NatureMapping Program
High School Residential Tree Project

Modules	Life Sciences	Math	Technology
1. **Scientific question** What is the composition difference between resident and public trees in Waterville (descriptive & comparative study)	Hypothesis: The ratio of non-native trees is greater in residential yards than on city property		
2. **Project Design (Identify a Setting within a System and Identify variables of Interest)** What you are going to do?	Inventory all the trees in Waterville and compare this list with the public tree list.	Measure the diameter of all trees taller than 15 feet	Develop a map with the GPS locations of each tree and linked to other data collected for each tree
3. **Methods (Collect Data)** How you are going to do it?		Using Excel, develop a spreadsheet listing variables similar to the City Tree Project spreadsheet. Using ArcView, learn how to summarize tree species, total, and query multiple data variables (e.g., trees taller than 15', or non-native pine trees).	Create maps using ArcView
4. **Data Analysis - Results** What did the data tell you?	Example: There are more deciduous trees than conifers; there are more non-native than native on both private and public properties	Example: Use bar graphs and pie charts to explain the data Analyze the survey results – who responded, who didn't How many homes were missed?	Maps that are used to explain the graphs
5. **Discussion (Use Evidence to Support an Explanation)** Why do you think you got the results that you did?	Why are there more of certain kinds of trees than other- based on data and survey		

Modules	Reading/Writing	Art	Social Studies

NatureMapping Program
High School Residential Tree Project

1. **Scientific question** What is the composition difference between resident and public trees in Waterville (descriptive & comparative study)	Hypothesis: The ratio of non-native trees is greater in residential yards than on city property		
2. **Project Design (Identify a Setting within a System and Identify variables of Interest)** What you are going to do?	A survey will be sent to homeowners asking them to list the number of trees, species, and ages		Use GPS units to document large trees Develop a residential tree map for the residents
3. **Methods (Collect Data)** How you are going to do it?	Students will design the survey		Collect GPS locations from homes. Use topographic maps and ArcView to teach geography. Make aerial photo maps for the homeowners. Provide geographic information on those maps.
4. **Data Analysis - Results** What did the data tell you?	Write the results for the website and in powerpoint for presentations. Explain survey results		
5. **Discussion (Use Evidence to Support an Explanation)** Why do you think you got the results that you did?	Students will discuss their results for the web site.		Write a report to the homeowners that responded and provide their information and information to learn more about native trees.