



## DIVISION 15: NATURAL RESOURCES

### Section #1 ENTOMOLOGY



Entomology is the study of insects. Insects have three body regions, three pairs of legs and one pair of antennae, wings in adult stage, typically two pair. Spiders are Arachnida which have four pair of legs, two body regions and no antennae.

1. Older members may start with Unit 2.
2. Each year 4-H members build on their collection by adding new insects as required for that particular unit. Refer to the exhibit requirements for the number of insects to collect for that unit.

Acceptable sizes of hand made Entomology Display Boxes taken from the manual and kit:

12" W x 16" L x 3" Deep OR 12" W x 18" L x 3 ½" Deep OR 18" W x 24" L x 3 ½ "Deep

Glass tops on entomology display cases should slide to the top or side of the case to prevent them from slipping out and breaking when placed on display.

Commercially available display cases are acceptable.

Regular insect pins are required in all units.

On Units 2 through 7, records must include date and location where insects were collected. Place this information on labels attached to insect pins.

*Project will be evaluated on the quality of the information completed in the manual and e-record (25 percent) and quality of exhibit (75 percent).*

#### UNIT 1 LET'S LEARN ABOUT INSECTS

Let's Learn About Insects

Jr. / Int. / Sr.

Exhibit will consist of the following:

- A. Completed e-Record and Entomology workbook presented in a sturdy binder/notebook.
- B. Insect Collection display no fewer than 10 and no more than 35 adult insects in at least 3 different correctly labeled orders. Boxes for display should be approximately 12" x 16" x 3". Regular insect pins are required.
- C. Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

#### UNIT 2 LEARN MORE ABOUT INSECTS

Learn More About Insects

Jr. / Int. / Sr.

Exhibit will consist of the following:

- A. Completed e-Record and Entomology workbook presented in a sturdy binder/notebook
- B. Insect collections—display no fewer than 25 and no more than 75 adult insects in at least 6 different orders. Standard-sized display boxes with removable glass covers are required. Regular insect pins are required.
- C. Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

#### UNIT 3 INSECT HABITS AND CONTROLS

Insect Habits and Controls

Jr. / Int. / Sr.

Exhibit will consist of the following:

- A. Completed e-Record and Entomology workbook presented in a sturdy binder/notebook.
- B. Insect collection—display no fewer than 75 and no more than 150 insects including a representative from at least 9 different orders (one order developed in water), correctly labeled. Include a special collection of 8 different insects, as stated in Unit 3 Workbook. Standard-sized display boxes with removable glass covers are required. Regular insect pins are required.
- C. Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

## UNIT 4 INSECT IDENTIFICATION AND COMMUNITY PROJECTS

Insect Identification and Community Projects Jr. / Int. / Sr.

Exhibit will consist of the following:

- Completed e-Record and Entomology workbook presented in a sturdy binder/notebook.
- Insect collection—display no fewer than 100 and no more than 250 insects in 10 different, correctly labeled orders. Standard-sized display boxes with removable glass covers are required. Regular insect pins are required.
- Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

## UNIT 5 IMMATURE INSECTS AND LIFE STAGES

Immature Insects and Life Stages Jr. / Int. / Sr.

Exhibit will consist of the following:

- Completed e-Record and Entomology workbook presented in a sturdy binder/notebook.
- Display your regular insect collection.
- Display a collection of at least 10 larvae or immature insects in vials of rubbing alcohol, or similar preservation.
- Display a special collection that is different from the one in Unit 3, including at least 10 insects.
- Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

## UNIT 6 EXPLORING WITH INSECTS

Exploring with Insects Jr. / Int. / Sr.

Exhibit will consist of the following:

- Completed e-Record and Entomology workbook presented in a sturdy binder/notebook.
- Report on at least three special activities and include them in the e-Record before the story.
- Insect collection—display no fewer than 50 insects from a single insect order with no more than 3 specimens of the same insect. Standard-sized display boxes with removable glass covers are required. Regular insect pins are required.
- Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

## UNIT 7 EXPLORING WITH INSECTS-ADVANCED

Exploring with Insects Adv Jr. / Int. / Sr.

Exhibit will consist of the following:

- Completed e-Record with emphasis on your accomplishments in your story, presented in a sturdy binder/notebook.
- A display board representing some phase of special project work. This could include a chart or special equipment used or developed. The standardized display board size of 4 ft. x 3 ft. is to be used with 4-H projects. No additional items may be included in front of display board.
- Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

## Section #2

### OUTDOOR ADVENTURES

List the day, month, and year for the date of completed activities on page 4.

*Project will be evaluated on the quality of the information completed in the manual and e-record (25 percent) and quality of exhibit (75 percent).*

**UNIT 1 HIKING TRAILS Jr. / Int. / Sr.**

**UNIT 2 CAMPING ADVENTURES Jr. / Int. / Sr.**

**UNIT 3 BACKPACKING EXPEDITIONS Jr. / Int. / Sr.**

All exhibits will consist of the following:

- A completed manual and e-Record presented in a sturdy binder/notebook including these items: appropriate sections in manual completed, e-Record and other items or attachments related to the activities in the manual.
- A display board illustrating a topic investigated during the project year. You may use diagrams, drawings, charts and photographs. Label and use captions to make your display as educational as possible. The standardized display board size of 4 ft. x 3 ft. is to be used with 4-H projects. No additional items may be included in front of the display board.
- Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).



Section #3  
SPORTFISHING

**Exhibits may include stand-alone items such as hand-wrapped rods or hand-made lures.**

Exhibit of record kept during the year and display illustrating a chosen aspect of skill area is required. (The standardized display board size of 4 ft. x 3 ft. is to be used with 4-H projects. No additional items may be included in front of display board.)

**Members may have entries in both the display board classes and the stand-alone classes.**

**For those members who are exhibiting both a display board and a stand-alone, they may copy their e-record. Each exhibit must have an e-record. Be sure to highlight what you are exhibiting in your e-record.**

**Stand-alone items must not exceed 3 feet in width and depth and 7ft in height. The item must be stable when standing in order to be displayed. If an exhibit is larger than these dimensions you may use a notebook as the exhibit and explain how and what was made.**

**DISPLAY BOARD PROJECTS**

<b>UNIT 1</b>	<b>TAKE THE BAIT</b>	Jr. / Int. / Sr.
<b>UNIT 2</b>	<b>REEL IN THE FUN</b>	Jr. / Int. / Sr.
<b>UNIT 3</b>	<b>CAST INTO THE FUTURE</b>	Jr. / Int. / Sr.

**STAND ALONE PROJECTS**

<b>UNIT 1</b>	<b>TAKE THE BAIT</b>	Jr. / Int. / Sr.
<b>UNIT 2</b>	<b>REEL IN THE FUN</b>	Jr. / Int. / Sr.
<b>UNIT 3</b>	<b>CAST INTO THE FUTURE</b>	Jr. / Int. / Sr.

All exhibits will consist of the following:

- A. Completed Sportsfishing e-Record presented in a sturdy binder/notebook.
- B. Include the following information on the project information page.
  - 1. Record each fishing experience:
    - a. date
    - b. location
    - c. type (pond, lake, reservoir, stream, river or other),
    - d. name of body of water
    - e. if you catch fish (if no, what do you think the reason was for not catching fish),
    - f. if yes, include the following weather information about the day: time of day, air temperature, water temperature, cloud cover and other information about the weather.
  - 2. Complete a Catch and Release Fish for your five best fish, caught and released or your five best fish kept, depending on legal limits.
    - a. species, length (nose to tail)
    - b. girth (around middle)
    - c. approximate weight.
  - 3. Complete a Fishing Journal for each trip (whether you caught fish or not):
    - a. rod and reel used;
    - b. types of rig/bait/lure used
    - c. technique used
    - d. types of structure fished
    - e. other things you want to remember about this trip.
- C. Exhibits may include a display board or a stand-alone item such as hand-wrapped rods or hand-made lures. A display board is to be a specific skill level area related to the exhibit. When using a display board, it is strongly recommended to use photos, drawings or other illustrations rather than actual items (i.e. rods, reels, other tackle or accessories). Educational materials shall not extend beyond the edges of display boards. The standardized display board size of 4 ft. x 3 ft. is to be used with 4-H projects. No additional items may be included in front of display board. Hooks must be removed from lures and jigs when these items are used in an exhibit. The exceptions are artificial flies, which may be exhibited with functional hooks, but the hook points must be imbedded in material (i.e. rubber, dense cork, etc.) that will secure the flies and offer safety to the judges and other show officials. **Be sure to remove barbs and any other sharp points.**
- D. No knives to be displayed.
- E. Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).



Section #4  
WILDLIFE

<b>UNIT 1</b>	<b>The Worth of Wild Roots</b>	Jr. / Int. / Sr.
<b>UNIT 2</b>	<b>Living Wild in an Ecosystem</b>	Jr. / Int. / Sr.
<b>UNIT 3</b>	<b>Managing in a World with You and Me</b>	Jr. / Int. / Sr.
<b>STAND ALONE ITEMS for all Units</b>		Jr. / Int. / Sr.

All exhibits will consist of the following:

- A. Completed Wildlife e-Record presented in a sturdy binder/notebook.
- B. Include the following information on the Wildlife page. Show what you did and learned. Show evidence of your personal field experiences, study or observations.
- C. A display board showing educational information about a topic of interest related to wildlife. **Follow the standardized display board size of 4 ft. x 3 ft.** No additional items may be included in front of display board. Possible topics could include but not restricted to: species found in Colorado, wildlife habitats, role of predators, types of bird feed, or urban wildlife challenges.
- D. **OR**, instead of a display board, exhibit may be a stand-alone item, such as a wildlife diorama, scrapbook with wildlife information, pictures and news, a bird feeder or bath, or wildlife track molds. Display items should illustrate something learned in the project this year.
- E. Project will be evaluated on the quality of the information completed in the e-record (25 percent) and quality of the exhibit (75 percent).

