Entomology Collection Notebooks
Guidelines and Requirements
Revised 2016

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PLEASE NOTE: From 2015 through 2019 we are in a transition phase for Kansas 4-H Entomology. You will have two options for some rules of the Entomology Collection and Entomology Notebook categories. All changes must be made to Option B by the 2019 County Fairs and Kansas State Fair (or earlier if a revised "Insects In Kansas" book comes out). These two options will be noted in red in this publication.

Option A: Taxonomy will be as printed in the "Insects In Kansas" book

Option B: Taxonomy will be as printed on the "Insects In Kansas Book: 2016 Revised Taxonomy", which follows www.bugguide.net

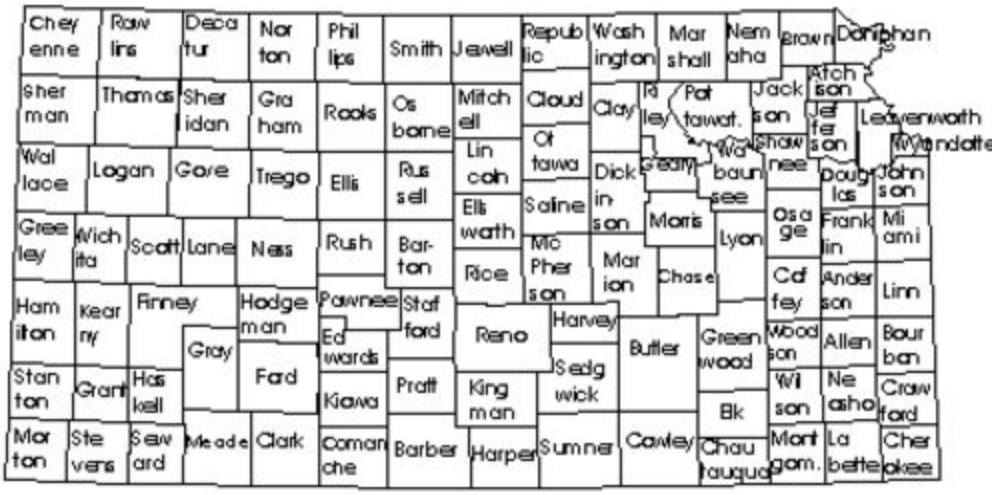
Entomology Collection Notebooks

Requirements for Notebooks:

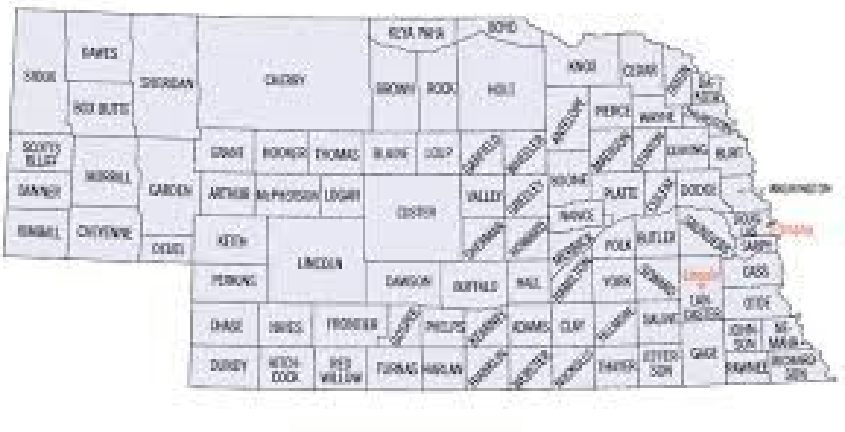
4-Hers will take pictures of insects during the current 4-H year. Individual entries are to be placed for display in a three-ring notebook for competition. Two pictures of each insect are recommended to help with identification: 1) a top view, and 2) a side view. One picture is acceptable if that is all that can be obtained, but may lose you points in scoring for judging in competition. You may have a separate page for the female and the male of a species. If there are two color forms of a species, such as the Tiger Swallowtail female, you may have a separate page for each color form. **Pictures can be no smaller than 3" X 5" and no larger than 4" by 6"**. **All pictures in the notebook should be the same size.** Pictures of only one insect species are to be mounted or printed on each page of the notebook. Each page will contain the following information below the pictures on the page: (see example pages)

1. Order the insect belongs to
2. For Intermediate and Advanced Phases only, Family the insect belongs to
3. Common Name of the insect
4. Date and locality where the insect was caught, including complete County name, State abbreviation and month, day, year the insect was caught
   (Example: Pawnee Co.Ks. 03-12-2016 or 10/12/2016)
5. Any additional notes: Examples could be host the insect was caught on, sex of insect **(recommended if you have more than one page for a species)**, beneficial or harmful, type of mouthparts, type and number of wings, title and page of book insect identified from, etc. **For intermediate and Advanced classes, the host (plant or animal insect was caught on) is highly recommended.**
6. Name of the collector - this is optional

Specimens for the collection and photography classes of the Kansas 4-H Entomology Project must be collected **in the state of Kansas or one county just over the Kansas State border** in Nebraska, Missouri, Oklahoma or Colorado.



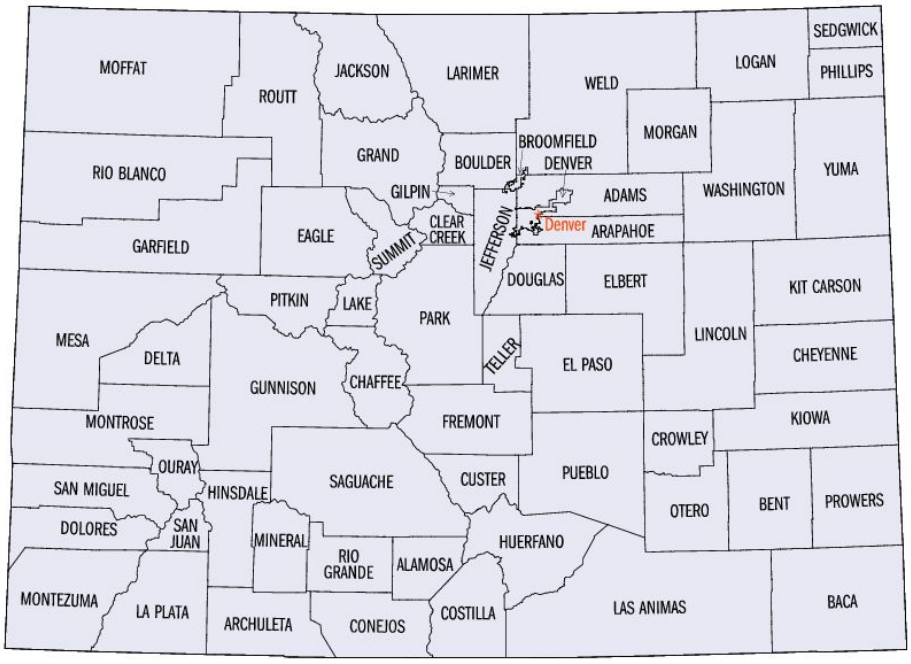
Kansas Counties



Nebraska counties would include (from left to right on bottom edge of map) Dundy, Hitchcock, Red Willow, Furnas, Harlan, Franklin, Webster, Nuckolls, Thayer, Jefferson, Gage, Pawnee, and Richardson.

Missouri counties would include (from top to bottom on left edge of map) Atchison, Holt, Andrew, Buchanan, Platte, Clay, Jackson, Cass, Bates, Vernon, Barton, Jasper, Newton, and McDonald.

Oklahoma counties would include (from left to right on top edge of map) Cimarron, Texas, Beaver, Harper, Woods, Alfalfa, Grant, Kay, Osage, Washington, Nowata, Craig, and Ottawa.



Colorado counties would include (from top to bottom on right edge of map) Sedgwick, Phillips, Yuma, Kit Carson, Cheyenne, Kiowa, Prowers, and Baca.

Pictures of all other insects are considered “Out of State Insects”. They may be used as a Special Project in the Entomology Notebook classes. **Pictures of purchased insect specimens may not be used. Pictures of immature insects may only be used in the Special Project section of the notebook to show the life cycle of a species.**

Each exhibitor is required to identify the notebook by placing a Title Page in the front of the notebook bearing the exhibitor’s name, county or district, class, and Taxonomy the notebook is following: Option A or Option B (please see previous page for reference). The number of orders and specimens must also be included on the Title Page. 4-Hers enrolled in the **Intermediate and Advanced classes must also include the number of families** on the Title Page.

If you have been enrolled in the current class of the project for more than one year, you must list on a separate sheet of paper how many years you have been in this class of the project and what you did this year to improve your notebook. Examples: what pictures of insects did you add or replace; what orders and/or families you added; what Leadership you provided in this project. Place the paper just behind the Title Page in the front of your notebook.

A divider page is to be placed in front of each order of insects with the **order name printed on the tab for the page and also on the front of the divider page**. The sequence of arrangement of the Orders in the notebook is up to the exhibitor. You may use either option A or option B for your Orders (as explained on page 2). Arrange specimen pages within an Order from the largest insect specimen page at the front of the Order and work down to smallest insect specimen page at the back of the Order. For the Intermediate and Advanced classes, insects are also to be grouped by family behind each order divider. Specimen pages within families should also be arranged from the largest specimen page at the front of a family and work down to smallest insects at the back of a family. Within the order Lepidoptera, arrange all butterflies together, all skippers together, and all moths together; Order Orthoptera, arrange all grasshoppers together, all crickets together, all katydids together; Order Odonata, arrange all dragonflies together, all damselflies together; Order Hymenoptera, arrange all wasps together, all bees together and all ants together.

4-Her must add at least ten new species pictures each year. In addition, the 4-Her must complete at least one special project each year. (see list of suggestions on page 8) Photos and an explanation of the special project should be put in a separate section of notebook behind the species pages with a divider page in front labeled “Special Project”.

Emphasis in judging will be placed on the overall variety of Kansas insects represented in the notebook; accuracy of identification; creativity of subject matter; skill, technique, and quality in taking photos of the insects; quality of special project; and overall arrangement and appearance of the notebook.

Pictures of live insects are preferred. Insects should be photographed in the wild where possible, but this is not required and may not be practical in all cases, especially where one wants to obtain close-up images of specific features or specific life stages or if physical handicaps limit access to some insect habitats.

Classes:

Introductory Entomology Notebook: Display in one 3-ring notebook a collection of photos with a minimum of 10 and a maximum of 30 insect species representing at least six different orders. Species pages should be grouped according to order. (Notebooks should contain 15 to 60 photos). 4-Hers must complete a Special Project (see guidelines on page 8). 4-Hers in their second year of this class need to list on a sheet of paper how many years you have been in this class of this project and what you did this year to improve your notebook. Place this paper just behind the Title Page in the front of your notebook. A 4-Her must be of minimum age to compete in this class at the Kansas State Fair. A 4-Her may exhibit in this class for a maximum of two years.

Beginning Entomology Notebook: Display in one 3-ring notebook a collection of photos with a minimum of 20 and a maximum of 60 insect species representing at least seven different orders. Species pages should be grouped according to order. (Notebooks should contain 40 to 120 photos). 4-Hers must complete a Special Project (see guidelines on page 8). If you have been enrolled in this class more than one year, list on a sheet of paper how many years you have been in this class of the project and what you did this year to improve your notebook. Place the paper just behind the Title Page in the front of your notebook. A 4-Her may exhibit in this class for a maximum of three years or until you receive a purple ribbon at the Kansas State Fair.

Intermediate Entomology Notebook: Display in one 3-ring notebook a collection of photos with a minimum of 60 and a maximum of 100 insect species representing at least nine orders. Species pages should be grouped according to order. Pictures in any two of the following six orders for Option A should be identified to family: Orthoptera, Hemiptera, Odonata, Coleoptera, Diptera, and/or Hymenoptera OR in any two of the following six orders for Option B should be identified to family: Orthoptera, Odonata, Hymenoptera, Coleoptera, Diptera, and/or Hemiptera (Homoptera is a suborder of this order). (Notebooks should contain 100 to 200 photos). 4-Hers must complete a Special Project (see guidelines on page 8). If you have been enrolled in this class more than one year, list on a sheet of paper how many years you have been in this class of the project and what you did this year to improve your notebook. Place the paper just behind the Title Page in the front of your notebook. Members can exhibit in this class a maximum of 3 years. However, a 4-H'er may advance to the next class, if they so choose, when a purple ribbon is awarded at the Kansas State Fair.

Advanced Entomology Notebook: Display in one 3-ring notebook a collection of photos with a minimum of 100 and a maximum of 200 insect species representing at least twelve orders. Species pages should be grouped according to order. In addition, family identification is required for all insects in the following six orders for Option A: Orthoptera, Hemiptera, Odonata, Coleoptera, Diptera, and/or Hymenoptera OR for all insects in the following six orders for Option B: Orthoptera, Odonata, Hymenoptera, Coleoptera, Diptera, and/or Hemiptera (Homoptera is a suborder of this order). Family identification in the remaining orders is optional, but desirable as long as accuracy is maintained. (Notebooks should contain at least 150 photos). 4-Hers must complete a Special Project (see guidelines on page 8). If you have been enrolled in this class more than one year, list on a sheet of paper how many years you have been in this class of the project and what you did this year to improve your notebook. Place the paper just behind the Title Page in the front of your notebook. Members may continue to exhibit in this class for an unrestricted number of years as long as they remain eligible for 4-H membership.

Special Projects

4-Hers must complete a Special Project each year. This may include pictures of different life stages or a series of specialized body parts (such as legs or antennae) for at least one order of insects. 4-Her may also include photos of damage or habitat in this section. Place the pictures and an explanation of the project in a separate section at the back of of your notebook behind your order pages. **A divider should be put in front of this section with "Special Project" printed on the tab and on the front of the divider.**

Some suggestions you might use for a special project:

1. Make a display on insects at a library for the Summer Reading Program or work with an insect class for a Scout group and take pictures of it for your notebook.

2. Make a display or work with an Insect Class for Summer Day Camp and take pictures of it for your notebook.

3. Do a Science Fair project on insects and take pictures of it for your notebook.

4. Work with a class on Insects for an Agriculture Day and take pictures of it for your notebook.

5. Do a display or work with an insect class for a preschool class and take pictures of it for your notebook.

7. Do a display and give a talk on insects at a Sr. Citizen Center or Nursing Home and take pictures of it for your notebook.

8. Take pictures showing different types of antennae of beetles and explain how they are used.

9. Take pictures of a pest insect on a plant showing the insect's life cycle and damage the insect causes to the plant.

. 10. Dissect a large grasshopper and take pictures of the different parts of the insect and identify them.

11. Take pictures of the different stages of the life cycle of an insect and explain each stage.

Example Page

Order: Lepidoptera
Common Name: Monarch Butterfly
Date/Locality (top picture) Pawnee Co.Ks. 9-23-2015
(bottom picture) Pawnee Co.Ks. 9-26-2015
Notes: Female; top picture - host plant is Verbena; bottom picture - host plant is Butterfly Bush; photographer - V. Wallace; identified using “Insects In Kansas” 2000 edition

Example Page

Order: Lepidoptera
Common Name: Monarch Butterfly
Family: Danaidae
Date/Locality (top picture) Pawnee Co.Ks. 9/27/2015
(bottom picture) Pawnee Co.Ks. 10/03/015
Notes: Male (note scent spot on hindwing); top picture - host plant is a Maple Tree trunk; bottom picture - host plant is a Marigold bloom; photographer - V. Wallace; identified using “Insects In Kansas” 2000 edition; Scientific name: Danaus plexippus

Example page

Order: Odonata
Common Name: Green Darner Dragonfly
Family: Aeshnidae
Date/Locality Pawnee Co.Ks. 6/02/2015
Notes: Male (note claspers on end of abdomen); left picture - host plant is cattails; right picture - host plant is twig; photographer - V. Wallace; identified using “Insects In Kansas” 2000 edition; Scientific name: *Anax junius*; beneficial insect