

# Wisconsin NatureMapping Asian Beetle Study

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## Activity 3: Asian Lady Beetle – Field Study



**Lesson:** Students will complete a field study for Asian lady beetles.

**Objectives:** Students will create a research question then conduct a field study and use Wisconsin NatureMapping to input and analyze the data collected

1. Introduce students to the Wisconsin NatureMapping Website. They should be familiar with its features and how to input data.  
[www.wisnatmap.org](http://www.wisnatmap.org)
2. Have the students go to the Asian Lady Beetle Field Study page and look at the available data fields.
3. As a class, Review the research question you want to investigate (from activity 2) and make changes if necessary. Use the available data fields to help guide the choice of your question. Students should recognize the need for appropriate data to analyze when forming their question.
4. Using the scientific method students should design their investigation. Students should pay close attention to having a controlled experiment, only having one variable. You may use the “Science Investigation” handout for students to write the steps of their investigation.
5. Have students trade experiments with a partner to proof the experiment descriptions. Their partner should point out steps that are unclear and analyze the experiment to make sure there is only one variable. Experiment descriptions should then be turned in to the teacher to proof and handed back for corrections or adding details.
6. As a class students will need to determine the counting/collection method they will use in the field study. You may want to refer to the high school Asian lady beetle activity for collection protocol, but you may choose your own protocol if you are only comparing your own data.
7. Students will complete a field study to collect data.
8. Students will enter their data on the Wisconsin NatureMapping web page under the teacher projects section.
9. Students will analyze their class data and complete the analysis and conclusion sections of the investigation.
10. Students should reflect on their successes and difficulties of their field study and write about them in their science journal.
11. After journaling students should be allowed to share their journal entries with the class. Consider discussing if there are further questions that need to be answered and ways they would improve their investigation if they did it again.
12. Students should discuss:

- a. Is there a need to take measures to control or eradicate the Asian lady beetles?
- b. Is there a risk to the ecosystem by allowing the Asian beetles to stay?
- c. How should public opinion effect the decision to spend money to address the Asian lady beetle?
- d. What other factors effect decisions made related to invasive species?

## **Science Investigation**

### **State The Question.**

What do you want to know?



### **Research and Collect Observations.**

What do you already know, what have you seen, what have you learned by researching?

### **Form a hypothesis.**

State what you think will happen and your reasons.

### **Test The Hypothesis.**

Describe the steps of your field study. Identify your variable in your description.



### **Summarize The Data**

What data was collected? You may use a table, chart, or other organizer to summarize the data.

### **Analyze The Data.**

What does the data mean? Use actual data to make simple statements to compare and contrast data.

### **State Your Conclusion.**

Does the data support the hypothesis? Explain your answer using the best data from your analysis.



## Asian Lady Beetle Field Study Assessment Rubric

	A Advanced	B Proficient	C Basic	D Minimal
<b>Activity 1: Invasive Species Research</b> <ul style="list-style-type: none"> <li>Student researched their invasive species and described how the species was introduced, how the species affects the ecosystem, and the methods used (if any) to control the species.</li> </ul>				
<b>Activity 1: Invasive Species Debate</b> <ul style="list-style-type: none"> <li>Student contributed to the debate by providing several facts from their research about invasive species to support their side of the debate.</li> </ul>				
<b>Activity 2: Asian Lady Beetle Trap – Organize Your Research</b> <ul style="list-style-type: none"> <li>Student organizer has a title, information is grouped in a logical manner, and provides details that will be useful in the design of the trap</li> </ul>				
<b>Activity 2: Asian Lady Beetle Trap</b> <ul style="list-style-type: none"> <li>Student’s trap is made from materials they recycled from home; the design incorporates the information they collected from their research, and has an effective method to keep the beetles from escaping.</li> </ul>				
<b>Activity 2: Asian Lady Beetle Trap Analysis</b> <ul style="list-style-type: none"> <li>Student completed the analysis page, gave detailed descriptions of the environment the trap was placed in, and critically analyzed the effectiveness of their design</li> </ul>				
<b>Activity 3: Field Study – Investigation Design</b> <ul style="list-style-type: none"> <li>Student completed the investigation outline, gave a detailed step-by-step description of their investigation, the investigation had only one variable and was designed to directly collect data on the research question.</li> </ul>				
<b>Activity 3: Field Study – Data Summary and Analysis</b> <ul style="list-style-type: none"> <li>Student summarized data in a logical manner, and created an analysis that was directly related to the research question and supported their analysis with appropriate data.</li> </ul>				

