

and not more than 70% legume. Eligible legumes are alfalfa, red clover, and ladino clover. Eligible grasses are timothy, Bermuda grass, orchard grass, tall fescue and rye grass.

5. The field corn and popcorn will be exhibited in trays provided. Variety and yield information must be included.

6. No grain exhibits will be returned. Hay will be returned to your county.
7. Roots of soybeans must be washed.
8. Each county may have one entry per class. Exhibitor is limited to 1 entry per class. Exhibitor is not limited to number of classes entered.

CLASSES

LEGUME HAY:

600 Alfalfa hay, 1/2 bale (**no full bales accepted**) from the current year's project crop, neatly tied and labeled.

601 Red clover hay, 1/2 bale (**no full bales accepted**) from the current year's project crop, neatly tied and labeled.

GRASS HAY:

602 Timothy Hay, 1/2 bale (**no full bales accepted**) from this current year's project crop, neatly tied and labeled. **Place hay in a double strength plastic bag.**

603 Other Grass Hay, 1/2 bale (**no full bales accepted**) from the current year's project crop, neatly tied and labeled. **Place hay in a double strength plastic bag.**

MIXED HAY:

604 Mixed Hay, 1/2 bale (**no full bales accepted**) from the current year's project crop, neatly tied and labeled.

YELLOW CORN:

605 Yellow-ear, from the previous year's crop, 8 ears shucked, and labeled with variety and yield.

606 Yellow-ear, from the current year's crop, 8 ears shucked, and labeled with variety and yield.

607 Yellow-shelled, from the previous year's crop, 0.5 gallon in a container, and labeled to show variety and yield.

WHITE CORN:

608 White-ear, from the previous year's crop, 8 ears shucked, and labeled with variety and yield.

609 White-ear, from the current year's crop, 8 ears shucked, and labeled with variety and yield.

610 White-shelled, from the previous year's crop, 0.5 gallon in a container, and labeled to show variety and yield.

POPCORN:

611 White Popcorn-ear, from the previous year's crop, 8 ears shucked, and labeled with variety and yield.

612 Red Popcorn-ear, from the previous year's crop, 8 ears shucked, and labeled with variety and yield.

613 Yellow Popcorn-ear, from the previous year's crop, 8 ears shucked, and labeled with variety and yield.

FIELD SOYBEANS (Oil):

614 Soybeans from the current year's crop, three stalks tied together below leaves, with roots intact, but free of soil, and labeled to show variety.

615 Soybeans from the previous year's crop. 1-gallon zip lock bag, and labeled to show variety and yield.

GRAIN SORGHUM (Milo):

617 Grain Sorghum from the current year's crop, three stalks tied together below leaves, with roots in tact, but free of soil, and labeled to show variety.

618 Grain Sorghum from the previous year's crop, 1-gallon zip lock bag, and labeled to show variety and yield.

SWEET SORGHUM

619 Sweet sorghum from the current year's crop, three stalks tied together below leaves, with roots intact, but free of soil, and labeled to show variety.

WHEAT (Soft, Red, Winter)

620 Wheat from the current year's crop, 0.5 gallon in a container, and labeled to show variety and yield.

621 Barley from the current year's crop, 0.5 gallon in a container, and labeled to show variety and yield.

Division 6021 - 4-H ELECTRIC

1. Exhibits must be made based on the appropriate units in the 4-HCCS Electric Excitement project books. **Projects entered using Snap Circuits® kits will be disqualified.**
2. Exhibitor is limited to one entry per division.
3. All exhibits requiring bulbs must have the correct size.
4. Use of molded plug-ins is not prohibited but discouraged.
5. Any electric project observed or judged to be unsafe or potentially harmful to the public or surrounds will be disqualified immediately.
6. Effective strain relief should be provided for all wire to terminal connections. Knots, clamps, connectors, or staples are acceptable when used appropriately.
7. 4-H electric exhibits will be divided into the following classes:
 - MAGIC OF ELECTRICITY (4HCCS BU-06848) (All exhibits must be DC powered)**

645 Battery powered series and parallel circuits (Circuits must include both series and parallel, a simple switch and can be no more than 9 volts).

646 Homemade Galvanometer (Must be able to detect the presence of an electrical current)

647 Electromagnetic Circuits (Must be a working electromagnet with a simple switch and can be no more than 9 volts).

648 Simple homemade DC motor (Rotor must turn under it's own power).

INVESTIGATING ELECTRICITY (4HCCS BU-06849) (all exhibits must be DC powered)

649 Battery powered series or parallel circuit (Circuit may be either series or parallel, must contain either a momentary and/or three way switch, a circuit diagram with explanation and can be no more than 9 volts).

650 Original design soldered circuit project (Circuit must contain an on/off switch, a motion or tilt activated switch, a light and sound producing device and must be powered by 9 volts. All connections in the circuit must be soldered and a circuit diagram with explanation must be included).

Wired for Power (4HCCS BU-06850) (all exhibits must be AC powered and be able to be safely connected and disconnected from a standard 120

volt duplex outlet).

651 Display of wire sizes and types with description and example of usage (display must contain at least 12 different examples)

652 Simple household or farm use circuit (Circuit must contain one single pole switch controlling one electrical load device. Circuit should be mounted on a sturdy mounting surface and free standing. Wiring should be done with Romex NM-B 12 gauge wire and clamped or stapled appropriately. A circuit diagram with explanation must be included)

653 Complex household or farm use circuit (Circuit must contain at least two three-way switches, and may also contain a four-way switch, controlling one electrical load device. The circuit must also contain a working duplex electrical outlet. Circuit should be mounted on a sturdy mounting surface and free standing. Wiring should be done with Romex NM-B 12 gauge wire and clamped or stapled appropriately. A circuit diagram with explanation must be included)

654 Table, desk, vanity, or floor lamp any purpose—original design only. (Pop Can Lamp kits will be disqualified)

ENTERING ELECTRONICS (4HCCS BU-06851) (exhibits may be either DC or AC powered. AC powered exhibits must be able to be safely connected and disconnected from a standard 120 volt duplex outlet).

655 Basic electronic circuits without solid-state components (from project book).

656 Basic electronic circuits with solid-state components (from kits).

657 Basic electronic circuits with solid-state components (original circuit design, must include circuit diagram and explanation).

GREEN ENERGY

658 Wind or solar powered energy project (from kit).

659 Wind or solar powered energy project (original design).

Division 6025 - 4-H WOOD SCIENCE

Project entry must meet all the requirements for the class; otherwise, the entry will be disqualified.

1. Limit of one entry per county per class.
2. An exhibitor may enter only one Wood Science class per year.

674 Level 1, **made from a kit.** Simple items which have pre-cut and pre-drilled parts and youth demonstrate knowledge of assembly, selection and use of fasteners (nails, screws and/or glue), sanding techniques, and appropriate finishes. (Examples could include but not limited to: small bird house, non-hopper bird feeder, etc.). Item must demonstrate skill with fasteners, sanding and appropriate finish (no puzzles).

675 Level 1, **NOT from a kit.** Simple constructed wood item showing knowledge of hand tools, wood selection, cutting, drilling, use of fasteners (nails, screws and/or glue), sanding techniques, and appropriate finishes. (Examples could include but not limited to: napkin holder, letter holder, simple picture frame, wire wiggly, towel holder, serving tray, jewelry box, small flag holder, 4-H book ends, airplane, hurricane lamp, trivet (pot holder), etc.)

676 Level 2, **made from a kit.** More elaborate items which require proper cutting, drilling and youth demonstrate knowledge of selection and skill in use of fasteners (nails, screws and/or glue), sanding techniques, and appropriate finishes (Examples could include but not limited to: jewelry box, tool tray, large bird house, pine wood cars, etc.) Item must demonstrate skill with fasteners, sanding and appropriate finish (no puzzles).

677 Level 2, **NOT from a kit.** More elaborate items that demonstrate a mastered skills with hand tools, basic knowledge of power hand tools, fastening options, appropriate surface preparations, and finish applications. (Examples could include but not limited to: puzzle, foot stool, revolving tie rack, 4-H key holder, cutting board, book rack, serving dish shelf, sawhorse, hopper type bird feeder, etc.)

678 Level 3, **NOT from a kit.** Items showing a more advanced knowledge of power tools, expertise in cutting, fitting, surface preparation, attention to fastening details, and finish application, (Examples could include but not limited to: a multi-purpose box, corner shelf, book shelf or laminated wood projects, garden bench, planting box, nail and tool box, shop tool rack & shelf, etc.) Original designs are welcomed. This exhibit is to be made up of two parts: 1) the **item** and 2) a **folder containing photographic documentation** of the steps taken in order to complete this exhibit.

679 Level 4, **NO kits.** Exhibits with a "furniture" quality finish, showing an understanding of all woodworking techniques learned in previous levels. Items must show a mastery of joint construction and use of special woods, and finishes. (Examples could include but not limited to: checker boardroom divider, coffee table, end table, chest of drawers, gun rack or cabinet, etc.). Original designs are welcomed. This exhibit is to be made up of two parts: 1) the **item** and 2) a **folder containing photographic documentation** of the steps taken in order to complete this exhibit.

680 Level 4, **NO kits.** Exhibits that do not require a fine finish (painted finish allowable) because of practical use. Items demonstrate knowledge of all woodworking techniques learned in previous levels. Items must show a mastery of cutting, drilling, joint construction, use of special woods, and appropriate finishes. (Examples could include but not limited to: porch swing, chaise lounge, picnic table, lawn chair, large planters, etc.). This exhibit is to be made up of two parts: 1) the **item** and 2) a **folder containing photographic documentation** of the steps taken in order to complete this exhibit.

ECOLOGY, NATURAL RESOURCES

Division 6026 - ECOLOGY, NATURAL RESOURCES

BLAKE NEWTON, EXTENSION SPECIALIST, ENTOMOLOGY - STAFF

CONSULTANT

Project entry must meet all the requirements for the class; otherwise, the entry will be disqualified.

1. **Each county may have 1 entry per class.** An exhibitor may enter only one class in Entomology and no more than two entries in Honey (one extracted, one chunk).

2. Specifications for pinned-insect exhibits 687A, 688, 689, and 691 (see below for insect photography exhibit, 687B):

a. 9"X13" folding cardboard insect-collection boxes available through UK College of Agriculture, Department of Entomology, should be used. Homemade or purchased wooden exhibit boxes may be used instead. They must be approximately 18" x 24" and not more than 3 1/2" thick with Plexiglass or glass covers and cellox pinning bottoms (or plastazote or polyethylene pinning bottoms available from entomology supply stores such as Bioquip.com). Boxes must be easily opened (for

instance, if a screw is used to secure Plexiglas tops, use a thumbscrew fastener instead of a fastener that requires a tool).

b. Specimens are to be arranged so the box can be exhibited horizontally. 4-H'ers may attach wires to the back of wooden boxes to help make them easier to display.

c. Identification labels available from your County Extension Office must be used, or custom labels may be printed if they conform exactly to the font, font size, and font color of the official labels. Labels should be printed onto white cardstock. The exhibit identification card should be placed on the front of the box (each box). Instructions for pinning and labeling are included in your project literature.

d. One half of the specimens may be from the previous year's collection or from anywhere in the United States; one half or more must be Kentucky insects collected since the last Kentucky State Fair. No insects that were originally collected from countries outside the United States may be included.

e. For the first through fifth year projects, a display collection catalog must be in an envelope attached to the back of the display box. Envelopes should be attached to permit their being opened easily to remove catalogue from them without moving the exhibit.

f. Most specimens in the display cases should be pinned, and the use of vials is discouraged. If vials are used, they may account for no more than 2% of a collection. Vials must be securely wired or pinned to the pinning bottoms.

g. The inclusion of non-insect specimens (spiders, e.g.) is encouraged, but because this is primarily an insect collection, and because non-insects do not preserve well on insect pins, points will be deducted if there are more than one specimen from each non-insect class.

3. Entomology exhibits are judged on the following categories: Orders, Species, Common Names, Labels, Condition of Specimens, Overall Appearance, Life Cycle Representation, Catalog of Specimens. Check with county 4-H Agent for point distribution on score sheet.

4. Exhibits will be penalized if they do not:

a. Use insect pins for pinning insects.

b. Use the 4-H Entomology identification labels.

c. Use display boxes that are not the official 9"X13" cardboard boxes acquired through the Dept. of Entomology, or wooden boxes that are approximately 18"X24"X3 1/2".

d. Fulfill the requirements of the particular exhibit under which it is entered.

e. Have the insects arranged so the box can be exhibited horizontally.

f. Have the display collection catalogue in an envelope attached to the back of the display box through fifth year projects.

5. No extra credit will be given for specimens exhibited beyond the numbers listed in the current project books.

6. 4-H'ers entering fifth year cannot use the same exhibit that has been judged in any previous State Fair.

7. 4-H Entomology exhibits will be divided into the following classes:

687A First year project (Up to three 9"X13" official cardboard boxes, or up to two 18"X24" wooden boxes, with minimum of 25 insects, maximum of 50 insects, from at least four orders. Identification beyond order not necessary. All specimens must have date and locality label).

687B First year project (minimum of 25 insect photographs, maximum 50 photographs, from at least four orders. Identification beyond order not necessary. All photographs must have notation field).

Specifications for insect photography exhibits:

a. Images will be submitted on a USB memory device (such as a "thumb drive") with no other data except for the images and folders. The USB device must be identified externally with a tag or label, showing "4-Her's last name-County-Lot Number-Class Number Number-Entry Number." The single root folder will be labeled with the same information. Images will be contained inside this folder. Example folder name: Doe-Fayette-60260687a-24531

b. Each image will be .jpg format, 1920X1080 pixels. Vertical or horizontal black bars may be present to allow for cropped images.

c. Each image will have a filename that matches the following: "lastname-county-#.jpg," where "#" indicates the number of the image inside the folder. Example filename: Doe-Fayette-1.jpg.

d. Each image will include a 400X225 pixel, white notation box with important information about the photo. This notation field may be placed anywhere inside the image, including inside black bars (if present). Fonts may vary based on the 4-Her's software, but we recommend Ariel, 18pt, black, non-bold. The notation field will include the following information, with one space between each line.

[4-Her's name, County, Lot Number, Class Number.

[Date of original photograph]/[Location of original photograph. Location may be in the form of a street/city/zip code address or GPS coordinates.]

[Brand and type of camera or camera phone]

[Settings, including type of lens, relevant camera settings, and "flash" or "no flash"]

[Insect Order—Common Name]

1. Entomology exhibits are judged on the following categories: Orders, Species, Common Names, Labels, Quality of Photograph. Check with county 4-H Agent for point distribution on score sheet.

2. Digital insect collections will be penalized if they:

a. Consist of images that were created by someone other than the 4-Her

b. Are not submitted and labeled according to guidelines

3. No extra credit will be given for photographs submitted beyond the numbers listed in the current project books.

688 Second year project (Up to three 9"X13" official cardboard boxes, or up to two 18"X24" wooden boxes, with minimum of eight orders and not less than 50 insects, nor more than 100 insects). Half of the insects should be identified with a common name.

689 Third year project (Three 9"X13" official cardboard boxes, or two 18"X24" wooden boxes, with a minimum of 10 orders and 100 insects, a maximum of 150 insects).

690 Fourth year project (Three 9"X13" official cardboard boxes, or two 18"X24" wooden boxes, with minimum of 12 orders and 150 insects, no maximum) An addition cardboard or wooden box with an example of insect damage, the stage of the insect causing the damage and any other stage of the insect that helps identify the problem. Include information in the display that tells how the insect is controlled. Life