

# A Bug's Life



Audubon Center  
of the North Woods

**Purpose:** Typical human reactions to insects are often not positive and those tiny creepy critters have no chance against a fly swatter or the bottom of a shoe. Could it be that these small, six-legged creatures might deserve to live because they serve a greater purpose that benefits all of us? In this class students will explore the life cycles of insects, their amazing adaptations, how they are classified by scientists and their role within an ecosystem. Students will also investigate three different habitats to observe the biodiversity of insects found in each environment.

## Concepts:

- Entomology is the scientific study of insects.
- Entomologists *classify* or organize living organisms by defining characteristics.
- Insects have two different types of metamorphosis or life cycle change; complete and incomplete.
- The greater the variety of insects living in a habitat, the greater the biodiversity of that habitat
- Insects benefit humans in many ways; ecosystems would crash without the pollination of plants by insects.

## Learning Outcomes:

- Verify the abilities and adaptations of insects through participation in hands-on experiences
- Assign the physical features that define insects by dressing a classmate as an insect
- Act out an incomplete metamorphosis by participation in a game
- Present information to their classmates about one insect order and one insect
- Search for, collect, identify, record data and classify insects found as a scientific investigation.

## Minnesota Academic Standards:

- 5.4.1.1.1 Describe how plant and animal structures and their functions provide an advantage for survival in a given natural system.
- 6.1.3.1.1 Describe a system in terms of its subsystems and parts, as well as its inputs, processes and outputs.
- 7.4.3.1.3 Distinguish between characteristics of organisms that are inherited and those acquired through environmental influences.
- 8.3.4.1.2 Recognize that land and water use practices can affect natural processes and that natural processes interfere and interact with human systems.

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**CLASS LENGTH:** 1 ½ - 3 HR

**AGES:** GRADES K-6

**SEASON:** F, SP, S

**GROUP SIZE:** 10-20 students

**SAFETY:** Distance to be traveled is of medium ability, ¼ to one mile. Insect Ecology is a class that can be adapted by the instructor to fit most needs and abilities. Some insects will need to be handled with caution.

**MATERIALS:** Foam water noodle, Relay cards, cones for relay, insect costume, Laminated Order ID Guides and cards, field guides, sweep nets, bug boxes, pet containers from the barn, hand lenses, white sheet, masking tape, markers, data sheets, microscopes, honey, spoons, complete/incomplete metamorphosis poster, pencils, TV/Projector magnifier (optional), Beaks & Bugs Materials, monarch nursery, three stages of mealworms, hissing cockroach

**PRE-CLASS PREP:** Organize the supplies you will need for class. Prepare the relay cards in groups of six (there should be one insect per set). Set out stereoscopes in the Science Classroom. Make sure you have enough collection boxes, hand lenses and nets. Sharpen pencils and make sure you have enough data sheets. Bring a hissing cockroach and three stages of meal worms over from the barn.

## CLASS OUTLINE:

### I. Introductions

- A. Insect Schwacker Game
- B. Lesson preview: Entomology
- C. Grabber: Six-legged relay race

### II. Class Experiences

- A. Dress an Insect
- B. Life Cycles & Metamorphosis Game
- C. An Order of Insects Activity

### III. Insect Discovery Hike

### IV. Assessment: Inspect an Insect

### V. Reflection: Bug Benefits

### VI. The Sending: Sweet Freedom