**Project Title:** Bike Trails  
**Author:** Lisa Johnson  
**Class:** Cedar 2009

<table>
<thead>
<tr>
<th><strong>Project Description</strong></th>
<th>Students will research, survey and map a bike trail in the Kanab area.</th>
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<tbody>
<tr>
<td><strong>Community Issue or Problem Selected -How project evolved?</strong></td>
<td>Is there enough interest in the community to have a biking/walking trail in the Kanab area</td>
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<tr>
<td><strong>Community Partner(s)</strong></td>
<td>Kanab City, Kane County, BLM, Local Contractors</td>
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<tr>
<td><strong>Project Objectives</strong></td>
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  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** | **Standard III:** Students will develop fluency with the language and operations of algebra to analyze and represent relationships.  
  **Objective 3:** Represent relationships using graphs, tables, and other models. |
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<tr>
<th>Essential Question(s)</th>
<th>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.</th>
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| Assessments (rubrics, scoring guides) | Completed Survey  
Completed Graphing Calculator Graphs and Analysis  
Marking Waypoints on GPS  
Complete a map using ARCgis |
| Project Products | Survey about Bike/Walking Trail  
Map of possible locations for Bike/Walking Trail |
| Project Timeline (include a step by step Procedures) | 2 Days: Brainstorm questions to include on a survey and create survey. Send survey home with students to survey 30 people  
4 Days: Use the data collected from the survey to make graphs on TI graphing calculator. Use Stats on Graphing Calculator to analyze data.  
2 Days: Treasure Hunt around the school with GPS to teach students how to mark waypoints and make tracks.  
2 Days: Create map of treasure hunt with Arcgis. |
| Resources Needed | TI-Graphing Calculator  
|                  | GPS—one or more.  
|                  | Classroom Computers |
| Skills Required  | GIS/GPS knowledge  
|                  | Directional knowledge  
|                  | Graphing Calculator knowledge |
| Project Team Member Roles | Teacher(s): Lisa Johnson  
|                          | Students: Math Exploratory Class  
|                          | Partner(s): BLM, Kanab City, Kane County Assessor  
|                          | Local Contractors |
| Celebration/Presentation | Presentation to Kanab City Council |
| Project Evaluation | Ongoing:  
|                    | Did the project meet the stated goals?  
|                    | Were students successful with equipment and software?  
|                    | Community Feedback |
| Project Bibliography | Community Mapping Binder  
|                     | Kane County Property Maps  
|                     | Kanab City Property Maps |
| Plans for Future CMaP Activities | Use the information from this project to calculate cost of Bike/Walking trail |

Optional:  
- Lesson Plans  
- Student Artifacts  
- Publicity