

TEMPLATE FOR CMap PROJECT

Project Title: ROOSEVELT NEIGHBORHOOD TREES

Edward J Attryde

June 2008 Roosevelt CMap Class

Project Description	Seventh grade integrated science students are required to learn to classify organisms based on observable characteristics using . This project will facilitate the multi-year development of a virtual herbarium (VR). While developing the VH by linking images and locations of local tree species in parks and neighborhoods near the school, students will practice the DRSLs.
Community Issue or Problem Selected -How project evolved?	In the past, students have spent a great deal of time collecting and preparing specimens of trees and insects and relatively little time classifying. This project will refocus students on the core DRSLs while minimizing the impact of collecting dozens of specimens by hundreds of students.
Community Partner(s)	Arbor Day Association Duchesne County Soil Conservation District Roosevelt Parks & Recreation Department Local Nurseries
Project Objectives	<p>Students will use GPS receivers, digital cameras and dichotomous tree keys to develop a series of interactive maps, using ArcMap software, and produce an expandable virtual herbarium.</p> <p>The VH will be available for student classification practice during inclement weather using the linked images and hardcopies of dichotomous keys. The VR will be helpful in teaching students how to write their own classification keys. The VR will be useful for unit formative & summative assessments. It will also be useful for 8th grade students studying ecology concepts such as biodiversity.</p> <p>Community Partners will find the VH (GIS interactive maps) useful in planning or redesigning landscaping projects.</p>
Utah Core Standards/ Objectives	<p>Seventh Grade Integrated Science Core Curriculum</p> <p>Standard 5: Students will understand that structure is used to develop classification systems.</p> <p>Objective 2: Use and develop a simple classification system.</p> <p>a. Using a provided classification scheme, classify things (e.g., shells, leaves, rocks, bones, fossils, weather, clouds, stars, planets).</p> <p>b. Develop a classification system based on observed structural characteristics.</p> <p>Objective 3: Classify organisms using an orderly pattern based upon structure.</p> <p>c. Use a classification key or field guide to identify organisms.</p>
Essential	How can I provide authentic classification skills without negatively impacting the landscape of the

Question(s) -Spatial Issue	neighborhood surrounding the school? Continued on next page...																																			
Assessments (rubrics, scoring guides)	<table border="1"> <thead> <tr> <th data-bbox="285 306 477 348">CATEGORY</th> <th data-bbox="477 306 662 348">5</th> <th data-bbox="662 306 847 348">4</th> <th data-bbox="847 306 1032 348">3</th> <th data-bbox="1032 306 1218 348">2</th> <th data-bbox="1218 306 1403 348">1</th> </tr> </thead> <tbody> <tr> <td data-bbox="285 348 477 663">Map Format</td> <td data-bbox="477 348 662 663">Student Map Page includes all of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.</td> <td data-bbox="662 348 847 663">Student Map Page includes four of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.</td> <td data-bbox="847 348 1032 663">Student Map Page includes three of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.</td> <td data-bbox="1032 348 1218 663">Student Map Page includes two of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.</td> <td data-bbox="1218 348 1403 663">Student Map Page includes only one of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.</td> </tr> <tr> <td data-bbox="285 663 477 978">Map</td> <td data-bbox="477 663 662 978">Size and placement of map allows reader to identify location of all trees within boundaries.</td> <td data-bbox="662 663 847 978">Size and placement of map allows reader to identify location of all but a few trees within boundaries.</td> <td data-bbox="847 663 1032 978">Size and placement of map allows reader to identify location of most of trees within boundaries.</td> <td data-bbox="1032 663 1218 978">Size and placement of map allows reader to identify location of a few of the trees within boundaries.</td> <td data-bbox="1218 663 1403 978">Size and placement of map does not allow reader to identify location of trees within boundaries.</td> </tr> <tr> <td data-bbox="285 978 477 1356">Symbology</td> <td data-bbox="477 978 662 1356">The location of all trees are marked on map with appropriate symbols and hyperlinks to photo and species information.</td> <td data-bbox="662 978 847 1356">The location of > 80% of trees are marked on map with appropriate symbols and hyperlinks to photo and species information.</td> <td data-bbox="847 978 1032 1356">The location of > 60% of trees are marked on map with appropriate symbols and hyperlinks to photo and species information.</td> <td data-bbox="1032 978 1218 1356">The location of > 40% of trees are marked on map with appropriate symbols and hyperlinks to photo and species information.</td> <td data-bbox="1218 978 1403 1356">The location of < 20% of trees are marked on map with appropriate symbols and hyperlinks to photo and species information.</td> </tr> <tr> <td data-bbox="285 1356 477 1545">Tree Identification</td> <td data-bbox="477 1356 662 1545">The identification of all tree species is correct.</td> <td data-bbox="662 1356 847 1545">The identification of > 80% of all tree species is correct.</td> <td data-bbox="847 1356 1032 1545">The identification of > 60% of all tree species is correct.</td> <td data-bbox="1032 1356 1218 1545">The identification of > 40% of all tree species is correct.</td> <td data-bbox="1218 1356 1403 1545">The identification of < 20% of all tree species is correct.</td> </tr> </tbody> </table>						CATEGORY	5	4	3	2	1	Map Format	Student Map Page includes all of the following: Title, Legend, Scale Bar, North Arrow, & tree species bar graph.	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Project Products	A series of local interactive GIS maps that can be used by a variety of stakeholders for classification and planning.																																			
Project Timeline (include a step by step Procedures)	<p>March:</p> <p>Two long lab days learning GPS skills. Walking your Name & Finding & Marking Waypoints.</p> <p>Four short days on using & making dichotomous keys.</p> <p>Two short days on tree characteristics & tree key.</p>																																			

	Continued on next page... April: One week introduction to ArcMap software and choosing local area map to work on. Four long lab days marking tree waypoints and photographing logging each tree within map. 12-15 short days having students identify tree photos using dichotomous keys. May: Two weeks assembling map with hyperlinks to photos and species identification. Post finished map on myedesk.
Resources Needed	Classroom set of GPS receivers Digital cameras ArcMap Software
Skills Required	Use of a dichotomous keys Marking GPS waypoints and importing associated data into ArcMap software. Tree characteristics to be photographed
Project Team Member Roles	Teacher(s): Modeling skills, support and facilitating project progress/ Students: Locating (GPS), photographing and classifying trees. Partner(s): Financial support for equipment purchases, expert classification mentoring for students.
Celebration /Presentation	Students will present and explain to the class a page view (PDF) of their map with photos, and charts.
Project Evaluation	The success of the project will be evaluated with CTR performance on Standard 5, Objective 2 & 3.
Project Bibliography	http://www.schools.utah.gov/curr/core/corepdf/Scie7-8.pdf http://www.uensd.org/gis/courses/CMap/files/gps/eTrexLegend_OwnersManual.pdf http://gis.utah.gov/
Plans for Future CMaP Activities	Yearly expansion of VH to include additional blocks of the residential neighborhoods surrounding RJHS.

Optional:

- Lesson Plans
- Student Artifacts
- Publicity