W 927-B

3-5 YEARS IN PROJECT

4-H Entomology/ Beekeeping

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Insect Collection and Identification

- Identify insect collecting tools.
- Explain how to use insect collecting tools.
- Summarize where and how to collect insects.
- Describe how to make insect collection tools.
- Demonstrate how to properly pin and mount insects.
- Collect, pin, mount and label butterflies from different habitats in Tennessee.
- Survey for indoor insects using sticky trips.
- Collect and rear one or more insects at home, identify the various life stages, and keep detailed records of observations.
- Create detailed records of observations and experiments.

Insect Morphology and Function

- Compare and contrast insect feeding behaviors and mouth parts.
- Explain the presence, number and morphology of wings of insects in the following orders: Orthoptera, Hymenoptera, Diptera, Coleoptera and Lepidoptera.
- Explain the life cycles and feeding behaviors of insects in the following orders: Orthoptera, Hymenoptera, Diptera, Coleoptera and Lepidoptera.

Basic Insect Life Cycles

- Define social insects, metamorphosis, egg, instar, larva, pupa, nymph, adult, hemimetabolous, holometabolous, paurometabolous and ametabolous.
- Identify characteristics of social insects such as honey bees and ants.
- Identify the steps in insect life cycles and metamorphosis.
- Differentiate complete and incomplete metamorphosis.
- Describe the basic needs of insects for successful rearing.

Invasive Insects and Pest Insects

- Describe the biology of several invasive insects in Tennessee.
- Analyze ways that insects cause damage.
- Summarize the basic needs of insect pests.
- Locate indoor areas that satisfy the basic needs of household insect pests.
- Investigate and describe five insects from the Invasive Species List.
- Collect and identify one or more examples of an invasive insect in Tennessee.

Evolutionary Relationships of Arthropod Groups

- Describe the tree of life.
- Identify the classes of arthropods.
- Identify the evolutionary relationships of different arthropod groups.

Diversity in Other Animals, Including Humans

- Demonstrate understanding and appreciation of differences among people.
- Demonstrate appreciation for others' similarities and differences using interpersonal skills.
- Demonstrate appreciation of differing abilities of others.

Potential Activities

- Collect, pin, mount and label butterflies from different habitats in Tennessee.
- Use sticky traps to survey for indoor insects.
- Investigate and describe five insects from the Invasive Species List.
- Collect and identify one or more examples of an invasive insect in Tennessee.
- Collect and rear one or more insects at home, identify the various life stages, and keep detailed records of observations.

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