

NatureMapping Project Design Matrix

Modules	Life Sciences	Math	Technology
<p>1. Scientific question What is the diversity of wildlife in my backyard? What species are resident and migratory? (descriptive & comparative study)</p>	/	/	/
<p>2. Project Design (Identify a Setting within a System and Identify variables of Interest) What you are going to do?</p>	<p>Identify area to be sampled, habitats, and what you want to inventory, such as wildlife, fish, insects, and plants. Are you going to observe breeding, migratory, and wintering species? Create list of species predicted to be seen</p>	<p>Learn how to use binoculars (magnification and power) Count the different species Count individuals</p>	<p>Use <i>NatureMapping</i> website to download range maps, and habitats info Download the predicted species list by county. Take pictures of your yard and wildlife Make a map by hand or via computer of your land and outline habitats</p>
<p>3. Methods (Collect Data) How you are going to do it?</p>	<p>Literature research on wildlife species and ecosystems. Collect wildlife observations, weekly or monthly. How many places are you going to sample? What time of the day and for how long?</p>	<p>Highest number of individuals seen on a single day; average over a period of a month.. Calculate total number of species and individuals observed.</p>	<p>Use Internet for searching species information. Progress from field data collection forms to data collection directly into computers; manual field notes to electronic field notes.</p>
<p>4. Data Analysis - Results What did the data tell you?</p>	<p>There are more non-native species than native or There are more migratory (summer and winter) birds than residents or Birds that eat insects (insectivore) are the most plentiful. Quality of habitat attracted (or limited) the species observed. Wildlife behavior (i.e., migration, time of day) and sampling time explained why some species were or were not observed.</p>	<p>Calculate total number of species and individuals observed. Calculate the breeding territory vs habitat and range to identify the number of individuals expected to be seen in a given area. Divide the list into native and non-native, or migratory and resident and graph Species were or were not found around the bird feeders</p>	<p>Database software to create reports or use spreadsheets to record and graph data. Make maps to show where the sampling occurred.</p>
<p>5. Discussion (Use Evidence to Support an Explanation) Why do you think you got the results that you did?</p>	<p>Wildlife populations increasing? decreasing? Habitat modifications? Effects of introduced plant and animal species.</p>	<p>Bias in data collection, geographic location errors, compare historic to current and calculate future species richness, diversity and abundance based on other variables, such as projected new homes, land use changes, etc.</p>	