

**NatureMapping Program**  
**3<sup>rd</sup> Grade Bug Project**

Modules	Life Sciences	Math	Technology
<b>1. Scientific question</b> What are the insects found in Waterville vs Douglas Creek (comparative study)	Hypothesis: There are different insects in the two locations		
<b>2. Project Design (Identify a Setting within a System and Identify variables of Interest)</b> What you are going to do?	List characteristics of insects and classify them within their orders.	Count collected insects in each order and create bar graphs comparing insects in Waterville and Douglas Creek	Read maps, use GPS units, take digital pictures, and create a video that depicts each order of insects & tells about what has been found in Waterville. Publish results on the website & submit data to <i>NatureMapping</i>
<b>3. Methods (Collect Data)</b> How you are going to do it?	Students will choose one order of insect and become an expert of this order. They will create a poster of a chosen order and label the various parts of these creatures.	Total bugs and create bar graph on excel. The graph will include information about Waterville found species and Douglas Creek species.	Internet to find information and details about insects. GPS locations will be entered into Excel. Maps will be made using ArcView Teacher will make the video Take digital pictures of insects & posters
<b>4. Data Analysis - Results</b> What did the data tell you?	Compare Douglas creek insects to City of Waterville insects. Compare our findings with other data about insects found in this area. What is similar what is the same? Example: There are more non-native species in Waterville	Use graphs and create observations about insects found in Waterville compared to Douglas Creek. Example: The bar graphs show there are more insect orders in Douglas Creek than in the town of Waterville. The predominate order in Waterville is _____	Maps show where the sampling occurred.
<b>5. Discussion (Use Evidence to Support an Explanation)</b> Why do you think you got the results that you did?	Why might this occur?	Collecting data in different locations next year will prove our theory	Use maps to discuss why this might occur.

**NatureMapping Program**  
**3<sup>rd</sup> Grade Bug Project**

Modules	Reading/Writing	Art	Social Studies
<p><b>1. Scientific question</b> What are the insects found in Waterville vs Douglas Creek (comparative study)</p>	<p>Hypothesis: There are different insects in the two locations</p>		
<p><b>2. Project Design (Identify a Setting within a System and Identify variables of Interest)</b> What you are going to do?</p>	<p>Field Guide use Students will learn new science related vocabulary and create a written document describing the insect order. The document will also include an explanation of how to find bugs.</p>	<p>Students will create a visually appealing diagram of their insect on a poster</p>	<p>Learn about Cast and Colonial systems</p>
<p><b>3. Methods (Collect Data)</b> How you are going to do it?</p>	<p>Students will use the Internet and various field guides to find information about insect orders. A template will be created for students to insert their written descriptions and explanations. “Bug Detective” stories will be written to explain how to find a bug.</p>	<p>Draw insects and label on a large poster board</p>	<p>Students will ask Conservation District entomologists about insects that have been introduced and released in Waterville (city and farm fields)</p>
<p><b>4. Data Analysis - Results</b> What did the data tell you?</p>	<p>Students will write their results for the web site.</p>	<p>Two posters of the habitats will be drawn. Insect cutouts will be glued to the poster.</p>	<p>More (or less) non-native species were identified because of the introduction of species by Conservation District or other means.</p>
<p><b>5. Discussion (Use Evidence to Support an Explanation)</b> Why do you think you got the results that you did?</p>	<p>Students will write a one-page document about why their insect lives in the habitat they found it and post on the website</p>	<p>In future years, more insects will be added to the posters to show the diversity of the 2 habitats.</p>	<p>The history of introducing species to combat weeds or other species.</p>