

TEMPLATE FOR CMap PROJECT

Project Title: Bike Trails

Author: Lisa Johnson

Class: Cedar 2009

Project Description	Students will research, survey and map a bike trail in the Kanab area.
Community Issue or Problem Selected -How project evolved?	Is there enough interest in the community to have a biking/walking trail in the Kanab area
Community Partner(s)	Kanab City, Kane County, BLM, Local Contractors
Project Objectives	<ol style="list-style-type: none"> 1. Students will create a survey 2. Students will use a graphing calculator to graph data collected in survey and to analyze data 3. Students will learn to use a GPS to mark a bike and walking trail, using the survey to mark areas of interest. 4. Students will use Arcmap to create a map with the bike trail and points of interest. 5. Students will present survey and map to Kanab City
Utah Core Standards/Objectives	<p>Standard III: Students will develop fluency with the language and operations of algebra to analyze and represent relationships.</p> <p>Objective 3: Represent relationships using graphs, tables, and other models.</p>

	<p>Standard IV: Students will use algebraic, spatial, and logical reasoning to solve geometry and measurement problems.</p> <p>Objective 1: Apply the properties of proportionality of different units of measure.</p> <p>a. Convert units of measure within the same system.</p> <p>b. Create and interpret scale drawings and approximate distance on maps using scale factors.</p> <p>c. Solve problems using scale factors.</p> <p>Standard V: Students will understand concepts from probability and statistics and apply statistical methods to solve problems.</p> <p>Objective 2: Formulate questions and answer the questions by organizing and analyzing data.</p> <p>a. Formulate questions that can be answered through data collection and analysis.</p>
<p>Essential Question(s) -Spatial Issue</p>	<p>Where can a bike/walking trail be built in the Kanab Area? What property will be involved—city, county, private, BLM? Check with City to see if plans are already in the making.</p>
<p>Assessments (rubrics, scoring guides)</p>	<p>Completed Survey Completed Graphing Calculator Graphs and Analysis Marking Waypoints on GPS Complete a map using ARCGIS</p>
<p>Project Products</p>	<p>Survey about Bike/Walking Trail Map of possible locations for Bike/Walking Trail</p>
<p>Project Timeline (include a step by step Procedures)</p>	<p>2 Days: Brainstorm questions to include on a survey and create survey. Send survey home with students to survey 30 people</p> <p>4 Days: Use the data collected from the survey to make graphs on TI graphing calculator. Use Stats on Graphing Calculator to analyze data.</p> <p>2 Days: Treasure Hunt around the school with GPS to teach students how to mark waypoints and make tracks.</p> <p>2 Days: Create map of treasure hunt with Arcgis.</p>

	<p>1 Day: Mark waypoints for Bike/Walking Trail with GPS (Field Trip)</p> <p>5 Days: Create Map with Arcgis software</p>
Resources Needed	<p>TI-Graphing Calculator</p> <p>GPS—1 or more.</p> <p>Classroom Computers</p>
Skills Required	<p>GIS/GPS knowledge</p> <p>Directional knowledge</p> <p>Graphing Calculator knowledge</p>
Project Team Member Roles	<p>Teacher(s): Lisa Johnson</p> <p>Students: Math Exploratory Class</p> <p>Partner(s): BLM, Kanab City, Kane County Assessor</p> <p>Local Contractors</p>
Celebration/Presentation	<p>Presentation to Kanab City Council</p>
Project Evaluation	<p>Ongoing:</p> <p>Did the project meet the stated goals?</p> <p>Were students successful with equipment and software?</p> <p>Community Feedback</p>
Project Bibliography	<p>Community Mapping Binder</p> <p>Kane County Property Maps</p> <p>Kanab City Property Maps</p>
Plans for Future CMAP Activities	<p>Use the information from this project to calculate cost of Bike/Walking trail</p>

Optional:

- Lesson Plans
- Student Artifacts
- Publicity