range, Reading the Range 1 or Using Nebraska Range 2, or Crop Production, Field Crops projects may exhibit a weed book or weed display. At least 15 of the specimens must represent this year's work. For assistance identifying plants, participants can use the Nebraska Department of Agriculture's Weeds of Nebraska and the Great Plains (1994) or Weeds of the Great Plains (2003).

DEPARTMENT D – DIVISION 330 – RANGE MANAGEMENT BOOKS

DIVISION RULES – RANGE MANAGEMENT BOOKS
1. For books, plants must be mounted on sheets that are no larger than 14" wide x 14" high. Plants should be glued rather than taped, and the mounts should be protected with a clear cover. Proper plant mount should include root, as well as stem and leaf tissue.
2. Exhibits will be judged based on completeness of plant mount, accuracy of identification, labeling, neatness, and conformation to project requirements.
3. Each completed mount must have the following information typed or printed neatly in the lower right corner of the mounting sheet (example in parenthesis):
A. Scientific Name (in italic or underlined), with authority (Schizachyrium scoparium (Michx.) Nash)
B. Common Name (Little bluestem)
C. County of Collection (Otoe County)
D. Collection Date (6 July 2022)
E. Collector's Name (John Doe)
F. Personal Collection Number, indicating order that plants were collected in your personal collection (37)
G. Other Information, depending on class selected, i.e., value and importance, life span, growth season, origin, major types of range plants (Livestock Forage – High, Wildlife Habitat – High, Wildlife Food – Medium, Life Span – Perennial, Season of Growth – Warm Season, Origin – Native)

Division	Class	Pay	Purple	Blue	Red	White
330	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Value and Importance for Livestock Forage and Wildlife Habitat and Food Book (SF260) – A collection of 12 different plant mounts, with 4 classified as high value, 4 as medium value, and 4 as low value for livestock forage, wildlife habitat, or wildlife food. Value and importance classifications can be found in the Range Judging Handbook and Contest Guide, Appendix Table 1 (EC150, Revised July 2016) starting on page 42. Plants can consist of any combination of grasses, grass-like plants, forbs, or shrubs. Assemble plant mounts in order of high, medium, and low value and importance. Label each plant mount with its value and importance classifications for each of the three areas: Livestock Forage, Wildlife Habitat, Wildlife Food.
SF) 002 Life Span Book (SF260) – A collection of 6 perennial plant mounts and 6 annual plant mounts selected from grasses or forbs.
SF) 003 Growth Season Book (SF260) – A collection of 6 cool-season grass mounts and 6 warm-season grass mounts.
SF) 004 Origin Book (SF260) – A collection of plant mounts of 6 native range grasses and 6 introduced grasses. Introduced grasses are not from North America and are often used to seed pastures.
SF) 005 Major Types of Range Plants Book (SF260) – A collection of plant mounts of 3 grasses, 3 forbs, 3 grass-like, and 3 shrubs.
SF) 006 Range Plant Collection Book (SF260) – A collection of 12 range plant mounts with something in common (i.e. poisonous to cattle, historically used as food by Native Americans, or dye plants, or favorite antelope forage, etc.) Include a short paragraph in the front of the book which describes what the plants have in common and why you have chosen to collect them.

DEPARTMENT D – DIVISION 330 – RANGE MANAGEMENT DISPLAYS

DIVISION RULES – RANGE MANAGEMENT DISPLAYS
1. The purpose of the display is to tell an educational story to those that view the display.
2. The display is a visual representation (pictures, charts, graphs) no larger than 28" x 28" on plywood or poster board. The display should be neatly titled.
3. Make sure to label the display with the exhibitor's name, address, and county on the back side.

Division	Class	Pay	Purple	Blue	Red	White
330	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 007 Parts of a Range Plant Poster (SF259) – Mount a range plant on a poster board. Label all the plant parts. Include the plant label in the lower right corner, including the scientific and common name of the plant. Put your name and 4-H County on the back of the poster.

DEPARTMENT D – DIVISION 330 – RANGE MANAGEMENT BOARDS

DIVISION RULES – RANGE MANAGEMENT BOARDS
1. Boards should be no larger than 30" wide x 30" tall.
2. Boards should be adequately labeled.

Division	Class	Pay	Purple	Blue	Red	White
330	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 008 Special Study Board (SF260) – A display of the results of a clipping study, a degree of use study, range site study, etc. A short essay must accompany the display to explain the reason for the study, what was learned, and study results. This should be placed in a sheet cover attached to the board.
SF) 009 Junior Rancher Board (SF260) – This exhibit should include a ranch map with a record book or an appropriate educational display on some phase of rangeland or livestock management. A short essay must accompany the display to explain the purpose of the rancher board, what was learned, etc.

SCIENCE, ENGINEERING & TECHNOLOGY

DEPARTMENT:SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Areospace (Rockets/Drones)
Superintendents: Gene and Cheryl Hobbie, Dunbar

This category gives 4-H'ers a chance to display the rockets and drones they have created. Through participation in this category, 4-H'ers will show judges what they learned about and how they adapted their exhibit through this project. Involvement in SET Aerospace gives participants a first-hand experience of modern technology.

CURRICULUM & RESOURCES

Rockets Away	B I
Aerospace 2: Lift-Off	B
Aerospace 3: Reaching New Heights	I
Aerospace 4: Pilot in Command	A

Aerospace exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – AEROSPACE
1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article, and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Rockets must be supported substantially to protect the rocket from breakage. Rockets are to be mounted on a base that has dimensions equal or less than 12" x 12", and the base should be ¾" thick. No metal bases. If the rocket fins extend beyond the edges of the required base (12" x 12"), then construct a base that is large enough to protect the fins. The base size is dictated by the size of the rocket fins.
3. The rockets must be mounted vertically. Please do not attach sideboards or backdrops to the displays. In addition, a used engine or length of dowel pin is to be glued and/or screwed into the board and extended up into the rocket's engine mount to give added stability.
4. Rockets must be equipped as prepared for launching, with wadding and parachute or other recovery systems. Rockets entered with live engines, wrong base size, or sideboards will be disqualified.
5. A report, protected in a clear plastic cover, must include the following:
A Rocket specification (include original or photo of manufacture packaging stating rocket skill level)
B. A flight record for each launching (weather, distance, flight height)
C. Number of launchings
D. Flight pictures
E. Safety (How did you choose your launch site? Document safe launch, preparations, and precautions.)
F. Objectives learned
G. Conclusions
6. The flight record should describe the engine used, what the rocket did in flight and recovery success. Points will not be deducted for launching, flight, or recovery failures described. This includes any damage that may show on the rocket. Complete factory assembled rockets will not be accepted at the County Fair or State Fair.
7. Judging is based upon display appearance, rocket appearance, workmanship, design or capabilities for flight, number of times launched, and report. Three launches are required to earn the maximum launch points given on the scoresheets. For scoring for the State Fair, only actual

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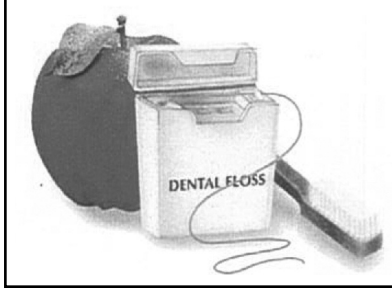

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launches count – misfires will not count towards one of the three required launches.

A. **For Self-Designed Rockets Only:** Please include a digital recorded copy of one flight. In the documentation, please include a description of stability testing before the rocket was flown.

B. Skill level of project is not determined by the number of years in the project. Skill level is determined by the level listed on the manufacturing packaging.

C. 4-H Rocket project levels are not intended to correspond to National Association of Rocketry model rocket difficulty ratings or levels.

8. High power rockets (HPR) is similar to model rocketry with differences that include the propulsion power and weight increase of the model. They may use motors in ranges over "G" power and/or weight more than laws and regulations allow for unrestricted model rockets. These rockets are NOT appropriate for 4-H projects and will be disqualified.

9. Posts can be any size up to 28" be 22" when ready for display. Example: Tri fold poster boards are not 28" x 22" when fully open for display.

DEPARTMENT H – DIVISION 850 – AEROSPACE

DIVISION RULES – AEROSPACE

1. Youth enrolled in Aerospace 1, 2, 3, or 4 may exhibit in any class within this division.

Division	Class	Pay	Purple	Blue	Red	White
850	All Classes	1	$8.00	$6.00	$5.00	$3.00

C) 900 Single-Stage Rockets – Single-stage rockets up to 15 inches (38.1 cm) in length (no plastic fins)

C) 901 Single-Stage Rockets – Single-stage rockets over 15 inches (38.1 cm) in length (no plastic fins)

DEPARTMENT H – DIVISION 850 – AEROSPACE

DIVISION RULES – AEROSPACE

1. Youth enrolled in Aerospace 2, 3, or 4 may exhibit in any class within this division.

Division	Class	Pay	Purple	Blue	Red	White
850	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Rocket (SF92) – Any Skill Level Rocket with wooden fins and cardboard body tubes painted by hand or air brush.

SF) 002 Aerospace Display (SF93) – Poster or display board that displays or exemplifies one of the principles learned in the Life Off project. Examples include: display of rocket parts and purpose, explains the parts of a NASA rocket or shuttle, interview of someone in the aerospace field, or kite terminology. Include a notebook containing terminology (definition) and what was learned. Display can be any size up to 28" x 22"

SF) 003 Rocket (SF92) – Any Skill Level Rocket with **wooden fins and cardboard body tubes** painted using commercial application, for example: commercial spray paint.

DEPARTMENT H – DIVISION 850 – DRONES

DIVISION RULES – DRONES

1. Youth enrolled in Aerospace 2, 3, or 4 may exhibit in any class within this division.

Division	Class	Pay	Purple	Blue	Red	White
850	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 005 Drone Poster – Exhibit must be designed to educate yourself and others on one or more of the following topics: drone technologies, use of drones, the different types of drones, types of training needed to operate drones, and the laws and regulations users must follow. Posters can be any size up to 28" x 22".

SF) 006 Drone Video – Exhibit must demonstrate how the drone interacts with the outside world. Examples include: field scouting, surveying damage from natural disasters, drones used in commercial applications and settings, and drones used for structural engineering. Videos should not exceed 5 minutes. Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, videos should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023 or be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for appropriate permissions.

DEPARTMENT H – DIVISION 850 – SELF-DESIGNED ROCKET

DIVISION RULES – SELF-DESIGNED ROCKET

1. Youth enrolled in Aerospace 2, 3, or 4 may exhibit in any class within this division.

Division	Class	Pay	Purple	Blue	Red	White
850	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 004 Rocket (SF92) – Any self-designed rocket with wooden fins and cardboard body tubes.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Computers
Superintendents: Gene and Cheryl Hobbie, Dunbar

This category gives 4-H'ers a chance to display their knowledge of computers. Through participation in this category, 4-H'ers will develop presentations that show judges their knowledge in the different aspects of computer science. Involvement in SET Computers. Give participants first-hand experience in modern technology.

CURRICULUM & RESOURCES

CPU 1: Inside the Box B
CPU 2: Peer to Peer I
CPU 3: Teens Teaching Tech A

Computer exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall. Sign up for interview judging.

AREA RULES – COMPUTERS

1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Demonstration boards should include an overall title for the display, plus other necessary labeling.
3. Reports should be written using the Scientific Method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used and observations, results, and what you learned). All reports should be computer-generated and enclosed in a clear, plastic cover. The reports should be attached securely to the display.
4. Please refer to the General Rules for the policy regarding firearms, items with a blade, and other related items.
5. Please refer to the General Rules for the policy regarding the use of copywritten images.
6. T**eam Entries:** To qualify for entry at the Nebraska State Fair, team materials entered in H860007 – Maker Space/Digital Fabrication must be clearly the work of a team instead of an individual and must have at least 50% of all team members enrolled in 4-H. Additionally, all enrolled 4-H members on the team should complete and attach an entry tag to the materials. A supplemental page documenting the individual contributions to the project should be included. The entry will be judged as a team, with all team members receiving the same ribbon placing.

DEPARTMENT H – DIVISION 860 – COMPUTER MYSTERIES: UNIT 1

Division	Class	Pay	Purple	Blue	Red	White
860	901-903	3	$3.00	$2.50	$2.00	$1.00

C) 901 Computer Usage – Interview 2 people who have jobs that use a computer. Write a 1-page report on what you learned. Mount on a poster board or colored paper not to exceed 12" x 15".

C) 902 Web Sites – Create a poster using 4-H information you have printed off from the Nebraska Extension in Otoe County, University of Nebraska – Lincoln, and the National 4-H web sites. The poster can be any size up to 22" x 28".

C) 903 Birthday Greeting – Create a birthday greeting on 8 ½" x 11" paper. Mount on poster board or colored paper not to exceed 12" x 15".

DEPARTMENT H – DIVISION 860 – COMPUTER MYSTERIES: UNIT 2

Division	Class	Pay	Purple	Blue	Red	White
860	001-002	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Computer Application Notebook (SF277) – 4-H exhibitor should use a computer application to create a graphic notebook utilizing computer technology. 4-H'er may create any of the following

A. Greeting Card (5 different cards such as a birthday, wedding, anniversary, sympathy, get well, or other)
B. A Business Card (3 cards for 3 different individuals and businesses)
C. Menu (minimum of 2 pages including short description of foods and pricing)
D. Book Layout (I-book)
E. Promotional flyer (3 flyers promoting 3 different events)
F. Newsletter (minimum 2 pages)
G. Other (examples such as precision farming or family business logo, etc.)

This exhibit consists of (1) a notebook (8 ½" x 11"), which should include a detailed report describing (a) the task to be completed, (b) the computer application software required to complete the task, (c) specific features of the computer application software necessary for completing the task, and (2) print out of the project. Project may be in color or black and white.

SF) 002 Produce a Computer Slideshow Presentation (SF276) – Using presentation software, the 4-H exhibitor designs a multimedia computer presentation on one topic related to youth. Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, videos should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023 or be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for appropriate permissions. A notebook with a printout of all the slides should be submitted. Slideshow should include a minimum of 10 slides and no more than 25 slides. Incorporate appropriate slide layouts, graphics, animations, and audio (music or voice and transition sounds do not count). Each slide should include notes for a presenter. All slideshows must be uploaded.

DEPARTMENT H – DIVISION 860 – COMPUTER MYSTERIES: UNIT 3

Division	Class	Pay	Purple	Blue	Red	White
860	003-008	3	$3.00	$2.50	$2.00	$1.00

C) 900 3D Pen Creation – 3D pens rapidly melt and cool plastic filament allowing the 4-H'er to draw in 3D. Youth may use original designs or use a template to create their 3D item. Exhibits will be judged based on the complexity of the design and shape. 3D pen creation with include a notebook with the following:

A. Copy of the template if used and description of any changes the youth created.
B. If no template was used, an explanation of how the creation was built.
C. Must include a paragraph of what the youth learned while creating their project (i.e., way to improve their next creation)
D. Paragraph on how 3D pens impact Science, Engineering, and Technology

SF) 003 Produce an Audio/Video Computer Presentation (SF276) – Using presentation software, the 4-H exhibitor designs a multimedia computer presentation on one topic related to youth. Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, entries should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023, or videos can be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for appropriate permissions. A notebook with a printout of all the slides should be submitted. The presentation should be at least 2 minutes in length and no more than 5 minutes in length, appropriate graphics, sound, and either a video clip, animation, or voice over and/or original video clip.

SF) 004 How to STEM (Science, Technology, Engineering, and Math) Presentation (SF276) – Youth design a fully automated 2-5 minute 4-H "how to" video. Submissions should incorporate a picture or video of the 4-H'er, as well as their name (first name only), age (as of January 1 of the current year), years in 4-H, and their personal interests or hobbies. Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, entries should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023, or videos can be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for permissions.

SF) 005 Virtual Platform Presentation (SF276) – Youth design a fully automated education presentation (video, notebook, poster, etc.). Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, videos should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023, or videos can be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for permissions.

SF) 006 Create a Website/Blog or App (SF275) – Design a simple web site/blog or app for providing information about a topic related to youth. Examples include using either software programs, such as an HTML editor like Microsoft's FrontPage or Macromedia's Dreamweaver, and image editor like IrfanView or GIMP OR online using a WIKI such as Google Sites. If the website, blog, or app should be submitted on a flash drive in a plastic case along with the explanation of why the site was created or may be shared through a hard copy share link or QR code for viewing. If developed using a WIKI or other online tool, include a link to the website in the explanation of why the site was created. Contact the Extension Office for guidance on submitting these videos for the Otoe County Fair. If selected for the State Fair, entries should be submitted to https://go.unl.edu/2023nesfset by August 15, 2023, or videos can be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors are encouraged to test their codes or links on several devices to check for appropriate permissions.

SF) 007 3D Printing (SF1050) – 3D printing uses plastic or other materials to build a three-dimension (3D) object from a digital design (including 3D Pen Creating). Youth may use original designs or someone else's they have redesigned in a unique way. Exhibitors will be judged based on motivation and/or problem identified. For example, 3D objects printed as part of the design process for robots or other engineering projects. Must include a design notebook that addresses the following questions:

1. What was the motivation for your design or the problem you were solving with your design? I.e., Is your item a functional or decorative piece?
2. Please include a picture of original design, citation of designer/website OR if design is completely original (you created it using CAD software), then state that it's original. If item was not completely original, indicate what you did to the original design to modify it to better meet the design problem stated in #1 above. Its design was modified multiple times, please indicate what change was made with each modification, and what prompted the need for the change i.e. I printed it and the design was too fragile, so I resliced the print to make thicker external walls, or to have denser infill.
3. Define your process for designing/printing. What software and/or hardware was used (indicate type of 3D printer or if item was created with a 3D pen)?
4. What materials were selected for your project?
5. If your final design has any moving parts, define how you determined an appropriate allowance in your design.
6. Identify any changes that you would make to improve your design.

SF) 008 Maker Space/Digital Fabrication (SF1051) – This project is a computer-generated project created using a laser cutter, vinyl cutter, heat press, or CNC router. Vector or 3D-based software such as Corel Draw or Fusion 360 would be an example of appropriate software used to create your finished project. Project should include a notebook with the following:

1. What motivated you to create this project?
2. Software and equipment used
3. Directions on how to create the project
4. Prototype of plans
5. Cost of creating project
6. Iterations or modifications made to original plans
7. Changes you would make if you remade the project

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Electricity
Superintendents: Gene and Cheryl Hobbie, Dunbar

In this category, 4-H'ers have the opportunity to create informational exhibits about the different aspects of electricity. Through involvement in this category, 4-H'ers will be better educated about electricity and be able to present their knowledge to others.

CURRICULUM & RESOURCES

Electricity 1: Magic of Electricity B
Electricity 2: Investigating Electricity B
Electricity 3: Wired for Power I
Electricity 4: Entering Electronics A

Electricity exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall. Sign up for interview judging.

AREA RULES – ELECTRICITY

1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article and on the front cover of notebooks so the owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Several classes require a display board which should be a height of 24" and not to exceed ¼" thickness. A height of 24 7/8" is acceptable to allow for the saw kerf (width) if two-24" boards are cut from one end of a 4' x 8' sheet of plywood. Nothing should be mounted within ¾" of the top or bottom board. (Example: Woodworking & Electricity)

A. Fabricated boards such as plywood, composition board, or particle-type lumber may be used for demonstration displays.
B. Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.
C. Demonstration boards should include an overall title for the display, plus other necessary labeling.
D. Reports should be written using the Scientific Method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used and observations, results, and what you learned). All reports should be computer-generated and enclosed in a clear, plastic cover. The reports should be attached securely to the display.

DEPARTMENT H – DIVISION 870 – MAGIC OF ELECTRICITY: UNIT 1

Division	Class	Pay	Purple	Blue	Red	White
870	901-906	3	$3.00	$2.50	$2.00	$1.00

C) 901 Bright Lights – Create your own flashlight using items found around your house. Flashlights should be made out of items that could be recycled or reused. No kits allowed.

C) 902 Control the Flow – Make a switch. Use the following items: D cell battery, battery holder, insulated wire, 2- or 2.5-volt light bulb, bulb holder, paper clip, cardboard and two brass paper fasteners to create a circuit that you can open and close.

C) 903 Conducting Things – Make a circuit with a switch and a light bulb that can be used to test different household items for their ability to act as an insulator or conductor. You must find five items that are conductors and five items that are insulators. Create a table that illustrates your results.

C) 904 Parallel Circuit – Use the following items to construct one parallel circuit: D cell battery, battery holder, insulated wire, bulb holder, and a 2- or 2.5-volt light bulb.

C) 905 Series Circuit – Use the following kinds of items to construct one series circuit: D cell battery, battery holder, insulated wire, bulb holder, and a 2- or 2.5-volt light bulb.

C) 906 Electrical Poster – Posters should exemplify one of the lessons learned in the Magic of Electricity project. Posters can be any size up to 28" x 22".

DEPARTMENT H – DIVISION 870 – INVESTIGATING ELECTRICITY: UNIT 2

Division	Class	Pay	Purple	Blue	Red	White
870	907-910	2	$5.00	$4.00	$3.00	$2.00

C) 907 Case of the Switching Circuit – Use the following items to build a three-way switch: two D cell batteries, two battery holders, light bulb, bulb holder, a 3" x 6" piece of cardboard, size brass paper fasteners, and approximately 2' of insulated wire.

C) 908 Rocket Launched – Construct a rocket launcher out of the following materials: a plastic pencil box at least 4" x 8", single pole switch, normally open push button switch, 40' of stranded insulated wire, 4 alligator clips, 2" x 6" board, 1/8" diameter metal rod, rosin core solder, soldering iron or gun, wire stripper, small crescent wrench, pliers, small Phillips and straight blade screwdrivers, drill, 1/8" and ¼" drill bits, rocket engine igniters, additional drill bits matched to holes for two switches. You may successfully build a rocket launcher and light two rockets' igniters with your launcher. You DO NOT have to actually fire a rocket off of the launcher.

C) 909 Stop the Crime – Build an ALARM using the following materials: on-off push button switch, mercury, switch, buzzer-vibrating or piezoelectric, 9-volt battery, 9-volt battery holder, 4" x 4" x 1/8" plexiglass board to mount circuit on, rosin core solder, soldering iron or gun, 2' of insulated wire, wire strippers, hot glue sticks, hot glue gun, and a plastic box with a lid to mount your alarm circuit on.

C) 910 Electrical Poster – Poster should exemplify one of the lessons learned in the Investigating Electricity Project. Posters can be any size up to 28" x 22".

DEPARTMENT H – DIVISION 870 – WIRED FOR POWER: UNIT 3

Division	Class	Pay	Purple	Blue	Red	White
870	001-004	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Electrical Tool/Supply Kit (SF224) – Create an electrical supply kit to be used for basic electrical repair around the house. Include a brief description of each item and its use. Containers should be appropriate to hold items.

SF) 002 Lighting Comparison (SF225) – Display studying the efficiency of various lighting (incandescent, fluorescent, hooligan, Light Emitting Diodes, etc.). Exhibit could be a poster, display, or actual item.

SF) 003 Electrical Display/Item (SF226) – Show an application of one of the concepts learned in the Wired for Power project. Examples include rewiring or building a lamp, re-wiring or making a heavy-duty extension cord, or developing an electrical diagram of a house. Exhibit could be a poster, display, or an actual item.

SF) 004 Poster (SF227) – Poster should exemplify one of the lessons learned in the Wired for Power project. Posters can be any size up to 28" x 22".

DEPARTMENT H – DIVISION 870 – ELECTRONICS: UNIT 4

Division	Class	Pay	Purple	Blue	Red	White
870	005-008	1	$8.00	$6.00	$5.00	$3.00

SF) 005 Electrical/Electronic Part Identification (SF228) – Display different parts used for electrical/electronic work. Exhibit should show the part (either picture or actual item) and give a brief description, including the symbol of each part and its function. Display should include a minimum of 10 different parts.

SF) 006 Electronic Display (SF229) – Show an application of one of the concepts learned in the Electronics project. Examples include components of an electronic device (refer to page 35 of the Entering Electronics manual).

SF) 007 Electronic Project (SF230) – Exhibit an electronic item designed by the 4-H'er or from a manufactured kit that shows the electronic expertise of the 4-H'er. Examples include a radio, a computer, or a voltmeter.

SF) 008 Poster (SF231) – Poster should exemplify one of the lessons learned in the Entering Electronics Project. Posters can be any size up to 28" x 22".

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Energy/Physics
Superintendents: Gene and Cheryl Hobbie, Dunbar

This category provides 4-H'ers a way to present their ideas about renewable energy resources. Through participation in this category, 4-H'ers will learn more about physics, friction, energy, and elasticity. In addition, participants will make a display to go along with their findings.

CURRICULUM & RESOURCES

The Power of Wind Youth Guide I

Energy/Physics/Power of Wind exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall. Sign up for interview judging.

AREA RULES – ENERGY

1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article and on the front cover of the notebooks, so the owner of the exhibit may be identified if the entry tag is separated.
2. Reports should be written using the Scientific Method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method use and observations, results, and what you learned). All reports should be computer-generated and enclosed in a clear plastic cover. The reports should be attached securely to the display.
3. Posters can be any size up to 28" x 22" when ready for display. Example: Tri-fold poster boards are not 28" x 22" when fully open for display.

DEPARTMENT H – DIVISION 900 – ENERGY

Division	Class	Pay	Purple	Blue	Red	White

900	All Classes	3	$3.00	$2.50	$2.00	$1.00

SF) 001 Create and Compare Energy Resources Poster (SF307) – Poster should explore 2 alternative/renewable energy resources. Compare and contrast the 2 resources including information on 2 of the following: amount of energy created, costs of production, usability of the energy, pros/cons of environmental impacts, etc. Posters can be any size up to 28" x 22".

SF) 002 Experiment Notebook (SF305) – Notebook will explore the Scientific Method involving alternative/renewable energy sources. The following information is required:
A. Hypothesis
B. Research
C. Experiment
D. Measure
E. Report or Redefine Hypothesis

SF) 003 Solar as Energy Display/Poster (SF308) – Item should be the original design of the 4-H'er. Include the item or a picture of the item if the item is in excess of 6' tall or 2' x 2'. Include a notebook of why the item was designed and how it harnesses the power of the sun. Examples include solar ovens, solar panels, etc.

SF) 004 Water as Energy Display/Poster (SF308) – Item should be the original design of the 4-H'er. Include the item or a picture of the item if the item is in excess of 6' tall or 2' x 2'. Include a notebook of why the item was designed and how it harnesses the power of water.

SF) 005 Wind as Energy Display/Poster (SF308) – Item should be the original design of the 4-H'er. Include the item or a picture of the item if the item is in excess of 6' tall or 2' x 2'. Include a notebook of why the item was designed and how it harnesses the power of wind.

SF) 006 Other Nebraska Alternative Energy (SF306) – Notebook should explore Nebraskan alternative energy source besides wind, water, and solar power. Include information on type of power chosen, infrastructure for distribution, what resources are needed to create this alternative resource, cost of production, and potential uses of bio-products. Examples include geothermal, biomass, ethanol, biodiesel, methan reactors, etc.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Geospatial
Superintendents: Gene and Cheryl Hobbie, Dunbar

SET Geospatial is a diverse category that includes a variety of exhibits 4-H'ers can get involved in. Through participation in this category, 4-H'ers will gain more knowledge about Nebraska's rich history and diverse geography.

CURRICULUM & RESOURCES

Exploring Spaces, Going Places B I A

Geospatial exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall. Sign up for interview judging.

AREA RULES – GEOSPATIAL
1. Youth enrolled in Geospatial may exhibit in any class within this division.
2. The name and county of each exhibitor should appear separately on the back of each board, poster, or article and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separate from the exhibit.
3. Reports should be written using the Scientific Method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used and observations, results, and what you learned). All reports should be computer-generated and enclosed in a clear plastic cover. The reports should be attached securely to the display.
4. Please refer to the General Rules for the policy regarding firearms, items with a blade, and other related items.
5. Please refer to the General Rules for the policy regarding the use of copyrighted images.

DEPARTMENT H – DIVISION 880 – GEOSPATIAL

Division	Class	Pay	Purple	Blue	Red	White
880	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Poster (SF299) – Create a poster, not to exceed 14" x 22" communicating a GPS theme such as How GPS or GIS Works, careers that us GPS or GIS, how to use GPS, what is GIS, GPS or GIS in Agriculture, Precision Agriculture, or a geospatial topic of interest.

SF) 002 4-H Favorite Places or Historical site Poster (SF299) – The 4-H exhibitor identifies a favorite place or historical site (including grave sites) in Nebraska. Exhibit should include latitude and longitude, digital picture, and local area map. Poster should not exceed 14" x 22".

SF) 003 GPS Notebook (SF300) – Keep a log of at least 5 places visited using a GPS-enabled device. At least one site should be from a community other than where you live. For each site, record the latitude, longitude, and elevation. Also, include a description of the site and a paragraph explaining what was interesting about the site or finding it. Photos of each site and/or cache are optional but encouraged.

SF) 004 Geocache (SF301) – Assemble a themed geocache. Each geocache should be a water-tight container. It should include a logbook and pencil for finders to log their visits and may include small trinkets, geo-coins, etc. for the finders to trade. Documentation should include a title, teaser description, and the geographic coordinates of intended placement. Register the site at geocaching.com and include a print-out of its registry. The entry may include a photograph of the cache in its intended hiding place.

SF) 005 Agriculture Precision Mapping (SF302) – 4-H'ers will assemble a notebook that will include a minimum of 2 digital copies of various data layers that can be used in precision agriculture to identify spatial patterns and/or correlations (printed copies of websites where applications can be purchased is acceptable). A report on how the analysis of the various data will be used to make a management decision.

SF) 006 4-H History Map/Preserve 4-H History (SF303) – Nominate a Point of Interest for the 4-H History MapProject. Include a copy of the submitted form in a folder or notebook. To nominate a site for the 4-H History Map, please go to http://arcg.is/1bvGogv. For more information about 4-H history, go to http://www.4-hhistorypreservation.com/History_Map. For a step-by-step video on nominating a point, please go to this link: https://tinyurl.com/nominate4h. Write a brief description of the historical significance of a 4-H place or person. (Minimum of one paragraph.)

SF) 007 GIS Thematic Map (SF302) – Using any GIS software, create a thematic map. Thematic maps can utilize any subject of interest to the 4-H'er. Example maps would be Amelia Earhart's or Sir Francis Drake's voyage, population density maps, water usage maps, or 4-H projects in Nebraska. Create a GIS Map using data from books and/or the internet. Use reliable data (U.S. Center or U.S. Census Bureau, etc.). Map any size from 8 ½" x 11" up to 36" x 24", which should include Title, Base Map, Neat Line, North Arrow, and Legend. Identify the source of your information on the back of the map.

SF) 008 Virtual Geocache (SF300) – Keep a log of at least 5 places visited using a virtual geocache platform. At least one site should be from a community other than where you live. For each site, record the latitude, longitude, and elevation. Also, include a description of the site and a paragraph explaining what was interesting about the site or finding it. Photos of each site and/or cache are optional, but highly encouraged.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Robotics
Superintendents: Gene and Cheryl Hobbie, Dunbar

This category involves the many different aspects of Robotics. Participants will learn about how robots are designed and developed as well as the mechanical and electronic elements of robots. Involvement in SET Robotics gives participants first-hand experience in modern technology.

CURRICULUM & RESOURCES

Junk Drawer Robotics 1 B I A
Junk Drawer Robotics 2 B I A
Junk Drawer Robotics 3 B I A
Robotics Platform B I A
Virtual Robotics B I A

Robotics exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – SET ROBOTICS
1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separate from the exhibit.
2. Reports should be written using the scientific method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used and observations, results, and what you learned). All reports should be computer-generated and enclosed in a clear plastic cover. The reports should be attached securely to the display.
3. Posters can be any size up to 28" x 22" when ready for display. Example: Tri fold poster boards are not 28" x 22" when fully open for display.

DEPARTMENT H – DIVISION 861 – ROBOTICS

DIVISION RULES – ROBOTICS
1. Youth enrolled in Virtual Robotics, Junk Drawer Robotics (Levels 1, 2, or 3), or Robotics Platforms may exhibit in any class within this division.
2. Team Entries: To qualify for entry at the Nebraska State Fair, team materials entered in robotics classes that are clearly the work of a team instead of an individual must have at least 50% of all team members enrolled in 4-H. Additionally, all enrolled 4-H members on the team should complete and attach an entry tag to the materials. A supplemental page documenting the individual contributions to the project should be included. The entry will be judged as a team, with all team members receiving the same ribbon placing.
3. Creating a video of your robot in action would be helpful for the judges but is not mandatory. Present as a CD Rom with your robot entry. Videos should be uploaded to a video streaming application and exhibitors should provide a hard copy QR code for viewing.

Division	Class	Pay	Purple	Blue	Red	White
861	All Classes	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Robotics Poster (SF236) – Create a poster (28" x 22") communicating a robotics theme such as "Robot or Note", "Pseudocode", "Real World Robots", "Careers in Robots", "Autonomous Robotics", "Precision Agriculture", or a robotic top of interest to the 4-H'er.

SF) 002 Robotics Notebook (SF237) – Explore a robotics top in-depth and present your findings in a notebook. Documentation should include any designs, research, notes, pseudocode, data tables, or other evidence of the 4-H'ers learning experience. The notebook should contain at least three pages. Topics could include a programming challenge, programming skills, calibrations, sensor exploration, or any of the topics suggested in Class 001.

SF) 004 Robotics/Careers Interview (SF239) – Interview someone who is working in the field of robotics and research the career in robotics, Interviews can either be written or in a multimedia format (CD/DVD). Written interviews should be in a notebook. Written reports should be 3-5 pages, double-spaced, 12-point font, and 1" margins. Multimedia reports should be between 3-5 minutes in length.

SF) 005 Robotics Sensor Notebook (SF241) – Write pseudo code which includes at least three sensor activities. Include the code written and explain the code function.

SF) 007 Kit Labeled Robot (Cannot be Programmed) and Notebook (SF243) – This class is intended for explorations of robotic components such as arms or vehicles OR educational kits marketed as robots that do not have the ability to be programmed to "sense, plan, and act". The exhibit should include a notebook with the robot the youth has constructed. The following should be included in the notebook:
1. A description of what the robot does
2. Pictures of programs the robot can perform.
3. Why they chose to build this particular form.
4. How they problem solved any issues they might have had during building and programming

A picture story of assembly is recommended. If the robot is more than 15" wide and 20" tall, they may not be displayed in locked cases.

SF) 008 3D Printed Robotics Parts (SF244) – This class is intended for youth to create parts through 3D printing, that help create their robot or aid the robot in completing a coded function. Project should include a notebook describing the process used to create the project, describe the success of your designed piece (did it work), intended use of the product and the modifications made to the item.

C) 900 Build a Robot (May Use Kit) – Include a robot and notebook including the pseudo codes for at least one program you have written for the robot, the robot's purpose, and any challenges or changes you would make in the robot design or programming. If the robot is more than 15" wide and 20" tall, it may not be displayed in locked cases.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Welding
Superintendents: Gene and Cheryl Hobbie, Dunbar

This category helps 4-H'ers learn the basics of welding. In addition, 4-H'ers get the opportunity to present their knowledge on the topic and display what they have made. Involvement in SET Welding gives participants a first-hand experience in a skill that can be used for a lifetime.

CURRICULUM & RESOURCES

Arcs and Sparks: Shielded Metal Arc Welding I A

Welding exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – WELDING
1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article, and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. All welds exhibited in Class 001 or 002 must be mounted on a 12" high x 15" long display board of thickness, not to exceed 3/8". Attach each weld on a wire loop hinge or equivalent, so the judge can look at the bottom side of the weld when necessary. Each weld should be labeled with information stated 1) type of welding process (stick, MIG, TIG, Oxy-Acetylene, etc.), 2) kind of weld, 3) welder setting, 4) electrode/wire/rod size, and 5) electrode/wire/rod ID numbers. Attach a wire to the display board so it can be hung like a picture frame. No picture frame hangers accepted.
3. Fabricated board, such as plywood, composition board, or particle-type lumber, may be used for demonstration displays.
4. Demonstration board should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.
5. Reports should be written using the Scientific Method whenever possible (background, the question or hypothesis, what you plan to do and what you did, method used, observations, results, and what you learned). All reports should include the 4-H member's name and county, be computer-generated, and enclosed in a clear plastic cover. The reports should be attached securely to the display.
6. If no plans are included with welding art, welding articles, welding furniture, or composite weld projects, the project item will be disqualified.
7. All outside projects MUST have an entry tag and supporting information placed in a protective bag to prevent damage from weather events, such as rain, and be ATTACHED to projects with string, zip ties, etc.

DEPARTMENT H – DIVISION 920 – ARCS AND SPARKS

DIVISION RULES -ARCS AND SPARKS
1. Class 1: 4-H Welding Project Tips and Suggestions
A. All welds should be made with the same electrode/wire/rod size and number.
B. Welds should be made only on one side of metal so penetration can be judged.
C. Welds should be cleaned with a chipping hammer and wire brush. Apply a coat of light oil (penetrating oil) to the metal to prevent rusting. Wipe off excess oil.
D. It is suggested that all welds be of the same size and thickness as metal. These pieces, referred to as coupons, should be 1.5 to 2 inches wide and 3.5 to 4 inches long. A good way to get this size is to buy a new cold rolled strap iron and cut it to length. The extra width is needed to provide enough metal to absorb the heat from the welding process and prevent the coupons from becoming too hot before the bead is completed. Narrower coupons will become very hot, making an average welder setting too cold at the bead start, just about right in the middle, and too hot at the end. The correct way to weld narrow strips is to make short beads and allow time to cool, however this project requires a full-length bead.
E. Stick Welding: Suggested coupon thickness – ¼" if using 1/8" rod. Suggested rod – AC and DC straight or reverse polarity – first E-7014, second E-6013.
F. MIG Welding: Suggested coupon thickness – ¼" if using .035 wire and 1/8" if using .023 wire.
G. Oxy-Acetylene: Suggested coupon thickness – 1/8". Suggested rod – 1/8" mild steel rod 4-H.
2. Class 2 Welding Project Tips and Suggestions
A. It is suggested that all welds be of the same size and thickness of metal. These pieces are referred to as coupons. The welds can be on one coupon that is about 4" x 4" or on individual coupons that are about 2" x 4" and ¼" thick. Suggested rods for this class of position welds for AC and DS straight or reverse polarity are first E-6013, second E-7014 and E-6010 for DC reverse polarity only.
B.Welds should be cleaned with a chipping hammer and wire brush. Apply a coat of light oil (penetrating oil) to the metal to prevent rusting. Wipe off excess oil.
3. Classes 3 & 4: 4-H Welding Project Tips and Suggestions
A. All welds should be cleaned and protected from rust with paint or light oil. Plans are to be complete enough that if they were given to a welding shop, the item could be made without further instructions. Bill of materials should include a cost for all items used including steel, electrodes, paint, wheels, etc.

Division	Class	Pay	Purple	Blue	Red	White
920	All Classes	2	$5.00	$4.00	$3.00	$2.00

SF) 001 Welding Joints (SF281) – A display of one butt, one lap, and one fillet weld.

SF) 002 Position Welds (SF281) – A display showing three beads welded in the vertical down, horizontal, and overhead positions.

SF) 003 Welding Art (SF283) – Any art created using tack welds to hold the metal pieces together (examples include horseshoe projects). Type of welder, welder settings, all plans, plan alterations, and a bill for material must be attached to the article. Protect plans with a cover. If the project is designed to be outside, it is required to have appropriate outdoor finishes.

SF) 004 Welding Article (SF281) – Any shop article where welding is used for construction. 60% of the item must be completed by the 4-H'er and notes regarding laser welding or machine welding must be included. Type of welder, welder settings, all plans, plan alterations, and a bill for material must be attached to the article. Project plans with a cover. If the project is designed to be outside, it is required to have appropriate outdoor finish because the project may be displayed outside.

SF) 005 Welding Furniture (SF292) – Any furniture with 75% welding is used in the construction. 60% of the item must be completed by the 4-H'er and notes regarding laser welding or machine welding must be included. **Type of welder, welder settings, all plans, plan alterations, and a bill for material must be attached to the article.** Protect plans with a cover. If the project is designed to be outside, it is required to have appropriate outdoor finish because the project may be displayed outside.

SF) 006 Plasma Cutter/Welder Design (SF279) – Plasma cutters/welders allowed for detailed design(s) to butt cut into metal. 4-H members will create a notebook describing the design process to create the "artwork" to butt cut into metal. Include the following in the notebook:
A. A photo (front and back) of the finished project
B. Instructions on how the design was created (include software used), this allows for replication of the project
C. Lessons learned or improvements to the project
D. Steps to finish the project

SF) 007 Composite Weld Project (SF280) – 60% of the project must be welded and 40% made from other materials such as wood, rubber, etc. **Type of welder, welder settings, all plans, plan alterations, and a bill for material must be attached to the article.** Protect plans with a cover. If the project is designed to be outside, it is required to have an appropriate outdoor finish because the project may be displayed outside.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Woodworking
Superintendents: Gene and Cheryl Hobbie, Dunbar

In this category, 4-H'ers have the opportunity to create exhibits about varying levels of woodworking. In addition, participants can also create informational exhibits about their woodworking projects. Through involvement in this category, 4-H'ers will be better educated about the topic and better their woodworking skills.

CURRICULUM & RESOURCES

Woodworking Wonders 1 B
Woodworking Wonders 2 B
Woodworking Wonders 3 I
Woodworking Wonders 4 A

Woodworking exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall.

AREA RULES – WOODWORKING
1. The name and county of each exhibitor should appear separately on the back of each board, poster, or article, and on the front cover of the notebooks so the owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Requirements: All articles exhibited must include a plan (with drawings, sketches, or blueprints) stating dimensions and other critical instructions a builder would need to know how to build the project and the 4-Her's name and county. Plans may include narrative instructions in addition to the dimension drawings and include any alterations to the original plan. Part of the score depends on how well the project matches the plans. If the plans are modified, the changes from the original need to be noted on the plans. All plans used for making the article must be securely attached and protected by a clear plastic cover.
3. 4-H'ers must be in Unit 3 or Unit 4 for the exhibit to be considered for State Fair. All projects must have an appropriate finish.
4. If the project (i.e., picnic tables, wishing wells, swings, chairs, bridges, doghouses, etc.) is designed to be used outside, it will be displayed outside.
5. All outside projects MUST have an entry tag and supporting information placed in a protective bag to prevent damage from weather events, such as rain, and be ATTACHED to projects with string, zip ties, etc.

DEPARTMENT H – DIVISION 911 – MEASURING UP: UNIT 1

Division	Class	Pay	Purple	Blue	Red	White
911	900-902	3	$3.00	$2.50	$2.00	$1.00

C) 900 Woodworking Article – Items made using skills learned in the Measuring Up manual. Examples include a box, napkin/letter

holder, picture frame, or other skill level appropriate item. Items should be entered with construction plans.

C) 901 Woodworking Display – Display exemplifying one of the principles learned in the Measuring Up manual.

C) 902 Other Items – Unit 1 – Other article as shown in the Woodworking Unit 1 manual or comparable.

DEPARTMENT H – DIVISION 911 – MAKING THE CUT: UNIT 2

Division	Class	Pay	Purple	Blue	Red	White
911	903-904	2	$5.00	$4.00	$3.00	$2.00

C) 903 Woodworking Article – Item made using skills learned in the Making the Cut manual. Examples include a birdhouse or footstool. Items should be entered with construction plans.

C) 904 Other Items – Unit 2 – Other articles as shown in the Woodworking Unit 2 manual or comparable.

DEPARTMENT H – DIVISION 911 – NAILING IT TOGETHER: UNIT 3

Division	Class	Pay	Purple	Blue	Red	White
911	001-005	1	$8.00	$6.00	$5.00	$3.00

SF) 001 Woodworking Article (SF91) – Item should be made using either joints, hinges, dowels, or a dado joining made using skills learned in the Nailing It Together manual. Item is required to be appropriately finished. Examples include a bookcase, coffee table, or end table.

SF) 003 Recycled Woodworking Display (SF95) – Article made from recycled, reclaimed, or composite wood. Article must be appropriately finished and/or sealed and utilize one or more woodworking techniques from Page 2 of the Unit 3 manual. Exhibit must include the woodworking plan and a minimum one-page report of how the engineering design process was used to develop the woodworking plan. Engineering Design Process:

1. State the problem (Why did you need this item?)
2. Generate possible solutions (How have others solved the problem? What other alternatives or designs were considered?)
3. Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)
4. Build the item (What was your woodworking plan, and what processes did you use to build your item?)
5. Reason for article finish (What type of finish, how did you finish, or why you chose this finish?)
6. Evaluate (How does your item solve the original need?)
7. Present results (How would you do this better next time?)

SF) 004 Composite Wood Project (SF96) – 60% of the project must be wood and 40% made from other materials, such as metal, rubber, resin, etc. All plans and plan alterations must be attached to the article. Protect plans with a cover. If the project is designed to be outside, it is required to have an appropriate outdoor finish because the project may be displayed outside.

SF) 005 Outdoor Wood Project made with Treated Wood (SF97) – Treated wood projects DO NOT have to have a finished coating. All plans and plan alterations must be attached to the article. Protect plans with a cover. If the project is designed to be outside, please make sure it is properly treated as it may be displayed outside. Examples include picnic tables, planters, outdoor furniture, etc.

SF) 006 Wood Projects Created on a Turning Lathe - Article is the object created from spinning wood on a turning lathe. Article must be appropriately finished and/or sealed. Exhibit must include plans detailing design and process of completion, any changes made to the design, details of finishing techniques, and other relevant information about the article. Must include a description of tools used.

C) 905 Woodworking Display – Display exemplifying one of the principles learned in the Making the Cut manual.

C) 906 Other Items – Unit 3 – Other articles as shown in the Woodworking Unit 3 manual or comparable.

DEPARTMENT H – DIVISION 911 – FINISHING IT UP: UNIT 4

Division	Class	Pay	Purple	Blue	Red	White
911	006-008	1	$8.00	$6.00	$5.00	$3.00

SF) 007 Woodworking Article (SF91) – Item made using skills learned in the Finishing It Up Project. Examples include dovetailing, making a pen using lathe, overlays, using a router, etc. Item is required to be appropriately finished.

SF) 008 Recycled Woodworking Display (SF91) – Article made from recycled, reclaimed, or composite wood. Article must be appropriately finished and/or sealed and utilize one or more woodworking techniques from page 2 of the Unit 4 manual. Exhibit must include the woodworking plan and a minimum one-page report of how the design and engineering process was used to develop the woodworking plan.

1. State the problem (Why did you need this item?)
2. Generate possible solutions (How have others solved the problem? What other alternatives or designs were considered?)
3. Select a solution (How does your solution compare on the basis of cost, availability, and functionality?)
4. Reason for article finish (What type of finish, how did you finish or why you chose this finish?)
5. Build the item (What was your woodworking plan, and what processes did you use to build your item?)
6. Evaluate (How does your item solve the original need?)
7. Present results (How would you do this better next time?)

C) 907 Woodworking Display – Display exemplifying one of the principles learned in the Finishing It Up manual. Examples include career opportunities, types of finishes, or dovetailing.

C) 908 Other Items – Unit 4 – Other articles as shown in the Woodworking Unit 4 manual or comparable.

DEPARTMENT: SCIENCE, ENGINEERING & TECHNOLOGY
AREA: Small Engine and Vehicle Restoration
Superintendents: Gene and Cheryl Hobbie, Dunbar

In this category, 4-H'ers have the opportunity to create exhibits about varying levels of woodworking. In addition, participants can also create informational exhibits about their woodworking projects. Through involvement in this category, 4-H'ers will be better educated about the topic and better their woodworking skills.

Small Engine and Vehicle Restoration exhibits will be entered Wednesday, July 23rd from 3:00 p.m. to 6:00 p.m. in Exhibition Hall. Sign up for interview judging.

DEPARTMENT H – DIVISION 890 – SMALL ENGINES

Division	Class	Pay	Purple	Blue	Red	White
890	All Classes	2	$5.00	$4.00	$3.00	$2.00

C) 901 Crank It Up: Unit 1 – Small Engine Display/Item – Show an application of one of the concepts learned in the Crank It Up project manual. Examples include identifying the parts of a small engine, safety rules for starting a small engine, and/or small engine repair tool identification.

C) 902 Warm It Up: Unit 2 – Small Engine Display/Item – Show an application of one of the concepts learned in the Warm It Up project. Examples include a comparison of engine oil types, transmissions, or safety related to engines. Exhibit could be a poster, display, or an actual item.

C) 903 Tune It Up: Unit 3 – Engine Display/Item – Display/item should exemplify one of the lessons learned in the Tune It Up project. Examples include diagnostic tools, fuel systems, and ignition systems. If a complete engine is exhibited, it will not be started. However, the display needs to report the process of building/rebuilding the engine and how/where the engine will be utilized (i.e. lawn mower, weed eater, snow blower, etc.).

CLOVER KIDS

DEPARTMENT: CLOVER KIDS
Superintendents: Jaclyn Kreifels, Nebraska City
Assistant Superintendent: Kelly Juilfs, Nebraska City

All Clover Kid static exhibits will be entered in Fair Center on Tuesday, July 23, 2024, from 3:00- 6:00PM. Animal entry times can be found on the Otoe County Fair Schedule. There will be optional Clover Kid Interview Judging during check in. Interview Judging will take place on a first come, first-serve basis and will consist of a brief interview about their favorite project with an older Otoe County 4-H member.

AREA RULES – CLOVER KIDS

1. The Clover Kid Program is for youth ages 5, 6, and 7 as of December 31.
2. The Clover Kid Program is a non-competitive program, therefore exhibits and activities will be awarded a Clover Kid Ribbon.
3. **Clover kids may enter a maximum of 20 static exhibits.** This does not include showmanship classes, the 4-H Fashion Show, Favorite Foods Revue. Clover Kids will have the opportunity to talk about their projects when they come on entry day.
4. Clover Kid Showmanship
   a. Animal ID sheets should be turned into the Extension Office by June 15. Any companion animal or livestock animal may be shown.
   b. Bucket Calves: The maximum weight limit for Bucket Calves shown in the Clover Kid Beef Showmanship is 350 lbs.

Department Z – Division 100 – Clover Kids

Division	Class	Pay	Participation
100	All Classes	6	$1.50

Aerospace

C) 901 Rocket Drawing – On an 8 ½" x 11" paper, draw a rocket and label the three main parts (cone, body, and fins).

C) 902 Stomp Rocket – With an 8 ½" x 11" piece of paper, create a Stomp Rocket.

Animal Caretaker

C) 906 Critter Drawing – On an 8 ½" x 11" paper, draw an animal and identify its body parts.

C) 907 Animal Story – Write a handwritten story of how you care for an animal. This should include no more than three (3) photographs and should not exceed three (3) paragraphs. Please display your story in a notebook or binder.

C) 908 Animal Sculpture – Make a sculpture of your favorite type of animal using any time of modeling medium (clay, play dough, bread dough clay, etc.). Display on a 5" plate in a zip-lock bag.

C) 909 Bucket Calf Showmanship – The Clover Kid Bucket Calf Show will be held on Friday, July 28, 2023, in Kimmel Arena beginning at 11:00 a.m. See the Clover Kid Handbook for rules. Bucket Calves will be stalled the entire fair.

C) 910 Companion Animal Showmanship – The Otoe County Fair Companion Animal Show will be held on Saturday, July 27, 2024, following rabbit show. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Companion Animals will be brought in for the show and then will go home.

C) 911 Dairy Goat Showmanship – Check the fair schedule for the Dairy Goat Show time. See the Clover Kid Handbook for rules. Dairy Goats will be stalled the entire fair.

C) 912 Dog Showmanship – The Otoe County Fair Dog Show will be held on Sunday, July 21, 2024, in Kimmel Areana following the Companion Animal Show. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Dogs will be brought in for the show and then will go home.

C) 913 Swine Showmanship – The Otoe County Fair Swine Show will be held on Saturday, July 27, 2024, in Kimmel Arena beginning at 8:00 a.m. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Hogs will be stalled the entire fair.

C) 914 Meat Goat Showmanship – The Otoe County Fair Meat Goat Show will be held on Thursday, July 25, 2024, in Kimmel Arena. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Meat Goats will be stalled the entire fair.

C) 915 Poultry Showmanship – The Otoe County Fair Poultry Show will be held on Saturday, July 27, 2024 - 8 am, in Royal Arena beginning at 9:00 a.m. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Birds will be caged the entire fair.

C) 916 Rabbit Showmanship – The Otoe County Fair Rabbit Show will be held on Friday, July 26, 2024, in Royal Arena beginning at 8:00 a.m. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Rabbits will be caged the entire fair.

C) 917 Sheep Showmanship – The Otoe County Fair Sheep Show will be held on Thursday, July 25, 2024, in Kimmel Area beginning at 8:00 a.m. All exhibitors must turn an I.D. sheet into the Extension Office by June 15 of the current year. Online entries must be completed by July 1 of the current year. See the Clover Kid Handbook for rules. Sheep will be stalled the entire fair.

NOTE: All Clover Kid Showmanship Exhibitors, except for Rabbit Exhibitors, must be accompanied in the show ring by an adult or a 4-H member who is at least 14 years old.

A Space for Me

C) 918 Treasure Board

C) 919 Decorative Storage Box or Container

C) 920 No-Sew Pillow

C) 921 Picture Frame – Make or decorate a picture frame no larger than 5" x 7".

C) 922 Wall Hanging – Make an item which can decorate a wall

C) 923 Simple Accessory – Can be a Lego creation. Should be displayed on a 5" plate in a zip-lock bag.

Bicycle Adventures

C) 924 Bicycle Safety Story – On an 8 ½" x 11" paper, tell why bicycle helmets are important. This should not exceed two paragraphs and may include a picture you colored or a photograph you took.

C) 926 Safe Riding Poster – On an 8 ½" x 11" paper, draw three safe riding practices.

Family Celebrations from Around the World

C) 927 Name Rhyme – On an 8 ½" x 11" paper, hand write a rhyme answering the following question: "What does my given name mean?" Instructions can be found on page 5 of the leader's manual.

C) 928 Mexican Pinata – Instructions can be found on page 8 of the leader's manual. Exhibit without candy and attach to a clothes hanger.

C) 929 Japanese Hat – Instructions can be found on page 12 of the leader's manual.

C) 930 Ohina Dolls – Instructions can be found on page 11 and page 14 of the leader's manual.

C) 931 Carp Kite – Create one carp or a family of carp kites. Instructions can be found on page 15 of the leader's manual.

C) 932 Mother's/Father's Day/Grandparent's Day Mini Poster – On an 8 ½" x 11" piece of paper, design a mini poster about your mom, dad, grandfather, or grandmother and you. A story, poem, or pictures may be used.

C) 933 May Basket – Make a May Basket you could give to a special friend.

C) 934 4th of July – On an 8 ½" x 11" paper, make the U.S. flag using a medium of choice.

C) 935 Family Tree Poster – On an 8 ½" x 11" piece of paper, create a three-generation family tree.

Just Outside the Door

C) 936 Bird Feeder – Build a homemade bird feeder using recycled products.

C) 937 Bird House – Build a homemade bird house.

C) 938 Water Picture – On an 8 ½" x 11" paper, show what you have discovered about water (any medium).

C) 939 Growing Seed – Exhibit a growing seed that you have planted. This can be any seed you have planted in a small container.

C) 940 Insect Life Mobile – Instructions can be found on page 20 of the leader's manual.

C) 941 Insect Model – Create your very own insect using any kind of non-edible media and include all parts of an insect (6 legs, 1 pair of antennae, and 3 body sections)

C) 942 Seed Medallion – Use a 4" circle of cardboard and any kind of seeds to make a medallion. Use string, yarn, or any other material to make a loop.

C) 944 Snowflake – Create a snowflake using any type of medium.

Making Foods for Me

C) 945 Table Setting Poster – On an 8 ½" x 11" paper, draw a table setting for a family meal.

C) 946Save a Place for Me Placemat – Color and decorate a placement. Lamination or protection with clear contact paper is advised. (Making Foods for Me, center page)

C) 947 About Me Poster – Draw and color a picture of yourself along with foods that help build a healthy body.

C) 948 Food Chart Checklist – Charts available at the Extension office, shows healthy eating for one day.

C) 949 Healthy Snack – Exhibit ¼ cup of a healthy snack mix or 1 healthy cookie, bar, or muffin you have made. Include the recipe (recipe can be photocopied) and bring and in a self-sealing plastic bag.

C) 950 Favorite Foods Revue – Refer to the Favorite Foods Revue section to view rules and guidelines.

C) 951 Collage – On an 8 ½" x 11" piece of paper, create a collage of one of the following food groups: Fruits, Vegetables, Protein, Dairy, or Grain. If completing the project over multiple years, consider doing a different food group each time!

STEAM: Beyond the Needle

C) 952 Decorate a T-Shirt – Decorate a T–shirt using any method, without using an iron or sewing machine.

C) 953 Decorate an Accessory – Decorate an accessory using any method, without using an iron or sewing machine

C) 954 Fashion Show – Participate in the Fashion Show! Fashion Show judging will be on Sunday, July 23, 2023, from 1:00 p.m. to 4:00 p.m. at the Kimmel Event Center. The Public Fashion Show will be held on Thursday, July 27, 2023, beginning at 6:00 p.m. at the Kimmel Event Center. 4-H members must model in the public Fashion Show on Thursday evening to be eligible for ribbon and premium money.

Communications and Expressive Arts

C) 955 Homemade Puppet – Create a puppet. Ideas can be found on pages 16 and 24 of the Clover Kids manual, but any puppet will work.

C) 956 Picture Story – Fold an 8 ½" x 11" piece of paper into three sections and draw a story (character, problem, solution). (Play the Role, page 24)

FFA Exhibits

Department K
NICOLE MOWRY, Superintendent
CHRISTY HODGES, LIZ BEACH,
SARAH KNUTSON, & KAITLIN TAYLOR,
KAYSIE GYHRA, KRYSTAL KNABE

General FFA Rules & Regulations

1. To be eligible to enter FFA at the Otoe County Fair, a youth must be enrolled in a
FFA Chapter including Conestoga, Nebraska City, Johnson County Central, Palmyra, Plattsmouth, Syracuse
or Weeping Water, meeting all local and state level membership requirements.
2. FFA members must follow the entry numbers described in the General Livestock rules. No
entry can compete in more than one class. An FFA member may not exhibit the
same entry in both 4-H and FFA or Open Class regular classes or Showmanship. Please note: No animal or article
exhibited in FFA division of another county fair can be eligible to be exhibited in
the Otoe County Fair.
3. All exhibits in FFA must be a product or cared for as part of the current FFA year's
project work.
4. Most exhibits will be divided into groups according to merit by a qualified judge.
Purple will denote superior exhibits, blue will denote an excellent exhibit, red will
denote a good exhibit, while white will denote an acceptable exhibit. Incomplete
entries will be lowered one ribbon class unless otherwise noted.
5. All entries must be exhibited to receive premiums.
6. All livestock exhibitors must be certified in YQCA (Youth for the Quality Care of
Animals) program through their FFA Advisors or Extension staff prior to June 15.
All animals not in the sale will be release at 2:00 p.m. on Sunday. See General
Livestock Rules for Health Requirements. See Dress Code Rules. FFA t-shirts should
be worn.
See General Livestock Rules for entry and release times. Ribbons and premium money will be the same as 4-H.
For protests or appeals, see the FFA Superintendent.

PROOF OF LIVESTOCK OWNERSHIP
All FFA animals to be shown at the Otoe County Fair shall follow the General
Livestock Rules on page 6.
Forms showing these identifications must be turned into the instructor and
Extension Office. No FFA livestock entries will be accepted that are not identified with the instructors.

Beef
Department K, Division 40
(Pay Category 2)
CLASS NUMBER:
K1. Market Beef Steers
K2. Market Beef Heifers
K3. Beef Breeding Yearling Heifer Calf (Jan. 2022 to June 2022)
K4. Beef Breeding Heifer (July 2022 – Dec. 2022)
K5. Beef Breeding Cow/Calf (calved prior to 6/15/2023)
K6. Feeder Calves (born between Jan. 1,2023 to May 31, 2023)
K7. Carcass Contest

Meat Goats
Department K, Division 58
(Pay Category 2)
CLASS NUMBER:
K1. Market Goats (wethers and does)
K2. Doe kid (1-4 months)
K3. Doe Kid (5-8 months)
K4. Doe Kid (9-12 months)
K5. Yearling Doe (13-24 months)
K6. Buck kid (4-8 months

Poultry
Department K, Division 20
(Pay Category 2)
CLASS NUMBER:
K1. Cockerel – 1 year or younger
K2. Pullet – 1 year or younger
K3. Cock
K4. Hen
K5. Trio
K6. Pen (Broilers)
K7. Pen (Egg Production)
K8. One Dozen Eggs - entered during bird check-in

Rabbit
Department K, Division 81
(Pay Category 2)
CLASS NUMBER:
K4. Single Fryer (3 1/2 to 5 1/2 lbs./under 10 weeks of age.)
K5. Roaster (over 5-1/2 lbs.)
K6. Meat Pen (3-1/2 to 5-1/2 lbs./under 10 weeks of age.) ([Pen of 3)

Division 8201 – American Fuzzy Lop
Division 8202 – American Sable
Division 8203 – Belgian Hare
Division 8204 – Britannia Petite
Division 8205 – Dutch
Division 8206 – Dwarf Hotot
Division 8207 – Dwarf Papillion
Division 8208 – English Angora
Division 8209 – English Spot
Division 8212 – Harlequin
Division 8213 – Havana
Division 8214 – Himalayan
Division 8215 – Jersey Woolie
Division 8216 – Lilac
Division 8217 – Holland Lop
Division 8218 – Mini Lop
Division 8219 – Mini Rex
Division 8220 – Mini Satin
Division 8221 – Netherland Dwarf
Division 8222 – Polish
Division 8223 – Rex
Division 8225 – Satin Angora
Division 8226 – Silver
Division 8227 – Silver Marten
Division 8228 – Standard Chinchilla
Division 8229 – Tan
Division 8231 – Lionhead

K2 Fancy Doe (Jr. under 6 months)
K3 Fancy Doe (Sr. over 6 months)
K4 Fancy Buck (Jr. under 6 months)
K5 Fancy Buck (Sr. over 6 months)

Division 8301 – American
Division 8306 – Blue Vienna
Division 8307 – Californian
Division 8308 – Champagne D'Argent
Division 8309 – Checkered Giant
Division 8310 – Cinnamon
Division 8311 – Creme D'Argent
Division 8312 – English Lop
Division 8318 – New Zealand
Division 8319 – Palomino
Division 8320 – Satin
Division 8322 – Unlisted Breed
Division 8323 – Commercial Crossbred

K6 Commercial Doe (Jr. under 6 months)
K7 Commercial Doe (Sr. over 6 months)
K8 Commercial Buck (Jr. under 6 months)
K9 Commercial Buck (Sr. over 6 months)
K12. Crossbred Doe (Jr. under 6 months)
K13. Crossbred Doe (Sr. over 6 months)
K14. Crossbred Buck (Jr. under 6 months)
K15. Crossbred Buck (Sr. over 6 months)

Division 83 - Doe and Litter
(Pay Category 2)
CLASS NUMBER:
K1. Doe and Litter

Sheep
Department K, Division 31
(Pay Category 2)
CLASS NUMBER:
K1. Market Lamb (Commercial or Registered)
K2. Ewe Lamb (born after 11/30/21)
K3. Yearling Ewe (born 1/1/21 – 7/30/21)
K4. Aged Ewe (born before 1/1/21)
K5. Buck Lamb (born after 7/30/2021)
K6. Aged Buck (born before 1/1/21)
K.7 Individual Member Flock

Swine
Department K, Division 36
(Pay Category 2)
CLASS NUMBER:
K1. Market Gilt
K2. Market Barrow
FFA Showmanship
Department K, Division 500

(Pay Category 2)
FFA members may compete in showmanship contests in the various divisions
of livestock. See General Rules for further information.
CLASS NUMBER:
K1. Poultry Showmanship
K2. Rabbit Showmanship
K3. Swine Showmanship
K4. Beef Showmanship
K5. Sheep Showmanship
K.6 Meat Goat Showmanship

FFA Agricultural Mechanics
Department K, Division 820

(Small Items – Pay Category 2)
(Large Items – Pay Category 1)
Note: A Chapter can only exhibit 3 like items – example: 3 shoe scrapers.
Projects entered shall be the direct result of Agricultural Mechanics instruction in Ag-Ed and constructed primarily under the supervision of the Ag-Ed instructor. The student entering the project will have had at least 75% of the construction responsibility of the project. Household/industrial arts items are not eligible to exhibit (i.e., gun racks, desks, magazine racks, computer table, etc). Items that appear to be craft items or industrial technology will not be permitted to show. The power unit should be included on all power-drive equipment during the judging, but must be adjusted so it will not function thereafter, for the safety of the public.

CLASS NUMBER:
UTILITY: to include items/tools used in or about the Agricultural Mechanics facility.
K1. Utility Large Items - wagons, trailers
K2. Utility Medium Items – carts, welding tables, presses, engine hoists, engine stands.
K3. Utility Small Items – splash blocks, tool boxes, foot scrapers, stools, car ramps, jack stands
Production: to include items/tools used in crop or livestock production.
K4. Production Large Items – loading chute, bale carrier, hog carrier
K5. Production Medium Items – stock panels, sheep blocker
K6. Production Small Items – post driver, post puller, troughs
Power: to include items/tools which incorporate an electric, hydraulic, and/or fuel motor as a power source to perform a function. Equipment must be prepared for display in the power category.
K7. Power Large Items – large sprayers
K8. Power Medium Items – log splitter
K9. Power Small Items – small sprayer
Horticulture: to include items/tools used around the lawn/garden for recreation or improvement purposes.
K10. Horticulture Large Items – grills, smokers, planters, mini-sprayers
K11. Horticulture Medium Items – picnic tables, patio seats, patio table
K12. Horticulture Small Items – plant stands, planter boxes, signs
Refurbishing: a restoration of an item/tool which has current benefit to one of the previous categories. The following must accompany the project: a narrative describing the condition of the item/tool prior to the repair; steps taken to repair the item; a bill of materials which indicates costs; and attractively mounted pictures with appropriate captions.
K13. Large Refurbishing – tractors
K14. Medium Refurbishing – lawn mowers, tillers, power garden items
K15. Small Refurbishing – antique farm tools
Display Boards: a display board shall be items completed by FFA member during the previous school year. Each display board shall be 18" x 24" x 3/8".
Welding boards shall identify: 1) kind of weld; 2) position; 3) amperage; 4) electrode size; 5) AWS number; 6) thickness or dimension of metal. A total of 8 welds is recommended for welding boards. Recommended welds include: flat position, horizontal position, vertical position, butt (lap, horizontal) plates flat, butt, lap, or T-fillet. Welds shall be attached so all sides are available for evaluation. No specific welds are required; however, welds must differ from one another by at least position, electrode size, AWS number, thickness or dimension of metal, or kind of weld.
CLASS NUMBER:
K16. ARC
K17. MIG
K18. TIG
K19. Gas Welding/Brazing
K20. Electrical – must include at least 1 switch, 2 types of splices, 1 light fixture or receptacle
K21. Plumbing – must use 3 types of pipe (copper, plastic, steel). Must include soldering, flare fitting, glued joint, and steel threaded joint
K22. Advanced Electrical or Plumbing – contains controls, values, timers, motors, etc.

FFA Crops
Department K, Division 825
(Pay Category 2)
General Information: Each eligible exhibitor may have only 1 entry in each class.
Corn stalks will be exhibited without roots. Grain shall be entered in a 4-quart plastic bucket with lid such as an ice cream bucket. Each sample shall be 2 quarts. Crops such as barley, rye, popcorn and dry edible beans are exhibited provided the crop was appropriately harvested in the current or preceding year.
CLASS NUMBER:
K1. Corn, 10 ears, current year
K2. Grain Sorghum, 10 heads – 10" sheath of heads, current year, wrapped or tied
K3. Stalks of Corn, 3 stalks – do not include roots, current year
K4. Soybeans, previous year
K5. Oats, current year
K6. Small Grains, sheath of heads 2" in diameter, 24" stems, current yearK7.
Wheat, current year
K8. Shelled Corn, previous year
K9. Popcorn, 10 ears, current year
K10. Shelled Popcorn, previous crop
K11. Stalks of Popcorn, 3 stalks – do not include roots, current year
K12. Soybean Plants, 6 stalks cut above ground level, current year, wrapped or tied
K13. Alfalfa sheath
K14. Alfalfa, one slab of bale
K15. Brome or Native Grass, one slab of bale
K16. Other, wrapped or tied

Range Boards: all boards shall be 36" x 36" x 3/8" thick. Mounted range plants excluding invader plants must be on the list of important range plants (Table #1, Range Judging Handbook for Nebraska, E.C. 1-37-78). Mounted range plants must include roots, stem, and head. The board shall not be covered by a plastic material.
Display boards should have at least 15 range plants. The exhibit must include the following information for each range plant:
• Common name
• Scientific name
• Forage value
• Season of growth
• Life span

CLASS NUMBER:
K17. Range Board

FFA Horticulture
Floriculture
Department K, Divisions 770
(Pay Category 4)
FFA exhibits in horticulture will be displayed with the 4-H exhibits in horticulture. No waxing or leaf shine on horticultural entries. All rules and regulations of the 4-H Horticulture Show will apply. See Department G for list of floriculture.
Floral Arrangements: materials must be purchased or grown by the exhibitor.
CLASS NUMBER:
K1. Floral, fresh cut flowers/foliage in bud vase (no more than 3 flowers)
K2. Floral, fresh cut flowers/foliage (more than 3 flowers
K3. Floral, dried flower/foliage
K4. Floral, artificial flowers/foliage
K5. Floral, live plants
K6. Floral, combination of above
K7. Floral, combination of above
K8. Boutonniere (artificial) in see-through container
K9. Corsage (artificial) in see-through container
K10. Boutonniere (natural) in see-through container
K11. Corsage (natural) in see-through container
K12. Wreaths, 12" or less (artificial)
K13. Wreaths, over 12" (artificial)
K14. Topiary

Themed arrangements may be fresh, dried, artificial, or any combination thereof.

CLASS NUMBER:
K15. Go Big Red Arrangement
K16. Christmas Theme Arrangement
K17. Fall Theme Arrangement
K18. Fair Theme Arrangement

FFA Apiculture
Department K, Divisions 774
(Pay Category 4)
All entries in this competition must have been produced in Nebraska by the exhibitor. Entries shall bear no labels or markings. Exhibitors wishing to identify their entries may send labels in a separate envelope to be attached after judging.
Extracted Honey: entries shall consist of (4) 1-pound queenline glass jars.

CLASS NUMBER:
K1. White/Light
K2. Light Amber/Amber
K3. Dark Amber/Dark
K4. Creamed Honey - (4) 1-pound glass jars. Cylindrical jars are preferred.
K5. Chunk Comb Honey – (4) 1-pound glass jars, cylindrical jars preferred
K6. Cut Comb Honey - (4) 12-ounce combs in plastic boxes.
K7. Section Comb Honey - entries shall consist of one of the following options:
• (4) wood sections packaged in cardboard-cellophane window cartons
• (4) round sections with clear covered and labels
• (4) half-combed cassettes
K8. Beeswax Candles – pair of candles, molded or dipped
K9. Gift Basket – basket of honey and products made from or with products of the hive.
K10. Beekeeping Story – (10) 4" x 6" pictures mounted on a poster board with captions that explain beekeeping or skills of a beekeeper to manage a hive throughout the year

Entries/Number of Entries:

At entry time, (July 1, 2024), each 4-H member of a family holding their animals in joint ownership must designate on the entry sheet which animal(s) he/she plans to show. Livestock divisions in which a 4-H and FFA member may enter:
- (1) Beef - Bucket Calf
- (1) Beef - Bucket Calf +1
- (3) Beef - Feeder Calves
- (3) Beef - Breeding
- (3) Beef - Market
- (2) Companion Animals
- (3) Dogs
- (8) Goats - Dairy (this can be any combination of 4 mature (lactating) does or 4 immature does)
- (3) Goats - Breeding Meat
- (4) Goats - Market Meat
- (3) Horses
- (10) Poultry plus 1 Pen of 3
- (6) Rabbits
- (2) Sheep - Breeding (more may be show individually if flock is shown)
- (4) Sheep - Market
- (2) Swine - Breeding
- (2) Swine – Market

BARN IN THE USA

2024 Otoe County Fair

Appendix A Animal Identification Guidelines and Maximum Entries

		Nomination/Identification Requirements		Nomination/ Identification Deadline		Entry Deadline	
		County	State	County	State	County	State
Beef	Market	EID Tag With Photo of Head and Ear With EID Tag Visable for Animals not Tagged at Beef Weigh-in	EID Tag, DNA Envelope, and Animal Info submitted on line via Show Stock Manager	June 15	June 15	June 15	August 10 8:00PM CST
	Breeding	EID Tag or Tattoo	Registered: Tattoo, DNA Envelope, and Animal Info submitted online via Show Stock Manager Commercial: Tattoo or EID Tag, DNA Envelope and Animal Info submitted online via Show Stock Manager	June 15	June 15	June 15	August 8:00PM CST
	Feeder Calves	EID Tag	EID Tag, DNA Envelope, and Animal Info submitted online via Show Stock Manager	June 15	June 15	June 15	August 10 8:00PM CST
	Bucket	EID Tag	No Class	June 15	----	June 15	----
Dairy	All	Photo/Drawing/ Tattoo or Reg. Tag	No Class	June 15	----	June 15	-----
Meat Goats	Market	USDA Scrapie ID Tag and EID Tag	Scrapie Tag, DNA Envelope, and Animal Info submitted online via Show Stock Manager	June 15	June 15	June 15	August 10 8:00PM CST
	Breeding	USDA Scrapie ID Tag/Tattoo	Scrapie Tag, DNA Envelope, and Animal Info submitted online via Show Stock Manager	Juen 15	June 15	June 15	August 10 8:00PM CST
Horse	All	Photo or Drawing	Horse Identification Certification	June 15	June 15	June 15	June 1 11:59PM CST
Poultry	All	Poultry Band	No nomination required	June 15	June 15	June 15	August 10 8:00PM CST
Rabbit	Market	Tattoo in Left Ear	No nomination required. Rabbits will be required to have an ear tattoo by the show entry deadline.	June 15	June 15	June 15	August 10 8:00PM CST
Swine	Market	EID Tag with Photo of Tag in Ear	EID Tag, DNA Envelope and Animal info submitted online via Stock Show Manager	June 15	June 15	June 15	August 10 8:00PM CST
	Breeding	EID Tag with Photo of Tag in Ear	EID Tag, DNA Envelope and Animal Info submitted online via Stock Show Manager	June 15	June 15	June 15	August 10 8:00PM CST
Sheep	Market	EID Tag with Photo if not Done at Optional Weigh-In	Scrapie Tag, DNA Envelope, and Animal Info Submitted online via Stock Show Manager	June 15	June 15	June 15	August 10 8:00PM CST
	Breeding	USDA Scrapie Tag or Com., Reg. Tag	Scrapie Tag, DNA Envelope, and Animal Info Submitted online via Stock Show Manager	June 15	June 15	June 15	August 10 8:00PM CST
Companion Animals	All	Photo	----	June 15	-----	June 15	-----
Dogs	All	Photo and Vaccination Record Form	----	June 15	-----	June 15	-----

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