

***NatureMapping Program***  
***1<sup>st</sup> Grade Butterfly Project***

Modules	Life Sciences	Math	Technology
<b>1. Scientific question</b> What are the native butterflies in Waterville and farm fields (descriptive study)	Hypothesis: There are native butterflies in Waterville		
<b>2. Project Design (Identify a Setting within a System and Identify variables of Interest)</b> What you are going to do?	Systems: Learn what a butterfly looks like and the different stages of its life Learn how to identify different butterflies Learn where to find butterflies and caterpillars in Waterville	Measure the length of time it takes for a chrysalis (butterfly) cocoon (moth) to grow before it becomes a butterfly. Create bar graphs of where (habitat/plants) butterflies were seen	Students will take digital pictures of the butterflies, chrysalis, and plants where they find butterflies.  Publish results on the website and submit data to the <i>NatureMapping Program</i>
<b>3. Methods (Collect Data)</b> How you are going to do it?	Obtain a list of species that would be expected to live in Waterville, along with their pictures and life history information. Students will collect data from home and around the school yard Butterflies ordered via catalog will be used for up-close training.	Develop a poster where students can add their sightings. Make columns of different plants where students can put stickies under the appropriate column.  Collect data weekly	Digital pictures of butterflies will be taken. Digital pictures of the plants  Teacher will mark locations on a map for digitizing by older grade level students to link with the Tree Project.
<b>4. Data Analysis - Results</b> What did the data tell you?	We know the different between a butterfly and other insects because _____ Example: There are more native species in Waterville than in the farm fields  We find butterflies most of the time (where?)	Bar graphs (posters) show there are more butterflies in Waterville than farm fields.  Pie chart-make a circle. Take the totals from the bar graph and decide what plant has the biggest piece of the pie.	Maps show where the sampling occurred.  Aerial photos
<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	

**NatureMapping Program**  
**1<sup>st</sup> Grade Butterfly Project**

Modules	Reading/Writing	Art	Social Studies
<p><b>1. Scientific question</b> What are the native butterflies in Waterville and farm fields (descriptive study)</p>	<p>Hypothesis: There are native butterflies in Waterville</p>		
<p><b>2 Project Design (Identify Setting within a System and Identify variables of Interest)</b> What you are going to do?</p>	<p>Students will learn new science related vocabulary</p>	<p>Learn about the symmetry of the body</p>	<p>Don't release introduced species</p> <p>Culture - Caterpillars eat plants that we like in our gardens. We have to share our gardens if we want to see butterflies.</p>
<p><b>3. Methods (Collect Data)</b> How you are going to do it?</p>	<p>Learn how to read diagrams Learn to read to gather information</p>	<p>Students draw their butterflies and label the parts. Use the butterflies that die in the classroom to learn about parts.</p>	<p>Keep the purchased butterflies inside the classroom.</p>
<p><b>4. Data Analysis - Results</b> What did the data tell you?</p>		<p>Based on the different coloration and parts, there are ____ different butterflies in Waterville.</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>In future years, more insects will be added to the posters to show the diversity of the 2 habitats.</p>	<p>We have (more or less) native butterflies because some have been introduced by ____ (3<sup>rd</sup> grade should have a list of introductions)</p>