

## DIVISION 65 - WESTERN HORSEMANSHIP

- G065001. **HORSEMANSHIP - SENIOR** (15-18 years)
- G065002. **HORSEMANSHIP - INTERMEDIATE** (12-14 years)
- G065003. **HORSEMANSHIP - JUNIOR** (8-11 years)

## DIVISION 66 - REINING

- G066001. **REINING - SENIOR** (15-18 years)
- G066002. **REINING - INTERMEDIATE** (12-14 years)
- G066003. **REINING - JUNIOR** (8-11 years)

## DIVISION 67 - POLE BENDING

- G067001. **POLE BENDING - SENIOR** (15-18 years)
- G067002. **POLE BENDING - INTERMEDIATE** (12-14 years)
- G067003. **POLE BENDING - JUNIOR** (8-11 years)

## DIVISION 68 - BARREL RACING

- G068001. **BARREL RACING - SENIOR** (15-18 years)
- G068002. **BARREL RACING - INTERMEDIATE** (12-14 years)
- G068003. **BARREL RACING - JUNIOR** (8-11 years)

## DIVISION 69 - TRAIL

- G069001. **TRAIL CLASS - SENIOR** (15-18 years)
- G069002. **TRAIL CLASS - INTERMEDIATE** (12-14 years)
- G069003. **TRAIL CLASS - JUNIOR** (8-11 years)

## DIVISION 70 - WORKING RANCH HORSE

- G070001. **WORKING RANCH HORSE - Senior** (15-18 Years )
- G070002. **WORKING RANCH HORSE - Intermediate** (12-14 Years )
- G070003. **WORKING RANCH HORSE - Junior** (8-11 Years )
- G070004. **WORKING RANCH HORSE TEAM** - (8-18 Years) This is a two-person team. The two exhibitors will act as a team to navigate the course.

## DEPARTMENT - POULTRY

### POULTRY SHOW RULES

- **NUMBER OF ENTRIES PER EXHIBITOR** - Each 4-H and FFA member is limited to 4 individual entries.
- **BREEDS** - To be eligible for breed exhibition, cockerel, pullet, cock or hen chicken entries must be fair representatives of one of the breeds listed in the American Standard of Perfection.
- **PRODUCTION TRIO** - A pen of egg production birds can be hybrids, crossbred or purebred and shall consist of 3 sexually mature females. Egg production females will be judged for production qualities only and need not necessarily conform to breed standards.
- **RULES FOR BANTAM & OTHER POULTRY** - The rules for standard size chickens apply equally to bantams, waterfowl and turkeys where applicable.
- **ENTRIES MUST BE 4-H PROJECT BIRDS** - All poultry exhibited must be grown in a 4-H member's project.
- **DRESS CODE** - Exhibitors must be dressed at all times in official dress (See Dress Code) during the contest. Long pants are required. 4-Hers will be judged on the neatness of their appearance. This includes but is not limited to: shirt tucked in, appropriate size of clothing, tied shoelaces, etc. Individuals not meeting these requirements will be lowered one (1) ribbon placing in showmanship. For concerns, contact the superintendent in advance.
- **HEALTH REQUIREMENTS** - Health certificate not required for poultry. No additional testing requirements for Nebraska origin poultry.
- Please provide documentation of Nebraska origin of poultry.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

## DIVISION 71 - SHOWMANSHIP

- **BASIS FOR JUDGING** - Showmanship is based on grooming and training of the bird and the appearance and behavior of the exhibitor. The exhibitor must vocally explain the steps in their routine and the merit of the bird. Primarily showmanship is the skill of the exhibitor in presenting and explaining the bird before the judge. The excellence of the bird is not considered in scoring.
- The judge may or may not ask questions of the exhibitor at the close of the routine.

- Maximum length of showmanship presentations is four minutes. Exhibitors will be timed.
- Each exhibitor can show only in one division for each SPECIES of livestock. **An animal can be shown only once in a showmanship class.**

- G071001. **SENIOR SHOWMANSHIP** (12 & above before January 1 of the current calendar year)  
 G071002. **JUNIOR SHOWMANSHIP** (11 & under before January 1 of the current calendar year)

**DIVISION 72 - STANDARD SIZE CHICKENS**

- G072001. **COCKEREL**  
 G072002. **PULLET**  
 G072003. **COCK** (Over 1 Year)  
 G072004. **HEN** (Over 1 Year)  
 G072005. **TRIO**  
 G072006. **INDIVIDUAL BROILER**  
 G072007. **PEN OF BROILERS**  
 G072008. **PEN OF PULLETS**

**DIVISION 73 - BANTAMS**

- G073001. **COCKEREL**  
 G073002. **PULLET**  
 G073003. **COCK** (Over 1 Year)  
 G073004. **HEN** (Over 1 Year)  
 G073005. **TRIO**

**DIVISION 74 - DUCKS**

- G074001. **YOUNG DRAKE**  
 G074002. **YOUNG DUCK**  
 G074003. **OLD DRAKE** (Over 1 Year)  
 G074004. **OLD DUCK** (Over 1 Year)

**DIVISION 75 - GEESE**

- G075001. **YOUNG GANDER**  
 G075002. **YOUNG GOOSE**  
 G075003. **OLD GANDER** (Over 1 Year)  
 G075004. **OLD GOOSE** (Over 1 Year)

**DIVISION 76 - TURKEYS**

- G076001. **YOUNG TOM**  
 G076002. **YOUNG HEN**  
 G076003. **OLD TOM** (Over 1 Year)  
 G076004. **OLD HEN** (Over 1 Year)

**DIVISION 78 - POULTRY EMBRYOLOGY**

- G078001. **PICTURE STORY** (Individual)  
 G078002. **POSTER DRAWING** (Individual)  
 G078003. **DIARY** (Class or Club)  
 G078004. **SCHOOL DISPLAY** (Class or Club)  
 G078005. **TRIO OF CHICKS**

**DEPARTMENT - RABBIT**

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- ALL RABBITS GOING TO STATE FAIR must have been certified on official 4-H ownership affidavits by June 1. Rabbits used for showmanship must also be tattooed in either ear with an ID number or name.
- NUMBER OF ENTRIES PER EXHIBITOR - A 4-H member is limited to exhibiting four (4) rabbits.
- DRESS CODE - Exhibitors must be dressed at all times in official dress (See Dress Code—Page 6) during the contest. Long pants are required. 4-Hers will be judged on the neatness of their appearance. This includes but is not limited to: shirt tucked in, appropriate size of clothing, tied shoelaces, etc. Individuals not meeting these requirements will be lowered one (1) ribbon placing in showmanship. For concerns, contact the superintendent in advance.

## DIVISION 80 - RABBIT SHOWMANSHIP

- Information on rabbit showmanship is found in 4-H 339, Rabbits, Rabbits, Rabbits.
- Eligibility - Any 4-Her with a rabbit may enter the competition.
- The participant may use any rabbit they choose, so long as it was raised and trained by the 4-Her.
- Basis for judging - Showmanship is based on grooming and training of the rabbit and the appearance and behavior of the exhibitor. The exhibitor must vocally explain the steps in their routine and the merit of the rabbit. Primarily showmanship is the skill of the exhibitor in presenting and explaining the rabbit before the judge. The excellence of the rabbit is not considered in scoring.
- The judge may or may not ask questions of the exhibitor at the close of the routine.
- Each exhibitor can show only in one division for each SPECIES of livestock. **An animal can be shown only once in a showmanship class.**

G080007. **SENIOR SHOWMANSHIP** (12 & above before January 1 of the current calendar year)

G080008. **JUNIOR SHOWMANSHIP** (11 & under before January 1 of the current calendar year)

## DIVISION 81 - MARKET

G081004. **SMALL FRYER** – under 4 lbs.

G081005. **LARGE FRYER** – over 4 lbs.; 5 ½ maximum

G081006. **ROASTER** - over 5 ½ lbs.

G081007. **WIRE CAGE EXHIBIT** (one made by owner)

## DIVISION 82 - FANCY

Dutch

Holland Lop

Mini Lop

Mini Rex

Netherland Dwarf

Rex

G082002. **JR. DOE**, (under 6 months)

G082003. **INT. DOE**, (6, 7, & 8 months)

G082004. **SR. DOE**, (over 8 months)

G082005. **JR. BUCK**, (under 6 months)

G082006. **INT. BUCK**, (6, 7, & 8 months)

G082007. **SR. BUCK**, (over 8 months)

## DIVISION 83 - COMMERCIAL

California

English Lop

French Lop

New Zealand

Satin

G083002. **JR. DOE**, (under 6 months)

G083003. **INT. DOE**, (6, 7, & 8 months)

G083004. **SR. DOE**, (over 8 months)

G083005. **JR. BUCK**, (under 6 months)

G083006. **INT. BUCK**, (6, 7, & 8 months)

G083007. **SR. BUCK**, (over 8 months)

## DIVISION 84 - PET DIVISION

G084002. **JR. DOE**, (under 6 months)

G084003. **INT. DOE**, (6, 7, & 8 months)

G084004. **SR. DOE**, (over 8 months)

G084005. **JR. BUCK**, (under 6 months)

G084006. **INT. BUCK**, (6, 7, & 8 months)

G084007. **SR. BUCK**, (over 8 months)

## DEPARTMENT - CATS

### DIVISION 690 - CATS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- Only one entry per class number. Exhibitors are automatically entered in Showmanship. Kittens must be at least 4 (four) months old in order to be eligible to be shown.
- SHOWMANSHIP - Each exhibitor will be asked to give a short “showmanship” presentation on their animal. The characteristics, health, and care of the animal should be provided in this presentation. Following the presentation, exhibitors will be interviewed on knowledge of their animal and its care.
- The judge will evaluate the participant on the following basis: animal health and well being—35 points, cage evaluation (appropriateness of travel housing as well as description of everyday housing)—25 points, and overall knowledge and presentation skills—40 points.

- Each exhibitor can show only in one division for each SPECIES of livestock. **An animal can be shown only once in a showmanship class.**

G690011. **SENIOR SHOWMANSHIP** (12 & above before January 1 of the current calendar year)

G690012. **JUNIOR SHOWMANSHIP** (11 & under before January 1 of the current calendar year)

## CAT SHOW RULES

- Eligibility: To be eligible to show, the exhibitor must be currently enrolled in the 4-H Cat Project. Kittens under 4 (four) months of age will not be accepted. If the judge decides to judge the cat in the cage, no points will be lost by the cat; however, the cat will not be eligible for a top cat award and the showman will lose five points in the showmanship award.
- Health: **Cats should be free of fleas, ticks, ear mites, ringworms, any internal and external parasite and infectious diseases.** Cats are required to be current on their vaccinations of rabies, distemper, panleucopenia, rhino tracheitis, and calici virus. Cats must either have a current feline leukemia vaccination or proof of a negative test within 180 days of the show. Exhibitors need to provide vaccination forms at the County Fair Cat Show.
- State Fair—Proof of vaccinations must be sent in with registration. Participants should have their veterinarian fill out and sign the “Nebraska State Fair Cat Vaccination Record Form”.
- 4-Hers vaccinating their own cats must provide proof by including a statement from their vet on the Vaccination Record Form or by including the vaccination labels on the form and having it signed by a parent. A rabies vaccination is federally mandated to be given by a Certified Veterinarian ONLY. This vaccination must be current and include a veterinarian signature on the Vaccination Record Form.
- If the cat is not declawed, the claws must be clipped. This will be a point of judging during the competition. No expectant or nursing mother cats may be entered.
- Dress Code - Exhibitors must be dressed at all times in official dress (See Dress Code—Page 6) during the contest. Long pants are required. While hard soled shoes are not required, exhibitors are required to wear closed toed shoes. No flip flops or sandals are allowed. 4-Hers will be judged on the neatness of their appearance. This includes but is not limited to: shirt tucked in, appropriate size of clothing, tied shoelaces, etc. Individuals not meeting these requirements will be lowered one (1) ribbon placing in showmanship. For concerns, contact the superintendent in advance.
- **All cats must be shown on a leash** and be on a leash at any time they are removed from the carrier/cage.
- Kittens are between the ages of four to eight months. Kittens under four months are considered too young to show and those over eight months are considered fully-grown and are judged as cats.
- Transporting cats in carriers is encouraged.

G690002. **LONG-HAIRED KITTENS**

G690003. **SHORT-HAIRED KITTENS**

G690004. **LONG-HAIRED CATS**

G690005. **SHORT-HAIRED CATS**

G690006. **CAT SCRAPBOOK** (to be entered on Thursday, July 5)

G690007. **CAT POSTER** (to be entered on Thursday, July 5)

## DEPARTMENT - DOGS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- PROCEDURE - Those procedures described in "Nebraska 4-H Dog Show Guidelines" 4-H 420. **It is the dog exhibitor's responsibility to pick up after their dogs at all times.**
- DOG ELIGIBILITY: Exhibitor should provide primary care and training for the dog. The dog should reside with the exhibitor or be cared for by the exhibitor the majority of the year.
- VACCINATION - All dogs must be immunized for distemper, hepatitis, parvo and rabies. Please have your vaccination record form with you at the Boone County Fair Dog Show. The Nebraska State Fair Dog Show Vaccination Record Form (SF 263) must be filled out and signed by a veterinarian and returned as part of the **Advanced Entry. The Nebraska State Fair Show Vaccination Record Form (SF 263) must document all vaccinations within 1 year or 3 years depending on the vaccine given. All required vaccinations must be given within 1 to 3 years of the show date based on label guidelines.** All vaccinations must be in effect at the time of the State Fair Dog Show. Explanation: Some vaccinations are viable for one year and some vaccinations are viable for three years but are specifically designed and administered according to their label. It is not acceptable nor allowed to vaccinate a dog with a 1 year vaccine and plan to have it in effect for 3 years.
- NUMBER OF ENTRIES PER EXHIBITOR - An exhibitor may make no more than two entries in obedience or showmanship classes. For example, an exhibitor may make two entries in obedience, or one entry in obedience and one entry in showmanship. A dog can be entered in only one obedience class. A 4-H member can be entered in only one showmanship class. Exhibitors may also enter one agility class for a total of three entries in the dog show. For State Fair: Youth may enter one showmanship class, two agility classes (using different dogs and in different level of classes), and two obedience classes (using different dogs and in different level of classes).

- **ADVANCEMENT IN OBEDIENCE AND AGILITY CLASSES** - Follow rules in Nebraska 4-H Dog Show Guidelines 4-H 420: <http://go.unl.edu/4h420>. A youth will move up to a 'transition year', after they receive 2 purples in a specific class at county or state level competition. Youth will finish their 4-H year at the same level if the second purple ribbon occurs in the middle of their 4-H year. Youth do not have to move up in the middle of a 4-H year. Youth will then have the option to stay in their current class for one additional year (after receiving 2 purple ribbons) called the 'transition year'. During the transition year, youth will practice the more advanced class (gaining skills such as off leash work) but may compete in their same level. Youth may advance up to the next level more quickly with advice/ assistance from a leader and parent to help evaluate skill and readiness of youth and dog. This may especially occur if the youth has had previous dog handling experiences.
- **ADVANCEMENT IN SHOWMANSHIP CLASSES** - Classes are divided into age divisions. All 4-H dog exhibitors must show their own animals to be considered as participants in the Showmanship Contest. Showman will be allowed to compete in a division each year based on their age or until they win that particular age group. Winners must advance to the next age group.
- **DISQUALIFIED DOGS** - Females in season will not be permitted to be shown. Overly aggressive dogs may be disqualified at the discretion of the judge or superintendent. Lamé or crippled dogs will not be permitted to show if it is determined by a show superintendent that it is affecting the health of the dog.
- **AGE OF DOG** - A dog that is exhibited must be 6 months or older. Agility dogs must be 18 months or older to participate in competition.
- Non-entered dogs and puppies are not allowed in the grooming area, ring waiting area, or on the arena floor.
- **DRESS CODE** - Exhibitors must be dressed at all times in official dress (See Dress Code—Page 6) during the contest. Long pants are required. 4-Hers will be judged on the neatness of their appearance. This includes but is not limited to: shirt tucked in, appropriate size of clothing, tied shoelaces, etc. Individuals not meeting these requirements will be lowered one (1) ribbon placing in showmanship. For concerns, contact the superintendent in advance. Solid blue jeans are required. No headgear is worn in the show ring. Exhibitors shall not display local, county, commercial or other identification while showing. Closed toed shoes with a non-slip sole are required. No flip flops or sandals are allowed.
- **BAITING** - Baiting with food or a toy is not permitted and is cause for disqualification. Handlers may use baiting action without food or toys. The judge has the authority to disqualify violators.
- **EXHIBITOR RESPONSIBILITY- CLEANUP** shall be the **exhibitor's responsibility**. This includes all areas while on the fairgrounds. Dogs should use the designated dog run area, which must also be cleaned by the exhibitor.
- **GROOMING** - Only exhibitors are allowed to groom or work dogs at the show, both in and out of the ring.
- **SUBSTITUTIONS** - A dog may be substituted for showmanship classes only if it is injured or dies following the entry deadline. Substitutions are generally not allowed in obedience and agility classes however, substitutions may be considered at the discretion of the fair superintendents. A substitute can be selected from the exhibitor's household family or from the household where the originally entered dog resides. Dog(s) may be substituted only if a superintendent is directly consulted prior to the show date. A Nebraska State Fair Dog Show Vaccination Form (SF 263) must be completed for all substitution dogs and received by the superintendent prior to the show date.

#### **DIVISION 700 - SHOWMANSHIP**

- Each class will be judged on handler's appearance (10%), grooming and conditioning of dog (20%), coordination of the dog and handler (50%), and general knowledge (20%). Classes are divided into age divisions.
- Each exhibitor can show only in one division for each SPECIES of livestock. **An animal can be shown only once in a showmanship class.**

- G700010. **JUNIOR SHOWMANSHIP** - (8-9 Years Old)  
 G700020. **INTERMEDIATE SHOWMANSHIP** - (10-13 Years Old)  
 G700030. **SENIOR SHOWMANSHIP** - (14-18 Years Old)

#### **DIVISION 701 - OBEDIENCE**

- **OBEDIENCE CLASSES**—Follow rules in Nebraska 4-H Dog Show Guidelines 4-H 420 to determine class entry.
  - **BEGINNING NOVICE** - All exercises must be performed on a six-foot leash. Dogs must heel including figure 8; stand for examination; come on recall; long sit for one minute and long down for three minutes.
- G701010. **BEGINNING NOVICE DIVISION A** - Exhibitor and dog is in first year of competition (started Dog Project after October 1, 2015).
- G701020. **BEGINNING NOVICE DIVISION B** - Exhibitor or dog is beyond first year of competition.
- G701030. **NOVICE** - Dog must heel on leash including figure 8, stand for examination off leash, heel free, come on recall off leash, long sit for one minute off leash, and long down for three minutes off leash.
- G701040. **GRADUATE NOVICE** - Dogs must heel on leash, stand for examination off leash, heel free including figure 8, drop on recall, long sit for three minutes, and long down for five minutes both with handler out of sight.
- G701045. **ADVANCED GRADUATE NOVICE** - Heel on leash and figure 8 (off leash), drop on recall, dumbbell recall, recall over high jump, recall over broad jump, and long down.

- G701050. **OPEN** - All exercises off leash. Heel free and figure 8, drop on recall, retrieve on flat, retrieve over high jump, broad jump, long sit for three minutes, and long down for five minutes, both with handler out of sight. Refer to Nebraska 4-H Dog Show Guidelines 4-H 420 for jump heights/distances.
- G701055. **GRADUATE OPEN** - Signal exercise, scent discrimination, directed retrieve, moving stand and examination, go out, and directed jumping.
- G701060. **UTILITY** - The dog will perform five exercises: the signal exercise; the scent discrimination exercise with leather and metal objects; the directed retrieve; moving stand and examination; directed jumping. Exhibitors must supply their own scent articles and gloves for the directed retrieve.

### DIVISION 702 - AGILITY

PREMIUMS: Purple-\$5.00; Blue-\$3.00; Red-\$2.00; White-\$1.00

- PROCEDURE—Agility will follow those procedures and classes described in “Nebraska 4-H Dog Show Guidelines” 4-H 420 <http://go.unl.edu4h420>. Refer to “Nebraska 4-H Dog Show Guidelines” 4-H 420 <http://go.unl.edu4h420> to determine class entry. With heights of all agility dogs must be included with advanced entries.
    - ◆ Level 1 & 2 Agility classes are run on leash.
    - ◆ Level 3, 4, and 5 are all run off leash
    - ◆ One of each obstacle noted in each level are mandatory and duplicate obstacles will be added to make up quantities of obstacles in each level.
    - ◆ Obstacle equipment needing repair or deemed unsafe by judge will be excluded from the competition.
    - ◆ Judge determines the arrangements of the obstacles on the course.
    - ◆ Obstacles in course should be numbered to note the obstacle order for the course. Course maps will be made available and posted at time of show registration in designated area(s).
    - ◆ Level 5 - youth can use additional equipment for competition that they have access to and can use in practice.
    - ◆ Obstacles that are used for agility competition events may be included from (AKC, CPE, USDA, NADAC, UKC, etc.)
  - Agility Jump Heights - measure dogs at withers to determine jump height:
    - Dogs 11 inches or less - 4 inches
    - Dogs over 11 inches up to and including 14 inches - 8 inches
    - Dogs over 14 inches up to and including 18 inches - 12 inches
    - Dogs over 18 inches - 16 inches
- G702010. **LEVEL 1** - 6 obstacles - 3 bar jumps which have two bars each, short dog walk, pause box or table, and tunnel (open).
- G702020. **LEVEL 2** - 10 obstacles—several bar jumps which have two bars each, short dog walk, pause box or table, tunnel (open), and solid panel jump.
- G702030. **LEVEL 3** - 10 obstacles - same obstacles as Level 2 but dogs run off leash for Level 3.
- G702040. **LEVEL 4** - 13 obstacles - bar jump which has one bar each, bar jump which has two bars each, tall dog walk, pause box or table, tunnel (open), solid panel jump, teeter totter (seesaw), and weave poles (single set with 6 poles).
- G702050. **LEVEL 5** - 15-20 of any of the following obstacles such as: bar jump which has one bar each, bar jump which has two bars each, tall dog walk, pause box or table, tunnel (open), solid panel jump, A-frame short, A-frame tall, teeter totter (seesaw), weave poles (single set with 6 poles), weave poles (double set with 12 poles), broad jump, dump jump, triple bar jump, swing bridge, etc. Number of obstacles used for a course will depend on ring size and available equipment at show site. Course layout may include more advanced handling techniques.

## DEPARTMENT - COMPANION ANIMALS

### DIVISION 95 - COMPANION PETS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- Not more than four small pets may be entered by any one exhibitor. Only standard breeds of gerbils, hamsters, and guinea pigs in healthy condition may be shown. Exhibitors must provide their own equipment. Judging will include:
  - ◆ Overall health and appearance of the animal.
  - ◆ The exhibitor’s presentation and knowledge of the animal.
- All animals should be brought in appropriate housing either their normal cage or a durable plastic or wire travel cage (not cardboard). Cages must be secure. Exhibitors should provide water and food for all animals as appropriate.
- Exhibitor is responsible for the safety and care of the pet during the time it is on the fairgrounds. All exhibits must be removed one hour after judging is completed.
- All animals should be free of fleas, ticks, ear mites, ringworm, any internal and external parasite and infectious disease. If an animal shows the possibility of being contagious, it will be considered a danger to the other animals in the show and will not be allowed to show. PLEASE, no exhibits with very young babies.

- Dress Code - Exhibitors must be dressed at all times in official dress (See Dress Code—Page 6) during the contest. Long pants are required. While hard soled shoes are not required, exhibitors are required to wear closed toed shoes with non-slip soles. No hats, caps or other types of headgear are to be worn in the show ring. 4-Hers will be judged on the neatness of their appearance. This includes but is not limited to: shirt tucked in, appropriate size of clothing, tied shoelaces, etc. Individuals not meeting these requirements will be lowered one (1) ribbon placing in showmanship. For concerns, contact the superintendent in advance.
- Age of Animals - All animals must be weaned prior to show. Minimum age of animals to be shown: Ferrets: 4 months; Chinchillas: 7 weeks; Guinea pigs: 4 weeks; Gerbils, Hamsters, Mice, Rats: 4 weeks; and Hedgehogs: 5 weeks.

- G095001. **FERRET**
- G095002. **CHINCHILLA**
- G095003. **GUINEA PIG**
- G095004. **GERBIL**
- G095005. **HAMSTER**
- G095006. **MOUSE**
- G095007. **RAT**
- G095008. **HEDGEHOG**
- G095009. **MISCELLANEOUS PET**
- G095010.\* **POSTER**

- ◆ Poster division can include entries covering any companion animal (including reptiles, companion birds, or others). (**To be entered on Thursday, July 5**)
- ◆ Poster should be the size of one full standard poster (should not exceed 22" x 28") board.
- ◆ Exhibitors should make a poster with information on the proper care of a companion animal (may include companion animals not exhibited in the Companion Animal Show). However, posters should not cover an animal the exhibitor is showing in the Companion Animal Show in another class.
- ◆ State Fair: Exhibitors must be present at time of judging and will be judged on quality of the poster, accuracy of information provided, and the ability of the exhibitor to explain the information and answer judge's questions

## SCIENCE, ENGINEERING & TECHNOLOGY

### GENERAL INFORMATION

- 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.
- Each individual is limited to one exhibit per class.
- Several classes require a display board, which should be a height of 24" and not to exceed 1/4" in thickness. A height of 23 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 3/4" of the top or bottom of the board. (Example: Woodworking & Electricity.)
- Fabricated board such as plywood, composition board, or particle-type lumber may be used for demonstration displays.
- Demonstration boards should be sanded and finished to improve their appearance. The finish on a demonstration board will be judged as a woodworking exhibit.
- Demonstration boards should include an overall title for the display, plus other necessary labeling.
- All 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. or typed and enclosed in a clear, plastic cover. The reports should be attached securely to the display. 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 - SCIENCE ENGINEERING TECHNOLOGY (SET) CAREERS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

#### DIVISION 930 - SET CAREERS

- H930001.\* **CAREERS INTERVIEW** - Interview someone who is working in any field associated with science, engineering, and technology and research that career (i.e. computer programmer, architect, engineer, pilot, etc.). Interviews can either be written or in a multimedia format (CD/DVD). Written interviews should be in a notebook. Written reports should be 3 to 5 pages, double spaced, 12-point font, and 1" margins. Multimedia reports should be between 3 to 5 minutes in length.

## DEPARTMENT - MODEL BUILDING

- A limit of (2) two entries. One (1) per entry number.
- Assembly instructions and any other records need to accompany the entry.
- Junior Division (under 12 years of age before January 1 of the current calendar year).
- Senior Division (ages 12 and above before January 1 of the current calendar year).

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 766 - MODEL BUILDING

- H766001. **SELF DESIGN MODELS UTILIZING PREFORMED BUILDING MATERIALS** (Legos, etc.) - Junior Division
- H766002. **SELF DESIGN MODELS UTILIZING PREFORMED BUILDING MATERIALS** (Legos, etc.) - Senior Division
- H766003. **MODELS MADE WITH PLASTIC SNAP KITS** - Junior Division
- H766004. **MODELS MADE WITH PLASTIC SNAP KITS** - Senior Division
- H766005. **MODELS FROM PLASTIC GLUE KITS** - Junior Division
- H766006. **MODELS FROM PLASTIC GLUE KITS** - Senior Division
- H766007. **MODELS FROM ALL WOOD KITS** - Junior Division
- H766008. **MODELS FROM ALL WOOD KITS** - Senior Division
- H766009. **MODELS FROM A PATTERN, NO KIT MATERIAL** - Junior Division
- H766010. **MODELS FROM A PATTERN, NO KIT MATERIAL** - Senior Division
- H766011. **MODELS FROM EXHIBITORS SELF DESIGNED, NO PRE-MADE PATTERN OR KIT** - Junior Division
- H766012. **MODELS FROM EXHIBITORS SELF DESIGNED, NO PRE-MADE PATTERN OR KIT** - Senior Division
- H766013. **MODELS IN A 12" X 18" BOX DIORAMA, SCENE CONNECTED WITH MAIN MODEL THEME** (i.e. army tank-battle field; car-race track; plane-run way, airport) - Junior Division
- H766014. **MODELS IN A 12" X 18" BOX DIORAMA, SCENE CONNECTED WITH MAIN MODEL THEME** (i.e. army tank-battle field; car-race track; plane-run way, airport) - Senior Division
- H766015. **SELF PROPELLED OR REMOTE MODELS** - Junior Division
- H766016. **SELF PROPELLED OR REMOTE MODELS** - Senior Division

## DEPARTMENT - ENTOMOLOGY

### GENERAL INFORMATION

- Specimens in display should be mounted properly and labeled with location, date of collection, name of collector, and order name. Follow mounting and labeling instructions in the Nebraska 4-H Entomology Manual.
- Purchased insects and other insects not collected by the participant can be included, but must have accurate labels and will not be counted in meeting minimum requirements for the exhibit.
- 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 must be from the collector.
- All exhibits must have received a purple ribbon at the county fair to advance to the State Fair. Exhibitors may, and should, correct and update collections for competition at the State Fair.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 800 - ENTOMOLOGY

- H800001.\* **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.
- H800002.\* **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. About 25 new species should be present from after July 1 of the previous year. Limit 2 boxes.
- H800003.\* **ENTOMOLOGY DISPLAY - THIRD OR MORE YEAR PROJECT** – Collection to consist of minimum of 75 kinds (species) of insects representing at least 10 orders. Replace damaged or poorly mounted specimens. About 25 species should be present from after July 1 of the previous year. Limit of 3 boxes.
- H800004.\* **SPECIAL INTEREST 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 Class I-III 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.).

- H800005.\* **INSECT HABITATS** - Habitats consist of any hand-crafted objects, made of natural or artificial materials, 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.
- H800006.\* **MACROPHOTOGRAPHY** - Subjects should be insects, spiders or other arthropods, or any nests, webs or constructions they make. All exhibit prints should be 8 1/2" x 11" and mounted on rigid, black 11" x 14" poster or matt board. Either orientation is acceptable. No frames or mat boards are allowed. A short caption of a few sentences should explain the subject and be printed on white paper, should be glued below the print on the poster board.
- H800007.\* **INSECT POSTER/DISPLAY EXHIBIT** - 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 (ex. nesting, finding food, mobility, defenses, etc.); habitats (ex. 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" area.
- H800008.\* **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 of butterflies over the summer, rearing a specific insect from egg to adult, managing a bee hive, observations of insects in a specific habitat, account of insect behavior in a forest or flower garden, etc.

## DEPARTMENT - VETERINARY SCIENCE

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- The purpose of the Veterinary Science exhibit is to inform the public about a common health problem of animals or a veterinary science principle. Do not confuse veterinary science exhibit topics with animal husbandry or production topics.
- **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 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 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, **NO ANIMAL FIRST AID KITS WILL BE PERMITTED.** Animal first aid kits submitted will be immediately disqualified and not shown.
- **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 & 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.

## DIVISION 840 - VETERINARY SCIENCE

H840001.\* **4-H VETERINARY SCIENCE LARGE ANIMAL POSTER, NOTEBOOK OR DISPLAY**

H840002.\* **4-H VETERINARY SCIENCE SMALL ANIMAL/PET POSTER, NOTEBOOK OR DISPLAY**

### DEPARTMENT - AEROSPACE/ROCKETS

- 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.
- 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 3/4" 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.
- 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 rockets engine mount to give added stability.
- 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 lowered a ribbon placing.
- A report, protected in a clear plastic cover, must include:
  - 1) rocket specification (include original or photo of manufacture 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
  - 7) conclusions

The flight record should describe 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.
- 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 score sheets. For scoring at the State Fair, only actual launches count, misfires will not count towards one of the required 3 launches.
- For self-designed rockets only, please include digital recorded copy of one flight. In the documentation, please include a description of stability testing before the rocket was flown.
- 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.
- High power rockets (HPR) is 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.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

## DIVISION 850 - AEROSPACE/ROCKETS

### LIFT OFF – UNIT 2

H850001.\* **ROCKET** – Any Skill Level 2 Rocket with wooden fins painted by hand or air brush.

H850002.\* **DISPLAY** – Display exemplifying one of the principles learned in the Lift Off project. Examples include: display of rocket parts and purpose, interview of someone in the aerospace field, or kite terminology. Include notebook containing terminology (definition), and what was learned. Display can be any size up to 28" x 22".

H850003.\* **ROCKET** – Any Skill Level 2 Rocket with wooden fins painted using commercial application; example: commercial spray paint.

### REACHING NEW HEIGHTS – UNIT 3

H850004.\* **ROCKET** – Any Skill Level 3 Rocket with wooden fins painted by hand or air brush.

- H850005.\* **DISPLAY** – Display exemplifying one of the principles learned in the Reaching New Heights project. Examples include: airplane instrumentation, kite flying, or radio-controlled planes. Display can be any size up to 28” by 22”. Include notebook containing terminology (definition), and what was learned.
- H850006.\* **ROCKET** – Any Skill Level 3 Rocket with wooden fins painted using commercial application; example: commercial spray paint.

#### PILOT IN COMMAND – UNIT 4

- H850007.\* **ROCKET** – Any Skill Level 4 Rocket with wooden fins or any self-designed rocket.
- H850008.\* **DISPLAY** – Display exemplifying one of the principles learned in the Pilot in Command Project. Examples include: flying lessons or careers in aerospace. Display can be any size up to 28” x 22”. Include notebook containing terminology (definition), and what was learned.

#### UNITS 2, 3 OR 4

- H850009. **ROCKET** – Any skill level rocket with plastic fins. \*\* NOT ELIGIBLE FOR STATE FAIR \*\*

### DEPARTMENT - COMPUTERS

#### DIVISION 859 - COMPUTERS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

#### BOOTING UP – UNIT I

- H859001. **POSTER** – Create a poster on a lesson learned in Unit I. Examples might include: hardware, software programs, how to take care of a computer and operating systems.

#### DIVISION 860 - COMPUTERS

#### COMPUTER MYSTERIES – UNIT II

- H860001.\* **COMPUTER APPLICATION POSTER** - Exhibit designed to educate yourself and others on the use of computer application/program or techniques of internet/social media safety. Examples of the computer application/program could include but are not limited to: how to download digital photos from a camera and create a useable way of storing and accessing them in the future; details of how to use instant messaging programs like Skype; or how to create a social networking page (ex. “Facebook,” “SnapChat,” “Instagram,” “Twitter,” “FaceTime,” etc.). Examples of internet/social media safety include but not limited to identity theft, predator safety, internet etiquette, social networking pages precautions, etc. Posters can be any size up to 28” x 22”.
- H860002.\* **PRODUCE A COMPUTER SLIDESHOW PRESENTATION** - Using Presentation Software - Slideshow should include a minimum of 10 slides and no more than 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 presenter. File must be saved in a PC compatible format on a CD Rom. Include a printout. State Fair entries: all slide shows for state fair should be emailed to Amy Timmerman (atimmerman2@unl.edu) before August 15 with county name and last name of participant before emailing.

#### COMPUTER MYSTERIES – UNIT III

- H860004.\* **PRODUCE AN AUDIO/VIDEO MULTIMEDIA COMPUTER PRESENTATION** - Using presentation software, a 4-H exhibitor designs a multimedia computer presentation on one topic related to youth. 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. The presentation must be able to be played and viewed on a PC using Windows Media Player, Real Player, iTunes or QuickTime Player.
- H860005.\* **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 (before January 1 of the current year), years in 4-H, and their personal interests or hobbies. Videos should be designed for web viewing. Any of the following formats will be accepted: .mpeg, .rm, .wmv, .mp4, .ov, .ppt, or .avi.
- H860006.\* **CREATE A WEB SITE/BLOG OR APP** - Design a simple Web site/blog or app for providing information about a topic related to youth 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 Web site, Blog, or App isn't live, include all files comprising the Web site, Blog, or App should be submitted on a CD-ROM in a plastic case along with the explanation of why the site was created. If developed using a WIKI or other online tool, include a link to the website in the explanation of why the site was created.

- H860007.\* **3D PRINTING UNIQUE ITEMS** - 3D printing uses plastic or other materials to build a 3 dimensional object from a digital design. Youth may use original designs or someone else's they have re-designed in a unique way. Exhibits will be judged based on the complexity of the design and shape.
- 3D UNIQUE OBJECT: 3D objects printed for their own sake. May be an art design, tool, or other object.
  - 3D printing will include a notebook with the following:
    - a. Software used to create 3D design.
    - b. Design or, if using a re-design, the original design and the youth's design with changes.
    - c. Orientation on how the object was printed.
- H860008.\* **3D PRINTING PROTOTYPES** - 3D printing uses plastic or other materials to build a 3 dimensional object from a digital design. Youth may use original designs or someone else's they have re-designed in a unique way. Exhibits will be judged based on the complexity of the design and shape.
- 3D objects printed as part of the design process for robot or other engineering project or cookie cutter; be creative. Must include statement of what design question the prototype was supposed to answer and what was learned from the prototype.
  - 3D printing will include a notebook with the following:
    - a. Software used to create 3D design.
    - b. Design or, if using a re-design, the original design and the youth's design with changes.
    - c. Orientation on how the object was printed
- H860009.\* **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 will 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 used - an explanation of how the creation was built
  - c. Must include 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

### COMPUTER MYSTERIES I, II & III

- H860010. **COMPUTER DESIGNED GREETING CARDS** - Exhibit will consist of six (6) greeting cards, each for a different occasion/holiday. Exhibit should be created on an 8 1/2" x 11" page using a commercially available graphics program and either single color or color printer/plotter. The cards should vary in folds and design. Tell which software program was used. Prefabricated cards from commercially available card programs will NOT be accepted. No theme required. Put cards in some type of protective cover.
- H860011. **4-H PROMOTIONAL FLIER** - Exhibit should be created on 8 1/2" x 11" page using a commercially available graphics software package. Flier can be color or black and white. Fliers can be a whole page or a folded flier.

## DEPARTMENT - ROBOTICS

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 861 - ROBOTICS

- ◆ Youth enrolled in Virtual Robotics, Junk Drawer Robotics (Levels 1, 2, or 3) Robotics Platforms or GEAR TECH 21 may exhibit in any class within this division.
  - ◆ 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.
  - ◆ 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.
- H861001.\* **ROBOTICS POSTER** – Create a poster (14" x 22") communicating a robotics theme such as "Junk Drawer Robotics Level 3 & 4", "Robotics Engineering," "Robot or Not", "Pseudocode", "Real World Robots", "Careers in Robots" or "Autonomous Robotics", "Precision Agriculture", or a robotic topic of interest to the 4-H'er.
- H861002.\* **ROBOTICS NOTEBOOK** - Explore a robotics topic 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, a programming skill, calibration, sensor exploration, or any of the topics suggested in Class 1 or junk drawer robotics level 3 and 4.
- H861003.\* **ROBOTICS VIDEO** - This class should be displayed in a notebook. The notebook should include a video clip on a CD/DVD that demonstrates the robot performing the programmed function. Include your pseudo code and screenshots of the actual code with a written description of the icon/command functions. All videos for state fair should be emailed to Amy Timmerman: atimmerman2@unl.edu before August 15. Files must be saved in a PC compatible format with county name and last name of participant before emailing.

- H861004.\* **ROBOTICS/CAREERS INTERVIEW** - 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 to 5 pages, double spaced, 12 point font, and 1" margins. Multimedia reports should be between 3 to 5 minutes in length.
- H861005.\* **ROBOTICS SENSOR NOTEBOOK** – Write pseudo code with a loop which includes at least one sensor activity. Include the code written and explain the code function.
- H861006.\* **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 robot is more than 15" wide and 20" tall, they may not be displayed in locked cases. We recommend that you submit the project under class H861003—Robotics Video. Junk Drawer Robotics do not qualify.
- H861007.\* **KIT LABELED ROBOT** (Cannot be programmed) - 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 project the youth has constructed, a description of what it does and an explanation of how it is similar to and different from a robot. If robot is more than 15" wide and 20" tall, they may not be displayed in locked cases. We recommend that you submit the project under class H861003—Robotics Video.
- H861008. **3D/NON-MOBILE ROBOT** - Construct out of items found around the home. Provide a short description of your robot, including steps you took to construct the robot and items used.
- H861009. **ROBOT/STEM ART** - The purpose of this class is to allow artistic exhibits that contain a science and technology theme. This class can use any form of medium. Examples might include paintings, drawings, photographs, or songs or poems written by the exhibitor. Entries must be appropriate for fair display and no larger than 24" x 24". For example: paintings 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 is the exhibit meant to show).
- H861010. **LEGO INITIAL** - Construct the first letter of your first or last name out of Legos. Entries must not reach over 12" in height and 18" in width. Can be two or three dimensional. If two dimensional, make sure the letter is securely fastened to a poster or wood board. If 3D, please place initial on a sturdy surface and make sure it is able to stand on its own. Include a brief explanation of the exhibit.
- H861011. **OTHER/CATCH ALL** - Other robotics exhibit that does not fit into any other class.
- H861012. **FIRST LEGO LEAGUE ~ ANIMAL ALLIES EXHIBIT** - Any exhibit that showcases member participation in the 2017-2018 Animal Allies Season. Exhibit examples: poster board, scrapbook, brochure, etc.

## DEPARTMENT - ELECTRICITY

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 871 – ELECTRICITY I

#### MAGIC OF ELECTRICITY UNIT I

- H871001. **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 please.
- H871002. **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.
- H871003. **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.
- H871004. **IS THERE A FORK IN THE ROAD** – Use the following items to construct one parallel and one series circuit. Items: D cell battery, battery holder, insulated wire, bulb holder, and a 2 or 2.5 volt light bulb.

### DIVISION 872 – ELECTRICITY II

#### INVESTIGATING ELECTRICITY UNIT II

- H872001. **CASE OF THE SWITCHING CIRCUIT** – Use the following items: two D cell batteries, two battery holders, light bulb, bulb holder, a 3" by 6" piece of cardboard, six brass paper fasteners and approximately two feet of 24 gauge insulated wire to build a three way switch. Write a short essay or create a poster that illustrates how three way switches function.

- H872002. **ROCKET LAUNCHER** – Construct a rocket launcher out of the following materials: a plastic pencil box that is at least 4” by 8”, single pole switch, single throw switch, normally-open push button switch, 40 feet of 18 or 22 gauge stranded wire, 4 alligator clips, 2- by 6- board 6” long, 1/8 inch 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 inch and ¼ inch drill bits, rocket engine igniters, additional drill bits matched to holes for two switches. You must successfully build a rocket launcher and light two rocket igniters with your launcher. You DO NOT have to actually fire a rocket off of the launcher. Create a poster using photographs to show the “step by step process” you used to build your launcher.
- H872003. **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” by 4” by 1/8” Plexiglas board to mount circuit on; rosin core solder, soldering gun/iron, two feet of 22 gauge wire, wire strippers, hot glue sticks, hot glue gun and a plastic box with a lid to mount your alarm circuit on. Create a poster using photographs to show the “step by step process” you used to build your alarm.

### DIVISION 870 – ELECTRICITY III & IV

#### ELECTRICITY WIRED FOR POWER – UNIT III

- H870001.\* **ELECTRICAL TOOL/SUPPLY KIT** – 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. Container should be appropriate to hold items.
- H870002.\* **LIGHTING COMPARISON** – Display studying the efficiency of various lighting (incandescent, fluorescent, halogen, Light Emitting Diodes, etc.). Exhibit could be a poster display, or an actual item.
- H870003.\* **ELECTRICAL DISPLAY/ITEM** – Show an application of one of the concepts learned in the Wired for Power project. Examples include: re-wiring 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.
- H870004.\* **POSTER** – Poster should exemplify one of the lessons learned in the Wired for Power Project. Posters can be any size up to 28” by 22”.

#### ELECTRONICS – UNIT IV

- H870005.\* **ELECTRICAL/ELECTRONIC PART IDENTIFICATION** – Display different parts used for electrical/electronic work. Exhibit should show the part (either picture or actual item) and give a brief description, including symbol of each part and its function. Display should include a minimum of 10 different parts.
- H870006.\* **ELECTRONIC DISPLAY** – 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 Electronics manual).
- H870007.\* **ELECTRONIC PROJECT** – Exhibit an electronic item designed by the 4-Her or from a manufactured kit that shows the electronic expertise of the 4-Her. Examples include: a radio, a computer, or a volt meter.
- H870008.\* **POSTER** – Poster should exemplify one of the lessons learned in the Entering Electronics Project. Posters can be any size up to 28” by 22”.

### DIVISION 880 - GEOSPATIAL

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

- H880001.\* **POSTER** – Create a poster (not to exceed 14” x 22”) 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.
- H880002.\* **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”.
- H880003.\* **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.
- H880004.\* **GEOCACHE** - Assemble a themed geocache. Each geocache should be a water-tight container. It should include a log book 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](http://geocaching.com); include a print-out of its registry.** The entry may include a photograph of the cache in its intended hiding place.
- H880005.\* **AGRICULTURE PRECISION MAPPING** - 4-Hers will assemble a notebook that will include a minimum of two (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.

- H880007.\* **4-H HISTORY MAP** - Preserve 4-H History: Nominate a Point of Interest for the 4-H History Map Project; include copy of submitted form in 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://4hhistorypreservation.com/History\\_Map/](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).
- H880008.\* **GIS THEMATIC MAP** - Using any GIS software, create a thematic. 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 8.5" x 11" up to 36" x 24"; should include Title, Base Map, Neat Line, North Arrow, and Legend. Identify the source of your information on the back of map.

## DEPARTMENT - SMALL ENGINES

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 890 - SMALL ENGINES

#### CRANK IT UP – UNIT I

- H890001. **SMALL ENGINE DISPLAY/ITEM** – Show an application of one of the concepts learned in the Crank It Up Project. Examples include: identify small engine parts, safety rules for starting a small engine, small engine repair tool identification, or spark plug maintenance. Exhibit could be a poster display or an actual item.

#### WARM IT UP – UNIT II

- H890002. **SMALL ENGINE DISPLAY/ITEM** – Show an application of one of the concepts learned in the Warm It Up Project. Examples include: comparison of engine oil types, transmissions, or safety related to engines. Exhibit could be a poster display, or an actual item.

#### TUNE IT UP – UNIT III

- H890003. **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, display needs to report process of building/rebuilding engine and how/where engine will be utilized (i.e. lawn mover, weed eater, snow blower, etc.).

### DIVISION 891 - RESTORED VEHICLE

- A report must be included, covered by clear plastic cover, describing source, cost, repair parts list, and what was done. A "before and after" photo story should be included. It will be the exhibitor's responsibility to protect the display from the general public.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- H891001. **DETAILED REPORT** – In lieu of bringing a tractor, etc. to the fair, the 4-H'er can submit a detailed report explaining the process used to restore or overhaul. Also include a VHS tape or digital recorded copy of the item and the process used.
- H891002. **RESTORED/OVERHAULED VEHICLE - ORIGINAL** - This is a class for the exhibitors of automobiles, motorcycles, tractors or multi-cylinder engines that have been restored and/or overhauled in a 4-H petroleum power project to original specifications.
- H891003. **CUSTOMIZED VEHICLE** - This is a class for the exhibitors (same as in Class 2) that have customized the vehicle from original specifications.

### DIVISION 900 - ALTERNATIVE/RENEWABLE ENERGIES

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

- H900001.\* **CREATE and COMPARE ENERGY RESOURCES 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, costs of production, usability of the energy, pros/cons of environmental impacts, etc. Posters can be any size up to 28" x 22".

- H900002.\* **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.
- H900003.\* **SOLAR as ENERGY DISPLAY** - Item should be the original design of the 4-Her. Include the item, or a picture if 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. Examples include solar ovens, solar panels, etc.
- H900004.\* **WATER as ENERGY DISPLAY** - Item should be the original design of the 4-Her. Include the item, or a picture if 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.
- H900005.\* **WIND as ENERGY DISPLAY** - Item should be the original design of the 4-Her. Include the item, or a picture if 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.
- H900006.\* **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.

#### Resources:

<https://4-h.org/parents/national-youth-science-day/wired-for-wind/>

<https://4-h.org/parents/national-youth-science-day/biofuel-blast/>

<http://web.cals.uidaho.edu/biodiesel/4-h-curriculum-for-ages-8-12/>

<http://extension.oregonstate.edu/clackamas/energy-education-curriculum-lessons>

## DEPARTMENT - WOODWORKING

- NOTE: Exhibitors may only enter projects in the Unit for which they are enrolled with a limit of (2) two entries per Unit.
- The ability to build objects as designed by another person is an important life skill. Professional woodworkers often are hired to build objects to exact specifications as laid out in a written plan.
- REQUIREMENTS: All articles exhibited **must include a plan (with drawings or sketch or blueprint)** stating dimensions and other critical instructions a builder would need to know to build the project. **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.
- 4-H'ers must be in Unit 3 or Unit 4 for the exhibit to be considered for State Fair.* All projects must have appropriate finish. 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 at State Fair.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

### DIVISION 910 - WOODWORKING UNIT I & II

#### MEASURING IT UP – UNIT I

- H910001. **WOODWORKING ARTICLE** – Item made using skills learned in the Measuring Up Project. Examples include: flower box, letter or napkin holder, or picture frame.
- H910002. **WOODWORKING DISPLAY** – Display exemplifying one of the principles learned in the Measuring Up Project. Examples include: butt joint, measuring, sanding.

#### MAKING THE CUT – UNIT II

- H910003. **WOODWORKING ARTICLE** – Item made using skills learned in the Making The Cut Project. Examples include: letter or napkin holder, birdhouse, footstool.
- H910004. **WOODWORKING DISPLAY** – Display exemplifying one of the principles learned in the Making The Cut Project. Examples include: wood types, angle cutting, liquid finisher.

### DIVISION 911 - WOODWORKING UNITS III & IV

#### NAILING IT TOGETHER – UNIT III

- H911001.\* **WOODWORKING ARTICLE** – 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: bookcase, coffee table or end table.

- H911002.\* **WOODWORKING DISPLAY** – Display exemplifying one of the principles learned in the Nailing It Together Project. Examples include: measuring angles, wood lamination, and joint types.
- H911003.\* **RECYCLED WOODWORKING DISPLAY** - 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 choose this finish?)
- 6) Evaluate (How does your item solve the original need?)
- 7) Present results (How would you do this better next time?)

**FINISHING UP – UNIT IV**

- H911004.\* **WOODWORKING ARTICLE** – 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.
- H911005.\* **WOODWORKING DISPLAY** – Display exemplifying one of the principles learned in the Finishing It Up Project. Examples include: career opportunities, types of finishes, or dovetailing.
- H911006.\* **RECYCLED WOODWORKING DISPLAY** - 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.

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) Reason for article finish (What type of finish, how did you finish or why you choose 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?)

**DEPARTMENT - WELDING**  
(All metal welding processes accepted)

**4-H Welding Project Tips and Suggestions**

**CLASS 1**

- ◆ All welds should be made with the same electrode/wire/rod size and number.
- ◆ Welds should be made only on one side of metal so penetration can be judged.
- ◆ Welds should be cleaned with chipping hammer and wire brush. Apply a coat of light oil (penetrating oil) to the metal to prevent rusting. Wipe off excess oil.
  - ◇ It is suggested that all welds be on the same size and thickness of 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 new cold rolled strap iron and cut 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.
- ◆ Stick welding
  - ◇ Suggested coupon thickness - 1/4" if using 1/8" rod
  - ◇ Suggested rod - AC and DC straight or reverse polarity - first E-7014, second E-6013
- ◆ MIG welding
  - ◇ Suggested coupon thickness - 1/4" if using .035 wire and 1/8" if using .023 wire

- ◆ Oxy-Acetylene
  - ◇ Suggested coupon thickness - 1/8"
  - ◇ Suggested rod - 1/8" mild steel rod

## CLASS 2

- ◆ It is suggested that all welds be on 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 1/4" thick. Suggested rods for this class of position welds for AC and DC straight or reverse polarity is, first E-6013, second E-7014 and E-6010 for DC reverse polarity only.
- ◆ 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.

## CLASS 3 & 4

- ◆ 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.

PREMIUMS: Purple-\$3.00; Blue-\$2.00; Red-\$1.50; White-\$1.00

## DIVISION 920 - WELDING

- H920001.\* **WELDING JOINTS** - A display of one butt, one lap and one fillet weld.
- H920002.\* **POSITION WELDS** - A display showing three beads welded in the vertical down, horizontal and overhead positions.
- H920003.\* **WELDING ARTICLE** - Any shop article where welding is used in the construction. 60% of item must be completed by 4-Her and notes regarding laser welding or machine welding must be included. All plans, plan alterations, and a bill for materials must be attached to the article. Protect plans with a cover. If project is designed to be outside, it is required to have appropriate outdoor finish because project may be displayed outside.
- H920004.\* **WELDING FURNITURE** - Any furniture with 75% welding is used in the construction. 60% of item must be completed by a 4-Her and notes regarding laser welding or machine welding must be included. All plans, plan alterations, dimensions and a bill for materials must be attached to the article. Protect plans with a cover. If project is designed to be outside, it is required to have appropriate outdoor finish because project may be displayed outside.
- H920005. **PLASMA CUTTER/WELDER DESIGN** - Plasma cutters/welders allowed for detailed design(s) to butt cut into metal. 4-Hers will create a notebook describing the design process to create the "artwork" to butt cut into the metal. This exhibit is not eligible for State Fair. In the notebook include:
- A) A photo (front and back) of the finished project. Also include detailed photographs of the project to allow judges to examine cuts.
  - B) Instructions on how the design was created, this allows for replication of the project.
  - C) Lessons learned or improvements to the project.

## DEPARTMENT I - CLOVER KIDS

- Participation ribbons ONLY will be awarded

### DIVISION 100 - FAMILY CELEBRATIONS AROUND THE WORLD

- I100001. **COLLAGE** - 14" x 22" - Make a collage with pictures of families, including activities children and families do together. Include picture of families from different cultures and races.
- I100002. **POSTER** - 14" x 22" - Illustrate a family celebration that a country, other than the U.S., celebrates.
- I100003. **INDIAN RAKHI BRACELET**
- I100004. **MEXICAN PINATA**
- I100005. **A SNACK** from "Around the World" manual. Include the recipe.
- I100006. **OTHER** - Other exhibit relating to another country, culture or heritage.

### DIVISION 200 - THEATRE ARTS - ACT I JOURNEY INTO THE IMAGINATION

- I200001. **CREATE A SIMPLE PUPPET** and write down a short story for your puppet to act out.
- I200002. **CREATE A PICTURE STORY** - Illustrate a problem and how the characters solve the problem.
- I200003. **POSTER - ACTING OUT MY FEELINGS** - (14" x 22")
- I200004. **OTHER** - Other exhibit relating to Theatre Arts.

### DIVISION 225 - POSTERS

- I225001. **POSTER** - 14" x 22" - Make a poster using the 2018 fair theme, "Go for The Gold".
- I225002. **POSTER** - 14" x 22" - Make a poster promoting 4-H.