4-H ENTOMOLOGY GUIDELINES

The following are guidelines for providing learning experiences in the entomology project area.

GENERAL GUIDELINES FOR ALL MEMBERS

Gain an understanding of the role insects play in the world.
Gain an understanding of the interaction of insects and human beings in the environment.
Learn more about the science of entomology and the scientific methods.
Learn how to identify and classify insects.
Explore career opportunities in entomology and related fields.

IDEAS FOR LEARNING EXPERIENCES

Collecting and identifying insects:
Learn how to make and display an insect collection.
Study harmful and beneficial effects of insects.
Learn to classify insects by order, this is a difficult area for accuracy.
Expand one's knowledge of insects.
Become familiar with new orders of insects.
Become familiar with additional kinds of insects.
Identify insects to the family level.
Entomology locality, identification, class and order labels, as well as entomology records, are available from the Cooperative Extension Service office.

Science and Other Skills:

Study different groups of insects such as economic insects.
Keep records of insects studied.
Rear and study a species in a culture or cage.
Increase one's understanding of insect phenomena through concentrated study of insect species or groups.
Make equipment related to insect rearing, culturing or study.
Carry out one or more experiments pertaining to insects.
Learn to preserve nymphs and larvae.
Learn how to illustrate insects - showing form, habits, life cycle or other information.
Learn how to do wing laminations and plastic embedments of various insects.

Beekeeping

Learn how to work with bees.
Identify bees in various stages of development. Identify parts of the hive.
Become familiar with honey plants.
Learn to establish a bee colony and to care for it.
Develop abilities required in apiary management.
Introduce new practices to the apiary: queen rearing, two-queen colonies, observation hives, creamed honey.

4-H FAIR CLASSES FOR ENTOMOLOGY

If members want to exhibit at the fair, the classes for entomology are categorized according to the year in the project. First year entomology members should exhibit in Entomology I. Members need to be prepared to answer questions on what they learned.

General Information:

1. An exhibit that does not meet the established criteria for a class will be dropped one grade.
2. Attach index card to exhibit tag if member is disabled or has reached his/her capability. Use card to briefly explain this.
3. Insect exhibits should be displayed in exhibit boxes and accurately labeled.
4. All insects should be mounted with insect pins.

Basic Entomology

* Basic Entomology I - Exhibit collection of 10 to 15 adult, labeled insects from at least 3 different orders.
* Basic Entomology II - Exhibit collection of 25 adult, labeled insects representing at least 8 different orders.
* Basic Entomology III - Exhibit collection of 50 adult, labeled insects, including those already collected in previous level, representing at least 11 different orders.
* Basic Entomology IV - Exhibit collection of 100 adult, labeled insects, including those already collected in previous levels, representing at least 14 different orders.
* Basic Entomology V - Exhibit collection of 175 adult, labeled insects, including those already collected in previous levels, representing at least 16 different orders
* Basic Entomology VI - Exhibit collection of 250 adult, labeled insects, including those already collected in previous levels, representing at least 16 different orders.
* Basic Entomology VII - Exhibit collection of 300 adult, labeled insects, including those already collected in previous levels, representing at least 16 different orders.
* Basic Entomology VIII - Exhibit collection of 350 adult, labeled insects, including those already collected in previous levels, representing at least 16 different orders.
* Basic Entomology IX - Exhibit collection of 400 adult, labeled insects, including those already collected in previous levels, representing at least 18 different orders.

Entomology Science

* Entomology Science I - Special collections; collect, prepare and preserve 25 different insect immatures (nymphs and larvae), OR 25 non-insect arthropods, OR 25 species from a single order.
* Entomology Science II - Economic entomology: collect, preserve and exhibit 30 different economic insects (pests and beneficials; adults and/or immatures) and include some information on their relationships to human society.)
* Entomology Science III - Entomological STUDIES; this can include slides, photos, observations, live specimen exhibits, identification demonstration, or drawings. For beekeeping, exhibit either three one-pound jars of creamy honey, a single frame observation hive containing bees, brood, and queen, or live bees in an observation hive.
* Entomology Science IV - Entomological EXPERIMENTS: this can include experiments

in biology, ecology, genetics or behavior of insects.

Special Entomological Skills

* Special Entomological Skills I - Illustrations; prepare at least 5 illustrations (any medium) of insects showing form, habits, life cycle or other interesting information.
* Special Entomological Skills II - Laminations; prepare at least 20 wing laminations, including a name for each specie.
* Special Entomological Skills III - Plastic embedments; prepare at least 5 plastic embedments of various insects and/or arthropods and include names of species where possible.