Iowa 4-H After School Program

**Bugs, Lesson Plan**

Eight, 60 Minute Sessions

**Grades:** 3-6

**Optimum Group Size:** 25

**Supplies Needed:** See lesson plans

**Reference Resources** (include citation and ISBN#):
- Birds, Beasts, Bugs and Us Activities for Environmental Education, 4H-818b
- Bug Watcher, Iowa Youth and 4-H Entomology, 4-H 423A
- Entomology, Group Helper’s Guide,
  - 4-H Cooperative Curriculum System Publication, 4HCCS 6856
- What’s Bugging You?
  - 4-H Cooperative Curriculum System Publication, 4HCCS 6854
- Dragons, Houses and Other Flies
  - 4-H Cooperative Curriculum System Publication, 4HCCS 6855

**Physical Setting:** Classroom, outdoors

**Life Skills Addressed:**
- Learning to learn
- Communication skills
- Hypothesizing, exploring, recording
- Leading a group
- Finding information and making comparisons

**Indicator** (What is the one thing the child should get out of each lesson):
- D1: Communication (5008): to clearly state my thoughts, feelings, and ideas to others
- D2: Marketable Skills (8007): to contribute as a member of a team
- D3: Wise use of resources (3030): to act in a responsible manner when using a natural resource
- D4: Wise use of resources (3030): to act in a responsible manner when using a natural resource
- D5: Wise use of resources (3043): to keep accurate and useful records
- D6: Wise us of natural resources (3030): to act in a responsible manner when using natural resources
- D7: Wise us of natural resources (3037): how I can improve the environment
- D8: Wise us of natural resources (3037): how I can improve the environment

**Content Objective:**
- D1: What do I know about bugs?
- D2: How do insects move, and where can I find insects?
- D3: How do insects grow?
- D4: Catching and observing insects
- D5: Observing insect behaviors through experimentation
• D6: Raising insects and testing behaviors
• D7: Planting for wildlife
• D8: Planting for wildlife

Related School Standards and Benchmarks (1-2; refer to National Standards and Benchmarks):

Life Skills
• Life Work
  1. Makes effective use of basic tools
     a. Chooses appropriate common materials for making simple mechanical constructions and controlling things
• Working with Others
  1. Displays effective interpersonal communication skills
     a. Communicates in a clear manner during conversations
     b. Contributes to the development of a supportive climate in groups
     c. Engages in active listening
  2. Contributes to the overall effort of a group
     a. Helps the group establish goals

Science
• Life Sciences
  1. Understands relationships among organisms and their physical environment
     a. Knows that an organism's patterns of behavior are related to the nature of that organism's environment (e.g., kinds and numbers of other organisms present, availability of food and resources, physical characteristics of the environment)
  2. Understands the structure and function of cells and organisms
     a. Knows that plants and animals progress through life cycles of birth, growth and development, reproduction, and death; the details of these life cycles are different for different organisms
     b. Knows that the behavior of individual organisms is influenced by internal cues (e.g., hunger) and external cues (e.g., changes in the environment), and that humans and other organisms have senses that help them to detect these cues

• Nature of Science
  1. Understands the nature of scientific inquiry
     a. Knows that learning can come from careful observations and simple experiments
     b. Plans and conducts simple investigations (e.g., formulates a testable question, makes systematic observations, develops logical conclusions)
     c. Knows that different people may interpret the same set of observations differently

Evaluation (indicate if Targeted Life Skill evaluation is attached at end of lesson plan):
Attached

<table>
<thead>
<tr>
<th>Time Allotment</th>
<th>Activity</th>
<th>Supplies</th>
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</thead>
<tbody>
<tr>
<td>Day 1</td>
<td></td>
<td></td>
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<tr>
<td>15 minutes</td>
<td>What do you know about insects? pg 6, Bug Watcher</td>
<td>Copies of questions, pencils. This could be done verbally, as a group</td>
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<tr>
<td>15 minutes</td>
<td>Insect parts, pg 10, <em>Bug Watcher</em></td>
<td>Copies of insect picture Insects to look at (grasshoppers are good)</td>
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</tbody>
</table>
| 30 minutes     | Bigger than a Bread Box, pg 26, *Helper’s Guide*.  
  • This game could be played when ever there is a few minutes left in the hour | Pencils paper, |
| **Day 2**      | Left, Right, Left, Right, pg 16, *Helper’s Guide* | cloth strips or Velcro straps |
| 15 minutes     | Hop, skip and Jump, pg 6, *Helper's Guide* | grasshoppers, crickets poster board tape measure |
| 30 minutes     | Find Insects!, pg 13, *Bug Watchers*.  
  • Look for insects the next day if there is not time to go outdoors. | Paper Pencils outdoor spaces |
| **Day 3**      | How to make an insect net, pg 27, *Bug Watchers* or How to make a Viewing Cage, pg 28, *Bug Watchers*.  
  • You can split the group so that both are made. | See “What you need” on each activity |
| 15 minutes     | Trace the Life Cycle of an insect, pg 18, *Bug Watcher* | Copies of “Complete Metamorphosis” |
| 15 minutes     | Turn Left at Mexico, pg 8, *Helper’s Guide* | monarch eggs large container/box/jar with lid milkweed leaves sticks/twigs |
| **Day 4**      | Catch a few Insects, pg 20, *Bug Watchers*.  
  • Here there are” A Bunch of Project Ideas”.  
  • This is #2. | Nets jars from previous day, |
<p>| 30 minutes     | Be a Bug Watcher, pg 14, <em>Bug Watcher</em> | Insects magnifying glasses paper pencils (regular and colored) copies of pg 15, chart |
| <strong>Day 5</strong>      | Mr. Grasshopper’s Neighborhood, pg 22, <em>Helper’s Guide</em> | rope or heavy string-at least 15 feet long insect guides |
| 30 minutes     | Miss BEEhaving, pg 12, <em>Helper’s Guide</em> | clear containers live insects |</p>
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<tr>
<td>Day 6</td>
<td>60 minutes</td>
<td>Wiggle, wiggle, pg 22, <em>Dragons, Houses and other Flies</em>. Or Ants and ANTics, pg 8, <em>Dragons, Houses and other Flies</em> Groups can chose which insect to observe</td>
</tr>
<tr>
<td>Day Seven</td>
<td>60 minutes</td>
<td>Planting for Butterflies, pg 18, <em>Dragons, Houses, and other Flies</em> Plan the garden and start the seeds indoors if possible Continue to observe mosquitoes, ants and monarchs</td>
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<tr>
<td>Day Eight</td>
<td>60 minutes</td>
<td>Planting for Butterflies, pg 18, <em>Dragons, Houses, and other Flies</em></td>
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