

# 4-H Entomology: Collecting and Exhibiting





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## Basic Entomology Collections:

This class is for the very young 4-Hers that are just getting started making an insect collection. It does not have a class at the state fair, so rules may vary by county. The rules usually require a display of 15 to 30 insects containing a minimum of six orders. These collections are to be exhibited in small cardboard or plastic display boxes (one or two boxes with total display area no more than 130 square inches): Boxes can be homemade by placing a layer of polystyrene foam in the bottom of a shoe box, school box or storage container, or can be purchased from a biological supply company. For the exhibit, the boxes should be covered with a piece of plastic wrap or acrylic glass taped across the top of the box. However, since rules vary by county, be sure to check with the local county fair book for more information.

## State Fair Collections:

Collections are to be exhibited in plexiglass-covered wooden boxes with outside measurements of 18" x 24" x 3 1/2". Display boxes with *glass* covers *will not* be accepted.

**Identification:** An identification label must be placed in the upper left corner inside each box. A duplicate label is also required on the lower right corner of the box (outside). The label should show the exhibitor's name, county, class, and the total number of orders and specimens. (See Page 3) The number of families that have been identified in the six basic orders is also required in the intermediate and advanced collections.

**Arrangement of specimens:** The preferred method

is to arrange the insects in groups or rows parallel to the short sides of the box. Arrangements that run lengthwise of the box are frequently downgraded in judging. Specimens are to be arranged in the box according to order. Begin with the more primitive orders first (Collembola), and follow the sequence used in *Insects in Kansas* as revised in 2000.

If Orthoptera is the first order you have in your collection, that is the one you begin with. Start in the upper-left corner by pinning your first order label to the bottom of the box. Arrange the insects belonging to this order in a neat group following the label. Leave some space, attach the next order labels and the insects until you finish. Finally, go back and adjust the spacing within the groups as needed to enhance the overall appearance of the collection. Where family identification is required, some orders will be subdivided into smaller family groups using family labels. Where two or more boxes are used, it is permissible to group the moths and butterflies out of sequence in a box by themselves.

**Labels:** Two required labels should be centered on the pin beneath each specimen. The first label on the pin beneath the insect is the common name. The date/locality label is the second label. Labels may be positioned to run parallel with the length of the body, or crosswise in relation to the length of the body. Either arrangement is acceptable, but be consistent.

Strive to achieve small, uniform, neat handwritten labels. 4-H Entomology locality labels are 4-H 568, and available through local K-State Research and Extension offices. Members may use these labels or prepare their own. Common name labels need to only include the common name of the insect. All labels should be of uniform size and height on the pin where possible. Typewritten or computer generated labels are acceptable, as long as they don't become so large that they detract from the appearance of the collection (a reducing photocopier may be useful in producing small labels).

**Be selective:** Before exhibiting, cull out badly damaged or broken specimens. About one-half of the total points are based on an overall appearance of the display.

The display is to represent a collection of adult Kansas insects. Occasionally, a few immatures may be included when properly preserved and labeled to represent the various stages of a life cycle. Larvae of beetles, moths, and butterflies need to be preserved in alcohol and placed in small vials for display. **Caution:** Use immatures sparingly. An immature cannot be used by itself to represent a major group, such as an order or family.

The wings of butterflies should be expanded in order to show the interesting markings and color patterns. Remember, torn or ragged wings usually detract from

## Arrangement of Orders in *Insects in Kansas, 2000:*

<i>Collembola</i> (Springtails)	<i>Mallophaga</i> (Chewing Lice)
<i>Thysanura</i> (Bristletails)	<i>Lice</i>
<i>Ephemeroptera</i> (Mayflies)	<i>Anoplura</i> (Sucking Lice)
<i>Odonata</i> (Damselflies and Dragonflies)	<i>Hemiptera</i> (True bugs)
<i>Plecoptera</i> (Stoneflies)	<i>Homoptera</i> (Aphids, Leafhoppers, Planthoppers, Scale insects, Cicadas)
<i>Phasmatoda</i> (Walking Sticks)	<i>Thysanoptera</i> (Thrips)
<i>Orthoptera</i> (Grasshoppers, Crickets and Katydid)	<i>Neuroptera</i> (Dobsonflies and Lacewings)
<i>Dermaptera</i> (Earwigs)	<i>Coleoptera</i> (Beetles)
Mantodea (Mantids)	<i>Hymenoptera</i> (Ants, Wasps and Bees)
Blattodea (Cockroaches)	<i>Trichoptera</i> (Caddisflies)
Isoptera (Termites)	<i>Lepidoptera</i> (Moths and Butterflies)
<i>Psocoptera</i> (Booklice and Psocids)	<i>Mecoptera</i> (Scorpion flies)
	<i>Diptera</i> (Flies)
	<i>Siphonaptera</i> (Fleas)

the collection. It is desirable to spread the wings of large moths also. Spreading of the wings of other insects such as grasshoppers or cicadas, is optional.

\*An improper or incomplete identification label is one of the most frequently observed mistakes. Use home-made labels if regular labels are not available.

## Beginning Entomology I

**Class 4900 – Collection.** Display, in one standard box, a minimum of 50 and maximum of 125 species representing at least seven orders. Follow the general rules listed for all collections. Specimens should be grouped according to order with the order labels pinned to the base of the box. Members can exhibit in this class a maximum of three years, or until they receive a purple ribbon at the Kansas State Fair, whichever comes first.

## Beginning Entomology II

**Class 4901 – Collection.** Display, in one standard box, a minimum of 75 and maximum of 150 species representing at least nine orders. Follow general rules listed for all collections. Specimens should be grouped according to order. Order labels should be pinned to the base of the box. Members can exhibit in this class a maximum of three years, or until they receive a purple ribbon at the Kansas State Fair, whichever comes first.

**Class 4902 – Beginning Educational Exhibit for Beginning Entomology I and II**

## Intermediate Entomology

**Class 4903 – Collection.** Display a minimum of 100 and a maximum of 300 insects representing at least 10 orders. Two standard boxes can be used. All specimens should be grouped to order. In addition, family identification is required for all insects in any two of the following six orders: Orthoptera, Hemiptera, Homoptera, Coleoptera, Diptera, and/or Hymenoptera. Observe that the number of families identified in these two orders must be recorded on the box identification labels.

Families represent subdivisions of the appropriate order. Members can exhibit in this class a maximum of three years or until they receive a purple ribbon in the Intermediate phase at the Kansas State Fair.

**Class 4904 – Intermediate Educational Exhibit**

## Advanced Entomology

**Class 4905 – Collection.** Display a minimum of 150 and a maximum of 450 insects representing at least 10 orders. Three standard boxes can be used. Family identification is required for all insects belonging to the six basic orders, as outlined under the Intermediate phase. Family identification of insects in the remaining orders is optional, but desirable as long as accuracy is main-

tained. All butterflies appearing in the collection should be labeled with the correct common name. Members may continue to exhibit in this class at the Kansas State Fair for an unrestricted number of years as long as they remain eligible for 4-H membership. List on back of the box what you did this year to improve your project.

**Class 4906 – Advanced Educational Exhibit**

## Educational Displays/Exhibits

The purpose of an educational display is to learn more about the importance, life cycles, biology, ecology, diversity, etc., of insects and related arthropods. Subject matter can be as varied as the animals themselves.

Displays may consist of specialized groups of insects, or relate to any aspect of insect life. Displays should be presented in a clear, concise and interesting manner.

Educational displays are to be exhibited in one standard size insect box and identified by use of an identification label. The label includes the exhibitor's name, county or district, or class. Information on numbers and kinds of insects is not needed for educational exhibits.

Educational classes are limited to one standard box, a maximum of 150 specimens, and work performed during the current year. The title of the exhibit should be indicated inside the box.

## What the Judge Looks For

The judge's decision is influenced primarily by two things:

1. The overall variety as determined by the number of orders, number of species and number of families where required.
2. The overall neatness in appearance as judged by kind, conduction and neatness of labels. Appearance of specimens include correct pinning, uniform height on pin, proper wing spreading, position of legs, wings, antennae, etc. In addition, the overall arrangement, accuracy of identification, and general appearance of the display are also considered. Remember, a few minutes in checking the rules listed in this publication before sending your collection to the fair may make a difference in how it is judged.



