Scientific name: *Abutilon theophrasti Medik.*
Common name: Velvetleaf
County of collection: Hall County
Collection date: 6 July 20XX
Collector's name: Dan D. Lion
Personal collection number: 3
Life Cycle: Annual

G-751-001 Weed Identification Book - A collection of a minimum of 15 plant mounts and including at least two of the following prohibited noxious weeds (Canada thistle, musk thistle, plumeless thistle, salt cedar, 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. Scoresheet SF261

G-751-002 Life Span Book - A collection of 7 perennials, 1 biennial, and 7 annual weeds. Scoresheet SF261

Division 751 – Displays

A. 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 inches on plywood or poster board. The display should be neatly titled. Make sure to label display with exhibitor's name, address, and county on back side. Explain pictures and graphs clearly and concisely. Consider creativity and neatness. Refer to Scoresheet SF 259.

B. 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. The essay should be in a clear plastic cover with the exhibitor's name outside. If a display does not have an essay, it will automatically be deducted one ribbon placing.

G-751-003 Weed Display - 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. Scoresheet SF259

DEPARTMENT D – RANGE

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.

Division 330 – Range Management

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

A. Each exhibit must be properly identified with Unit and Class.

B. All plant displays and display covers must be the result of the current year's work.

C. 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) and Common Grasses of Nebraska (EC 170) and Common Forbs and Shrubs of Nebraska (EC 118).

D. 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. For guidelines on specific projects, refer to appropriate project manuals.

E. Scoresheets, forms, additional resources can be found at http://go.unl.edu/ne4hrange.

Division 330 – Books (Classes 1-6)

A. For books, plants must be mounted on sheets that are no larger than 14 inches wide x 14 inches 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.

B. Exhibits will be judged based on completeness of plant mount, accuracy of identification, labeling, neatness and conformation to project requirements.

C. Each completed mount must have the following information (see example below) in the lower right corner of the mounting sheet: 1) Scientific name (in italic or underlined), with authority, 2) Common name, 3) County of collection, 4) Collection date, 5) Collector's name, 6) Personal

collection number, indicating order that plants were collected in your personal collection and 7) Other information depending on class selected, i.e., value and importance, life span, growth season, origin, major types of range plants. This information should be typed or printed neatly.

Scientific name: *Schizachyrium scoparium (Michx.) Nash*
Common name: Little bluestem
County of collection: Hall County
Collection date: 6 August 20XX
Collector's name: Joe Smith
Personal collection number: 37
Value & Importance: Livestock Forage: High, Wildlife Habitat: High,
Wildlife Food: Medium Or Life Span: Perennial
Or Season of Growth: Warm Season Or
Origin: Nature

D-330-001 Value and Importance for Livestock Forage and Wildlife Habitat and Food Book – 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. Scoresheet SF260

D-330-002 Life Span Book – A collection of 6 perennial plant mounts and 6 annual plant mounts selected from grasses or forbs. Scoresheet SF260

D-330-003 Growth Season Book – A collection of 6 cool-season grass mounts and 6 warm-season grass mounts. Scoresheet SF260

D-330-004 Origin Book – A collection of plant mounts of 6 native range grasses and 6 introduced grasses. Introduced grasses are not from North America and often used to seed pastures. Scoresheet SF260

D-330-005 Major Types of Range Plants Book – A collection of plant mounts of 3 grasses, 3 forbs, 3 grass-like and 3 shrubs. Scoresheet SF260

D-330-006 Range Plant Collection Book – A collection of 12 range plant mounts with something in common (i.e. poisonous to cattle, or 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. Scoresheet SF260

Division 330 – Displays (Class 7)

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 inches by 28 inches on plywood or poster board. The display should be neatly titled. Make sure to label display with exhibitor's name, address, and county on back side.

D-330-007 Parts of a Range Plant Poster – 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. Scoresheet SF259

Division 330 – Boards (Classes 8-9)

Boards should be no larger than 30 inches wide by 36 inches tall. Boards should be adequately labeled.

D-330-008 Special Study Board – 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. Scoresheet SF260.

D-330-009 Junior Rancher Board – This exhibit should include the ranch map with 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. Scoresheet SF 260

DEPARTMENT H – ENTOMOLOGY

Division 800 – Entomology

Entomology exhibits give 4-H'ers the opportunity to demonstrate their knowledge about insects and insect displays. This category has multiple projects that allows 4-H'ers to progress over numerous years.

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

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 online as a pdf file. (http://4h.unl.edu/web/4hcurriculum/entomology). Scoresheets and resources can be found at https://go.unl.edu/ne4hentomology Boxes are preferred to be not more than 12 inches high x 18 inches wide, and landscape orientation so they fit in State Fair display racks. Purchase of commercially-made boxes is allowed. All specimens are to be pinned and labeled by the exhibitor. No purchased specimens allowed. No projects over 50lbs. allowed.

H-800-001 Entomology Display, First Year Project

Collection to consist of 25 or more different kinds (species) of insects representing at least 6 orders. Limit of one box. Scoresheet SF 186

H-800-002 Entomology Display, Second Year Project

Collection to consist of a minimum of 50 kinds (species) of insects representing at least 8 orders. Replace damaged or poorly mounted specimens. At least 25 species must be present from after July 1 of the previous year. Limit 2 boxes. Scoresheet SF186

H-800-003 Entomology Display, Third Year or more project

Collection to consist of 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 previous year. Limit of 3 boxes. Scoresheet SF186

H-800-004 Special Interest or Advanced Insect Display

Educational display developed according to personal interests and/or advanced identification capability. This also is an opportunity to highlight favorite insects in a creative arrangement. Insects should conform to pinning and mounting standards as in Classes 1-3 and be protected in an insect box. Each specialty display should include 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, insect galls, insects from goldenrod, insect pollinators, etc.). Scoresheet SF187

H-800-005 Insect Habitats

Habitats consist of any hand-crafted 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; and 3) National Wildlife Federation: How to Provide Water in Monarch Gardens. Scoresheet SF186

H-800-006 Macrophotography

Subjects should be insects, spiders or other arthropods, or any nests, webs or constructions they make. All exhibits prints should be either 8 x 10 inches or 8½ x 11 inches and mounted on rigid, black 11 x 14 inches poster or matt board. Either orientation is acceptable. No frames or mat board are allowed. A caption of a few sentences should explain the subject, and be printed on white paper, glued below the print on the poster board. Scoresheet SF189

H-800-007 Insect Poster/Display Exhibits

Exhibits can be posters or three-dimensional displays, and artistic creativity is encouraged. Posters should be no larger than 22 x 28 inches. 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 (ex. 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 fit within a 22 x 28 inches area. Scoresheet SF190

H-800-008 Reports or Journals

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 of kinds in butterflies over the summer, rearing a specific insect from egg to adult, managing a bee hive, observations of insects in a specific habitat, accounts of insect behavior in a forest or flower garden, etc. Scoresheets SF191

DEPARTMENT H – VETERINARY SCIENCE

Division 840 – Veterinary Science

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

The purpose of a Veterinary Science exhibit is to inform the public about a common health problem of animals, a veterinary science principle, or public health/zoonatic diseases.

A Veterinary Science exhibit may consist of a poster, notebook or a display. The exhibit may represent material from any of the Veterinary Science projects including a entry level exhibits from Unit 1.

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 first-aid 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 print-outs, 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 inches and may be either vertical or horizontal.

Veterinary Science Display: 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 inches or on 1/4" plywood or equivalent that does not exceed 24 inches high or 32 inches 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 included 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 a disqualification. Please study your topic and present the information to your audience in your own words.

Scoresheets, forms, contest study materials and additional resources can be found at https://go.unl.edu/ne4hvetscience.

H-840-001 4-H Veterinary Science Large Animal Poster, Notebook, or Display Scoresheet SF119

H-840-002 4-H Veterinary Science Small Animal/Pet Poster, Notebook, or Display Scoresheet SF119

GENERAL INFORMATION FOR DEPARTMENT H, DIVISIONS 850, 860, 861, 870, 880, 890, 900, 911, 920:

A. The name and county of each exhibitor should appear separately on the back of each board, poster, or article, and on front cover of the notebooks so owner of exhibit may be identified if the entry tag is separated from the exhibit.
B. Each individual is limited to one exhibit per class.
C. Several classes require a display board which should be a height of 24 inches and not to exceed 1/4 inch thickness. A height of 23 7/8 inches is acceptable to allow for the saw keft width if two 24 inches boards are cut from one end of a 4 foot x 8 foot sheet of plywood. Nothing should be mounted within 3/4 inch of the top or bottom of the board. (Example: woodworking, and electricity)
D. Fabricated board such as plywood, composition board, or particle-type lumber may be used for demonstration displays.
E. Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.
F. Demonstration boards should include an overall title for the display, plus other necessary labeling.
G. 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: 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 – STEM AEROSPACE (ROCKETS/DRONES)

Division 850 – Aerospace (Rockets/Drones)

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

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 throughout this project. Involvement in STEM Rockets gives participants a first-hand experience in modern technology.

RULES

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 owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Each individual is limited to one exhibit per class. All static exhibits must have received a purple ribbon at the county fair to advance to the State Fair.
3. Rockets must be supported substantially in order to protect the rocket from breakage. Rockets are to be mounted on a base that has dimensions equal or less than 12 x 12 inches and the base should be 3/4 inch thick. No metal bases. If the rocket fins extend beyond the edges of the required base (12 x 12 inches), then construct a base that is large enough to protect the fins. The base size is dictated by the size of the rocket fins.
4. The rockets must be mounted vertically. Please do not attach sideboards or backdrops, figures, legos, etc. 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.
5. Rockets must be equipped as prepared for launching with wadding and parachute or other recovery system. Rockets entered with live engines, wrong base size or sideboards will be DISQUALIFIED.
6. A report protected in clear plastic cover, must include: 1) rocket specification (include original or photo of manufactured packaging stating rocket skill level), 2) a flight record for each launching (weather, distance, flight height); 3) number of launchings; 4) flight pictures, 5) Safety (How did you choose your launch site? Document safe launch, preparations, and precautions), 6) objectives learned and 7) conclusions.
7. 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 be shown on the rocket. Complete factory assembled rockets or entry level rockets, made with PLASTIC FINS and PLASTIC BODY TUBES will not be accepted at the County or State Fair.
8. Judging is based on 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 score sheets. For scoring for the State Fair, only actual launches count, misfires will not count towards one of the required three launches.

- For self-designed rockets only, please include a digital record copy of one flight. In the documentation please include a description of stability testing before the rocket was flown.
- The skill level of project is not determined by number of years in project. Skill level is determined by the level listed on the manufacturing packaging.
- 4-H Rocket project levels are not intended to correspond to National Association of Rocketry model rocket difficulty ratings or levels.
- The 4-H'ers name, address, county, age, and years in rocket project should appear on the bottom of the base and on the report.
- 4-H'ers may visit with the judge on Wednesday, July 17 between 1:15 p.m. to 2:00 p.m. about their rocket.

9. High power rockets (HPR) are similar to model rocketry with differences that include the propulsion power and weight increase of the model. They use motors in ranges over "G" power and or weigh more than laws and regulations allow for unrestricted model rockets. These rockets are NOT appropriate for 4-H projects and will be disqualified.
10. Posters can be any size up to 28 x 22 inches when ready for display. Example: tri-fold poster boards are not 28 x 22 inches when fully open for display.

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

H-850-001 Rocket: Any Skill Level Rocket with wooden fins and cardboard body tubes painted by hand or air brush. Scoresheet SF92

H-850-002 Aerospace Display: Poster or display board that displays or exemplifies one of the principles learned in the Lift Off Project. Examples include: display of rocket parts and purpose, explaining 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 inches. Scoresheet SF93

H-850-003 Rocket: Any Skill Level Rocket with wooden fins and cardboard body tubes painted using commercial application. Example: commercial spray paint. Scoresheet SF92

Self-Designed Rocket

H-850-004 Rocket: Any self-designed rocket with wooden fins and cardboard body tubes. Scoresheet SF92

Drones

H-850-005 Drone Poster: Exhibit must be designed to educate yourself and others on one or more of the following topics: drone technologies, uses 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 inches.

H-850-006 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. Video should not exceed 5 minutes. State Fair qualified videos should be submitted to https://go.unl.edu/2023nesfset by August 15, 2024, or be uploaded to a video streaming application and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors should test their codes or links on several devices to check for appropriate permissions for public viewing.

DEPARTMENT H – STEM COMPUTERS

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 STEM Computers gives participants a first-hand experience in modern technology.

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

Division 860 – Computers

Refer to Engineering General Information.

RULES:

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 owner of the exhibit may be identified

if the entry tag is separated from the exhibit.

2. Each individual is limited to one exhibit per class. All static exhibits must have received a purple ribbon at the county fair to advance to the State Fair.
3. Demonstration boards should include an overall title for the display, plus other necessary labeling.
4. 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: 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.
5. Please refer to the General Rules for the policy regarding firearms, items with a blade, and other related items.
6. Please refer to the General Rules for the policy regarding use of copywritten images.

Team Entries: To qualify for entry at the Nebraska State Fair team materials entered in H-860-007 - Maker Space/Digital Fabrication is 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.
Scoresheets, forms, and additional resources can be found at http://go.unl.edu/ne4hcomputers.

Booting Up - Unit 1

H-860-901 Create a poster on a lesson learned in Unit 1. Examples might include: hardware, software programs, how to take care of a computer and operating systems.

Computer Mysteries - Unit 2

H-860-001 Computer Application Notebook

4-H exhibitor should use computer application to create a graphic notebook utilizing computer technology. 4-H'er may create any of the following: greeting card (5 different cards such as a birthday, wedding, anniversary, sympathy get well or other); a business card (3 cards for 3 different individuals and businesses); menu (minimum of 2 pages including short description of foods and pricing); book layout (I-book); promotional flyer (3 flyers promoting 3 different events); newsletter (minimum 2 pages); or other: examples such as precision farming or family business logo etc. This exhibit consists of a notebook (8½ x 11 inches) which should include a (1) 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 (2) print out of your project. Project may be in color or black and white. Scoresheet SF277

H-860-002 Produce a Computer Slideshow Presentation

Using Presentation software a 4-H Exhibitor designs a multimedia computer presentation on one topic related to youth. A notebook with a printout of all the slides should be submitted. Slideshow should include a minimum of 10 slides and not more that 25. Incorporate appropriate slide layouts, graphics, animations, and audio (music or voice and transition sounds do not count). Each slide should include notes for a presented. All slideshows must be uploaded. State fair qualified entries should be submitted to https://go.unl.edu/2024nesfset by August 15th, 2024. Or entries can be uploaded to a cloud sharing service and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors should test their codes or links on several devices to check for appropriate permissions for public viewing. Score Sheet SF276

Computer Mysteries - Unit 3

H-860-003 Produce an Audio/Video Computer Presentation

Using presentation software a 4-H exhibitor designs a multimedia computer presentation on one topic related to youth including audio and/or video elements. 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. State Fair qualified entries should be submitted to https://go.unl.edu/2024nesfset by August 15th, 2024. Or entries can be uploaded to a cloud streaming service and exhibitors MUST provide a hard copy QR code viewing. Exhibitors should to test their codes or links on several devices to check for appropriate permissions for public viewing. Scoresheet SF276

H-860-004 How to STEM (Science, Technology, Engineering and Math) Presentation

Youth design a fully automated 2 to 5 minute 4-H “how to” video. Submissions should incorporate a picture or video of the 4-Her, 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. State fair qualified entries should be submitted to https://go.unl.edu/2024nesfset by August 15th, 2024. Or entries can be uploaded to a cloud sharing service and exhibitors MUST provide a hard copy QR code for viewing. Exhibitors should test their codes or links on several devices to check for appropriate permissions for public viewing. Score Sheet SF276

H-860-005 Virtual Platform Presentation

Youth design a fully automated educational presentation using any multimedia platform such as Tik Tok, YouTube, Canva, Canvas etc. Submissions may include a notebook, poster, etc. explaining the process/experience, and or presentation. All submissions must include a link to the virtual presentation. State Fair qualified entries should be submitted to https://go.unl.edu/2024nesfset by August 10, 2024. Entries can also be uploaded to a cloud sharing service. 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 for public viewing. Scoresheet SF276

H-860-006 Create a Website/Blog or App

Design a simple web-site/ blog or app for providing information about a topic related to youth. Include an explanation of why the entry was created. (Any current website, blog or app development platform is accepted such as Google Sites, iBuildApp, Wix, etc. IF the website, blog or app isn't live, include all files on a flash drive in a plastic case. State Fair qualified entries should be submitted to https://go.unl.edu/2024nesfset by August 10th. 2024. Entries can be uploaded to a cloud sharing service. 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 for public viewing. Scoresheet SF275

H-860-007 3-D Printing

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

1. What was the motivation for your design or the problem you were solving with your design? ie. 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 a 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 3D pen)?
4. What materials were selected for your project?
5. If your final design has any moving parts, define how you determined appropriate allowance in your design.
6. Identify any changes that you would make to improve your design. Scoresheet SF1050

H-860-008 Maker Space/Digital Fabrication:

This project is a computer generated projected 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 an appropriate software used to create your finished project. Project should include a notebook with the following: a) What motivated you to create this project, b) Software and equipment used, c) Directions on how to create the project, d) Prototype of plans, e) Cost of creating project, f) Iterations or modifications made to original plans, and g) Changes you would make if you remade the project. Scoresheet SF1051

Team Entry Option: To qualify for entry at the Nebraska State Fair team materials entered in H860008 - Maker Space/Digital Fabrication must clearly be 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.

Division 880 – STEM Geospatial

STEM Geospacial 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.

RULES:

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 owner of the exhibit may be identified if the entry tag is separated from the exhibit.
2. Each individual is limited to one exhibit per class.
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: 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 copy written images.

Scoresheets, forms and additional resources can be found at http://go.unl.edu/ne4hgeo.

Youth enrolled in Geospatial or GEAR TECH 21 may exhibit in any class within this division.

H-880-001 Poster - Create a poster (not to exceed 14 x 22 inches) communicating a GPS theme such as How GPS or GIS works, Careers that use GPS or GIS, How to use GPS, What is GIS, GPS or GIS in Agriculture, Precision Agriculture, or a geospatial topic of interest. Scoresheet SF299

H-880-002 4-H Favorite Places or Historical Site Poster - 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 size should not exceed 14 x 22 inches. Scoresheet SF299

H-880-003 GPS Notebook - 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, a paragraph explaining what was interesting about the site or finding it. Photos of each site and/or cache are optional but encouraged. Scoresheet SF300

H-880-004 Geocache - Assemble a themed geocache (physical geocache is REQUIRED with exhibit). Each geocache should be a watertight container. It should include a logbook and pencil for finders to log their visits and may include small trinket, 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, include a printout of its registry. The entry may include a photograph of the cache in its intended hiding place. Scoresheet SF301

H-880-005 Agriculture Precision Mapping - 4-Hers 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 were applications can be purchased is acceptable) A report of how the analysis of the various data will be used to make a management decision. Scoresheet SF302

H-880-006 4-H History Map: Preserve 4-H History - Nominate a Point of Interest for the 4-H History Map Project. Include a copy of submitted form in folder or notebook. To nominate a site for the 4-H history map please go to http://arcg.is/1bvGovV. For more information about 4-H history go to http://4hhistorypreservation.com/History_Map/. For a step-by-step video on nominating a point, please go to this link: http://tinyurl.com/nominate4h. Write a brief description of historical significance of 4-H place or person. (a minimum of one paragraph) SF303

H-880-007 GIS Thematic Map - Using any GIS software, create a thematic map. Thematic maps can utilize any subject of interest to the 4-H'er. Example map would be Amelia Earhart's or Sir Francis Drake's voyage, population density maps, water usage maps or 4-H project in Nebraska. Create GIS Map using data from books, and or internet. Use reliable data, (U.S. Center or U.S. Census Bureau etc.) Map any size from 8½ x 11 inches up to 36 x 24 inches, should include Title, Base Map, Neat Line, North Arrow, and Legend. Identify the source of your information on the back of map. SF302

H-880-008 Virtual Geocache - 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, a paragraph explaining what was interesting about the site or finding it. Photos of each site and/or cache are optional, but highly encouraged. Scoresheet SF300

DEPARTMENT H – STEM ENERGY

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

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.

Division 900 – Energy

RULES:

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 owner of the exhibit may be identified if the entry tag is separated.
2. Each individual is limited to one exhibit per class.
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: 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. Posters can be any size up to 28 x 22 inches when ready for display. Example: tri-fold posterboards are not 28 x 22 inches when fully open for display.
5. Renewable Energy Resources:
   United States Department of Energy: https://www.energy.gov/clean-energy
   U.S. Energy Information Administration: https://www.eia.gov/energyexplained/renewable-sources/
   Natural Resources Defense Council: https://www.nrdc.org/stories/renewable-energy-clean-facts

H-900-001 Create and Compare Energy Resource Poster - Poster should explore 2 alternative/ renewable energy resources. Compare and contrast the 2 resources including two of the following information: amount of energy created, cost of production, usability of the energy, pros/cons of environmental impacts, etc. Posters can be any size up to 28 x 22 inches. Scoresheet SF307

H-900-002 Experiment Notebook - Notebook will explore the scientific method involving alternative/ renewable energy sources. Information required. 1.) Hypothesis 2.) Research 3.) Experiment 4.) Measure 5.) Report or Redefine Hypothesis. Scoresheet SF305

H-900-003 Solar as Energy Display/Poster - Item should be the original design of the 4-H'er. Include the item, or a picture if item is in excess of 6 feet tall or 2 x 2 feet. 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. Scoresheet SF308

H-900-004 Water as Energy Display/Poster - Item should be the original design of the 4-H'er. Include the item, or a picture if item is in excess of 6 feet tall or 2 x 2 feet. Include a notebook of why the item was designed and how it harnesses the power of water. Scoresheet SF308

H-900-005 Wind as Energy Display/Poster - Item should be the original design of the 4-H'er. Include the item, or a picture if item is in excess of 6 feet tall or 2 x 2 feet. Include a notebook of why the item was designed and how it harnesses the power of wind. Scoresheet SF308

H-900-006 Other Nebraska Alternative Energy - Notebook should explore Nebraska an 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, bio-diesel, methane reactors, etc. Scoresheet SF306

Scoresheets, forms and additional resources can be found at http://go.unl.edu/ne4hphysics-powerofwind.

DEPARTMENT H – MODEL BUILDING

Purple $2.50, Blue $2.50, Red $2.00, White $1.50

Division 865 – Model Building

Model Building classes are not eligible for State Fair.

Model Building general requirements.

Read and study the information contained in the project manual. Use this information as a guide in constructing your model. A completed model information sheet must be exhibited with the model available at the Extension Office and on the web site. ALL MODELS MUST BE MOUNTED ON A FIRM BOARD OF WOOD, HEAVY CARDBOARD, ETC. OR IN AN ACRYLIC CASE. The board should be no larger than 1 inch around the model, not to exceed 24 x 24 inches. Dioramas must be on a board no larger than 24 x 24 inches. Models may be exhibited only one year and must be completed in the current 4-H year. Models should be more complex in design than what was assembled in the previous year. NO metal models are acceptable for exhibit at the Dawson County