Garbage Recycle CMaP PROJECT

**Project Title: Fox Hills Recycling Project**
**Created by: Heidi Hatch**
**Class: Third Grade Students**

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| Project Description | Once a month, as a class, Mrs. Hatch's 3rd graders will locate the trash in the playground and surrounding neighborhood. Trash will be marked with GPS waypoints, photographed, and collected. Material that can be recycled will be sorted (Glass, Plastic, Metal, and Paper.)<br>Trash will be categorized, (Organic/Biodegradable (Natural or Human Influenced), Recyclable, and Landfill) and the information will be graphed.<br>Waypoints will be downloaded onto the Arc Map program, and students will learn how to create maps with this information, attaching graphs, pictures, and text. They will be able to identify where the heavy areas of trash collect. They will brainstorm solutions for these heavy trash areas.<br>We will be collecting cans, as a class recycle project, the pull tabs will be donated to the Ronald McDonald house, to help them in their humanitarian efforts |
| Community Issue or Problem Selected<br>-How project evolved? | Our school is located directly off the highway. Trash collects along the fence line, and curb and gutter below our playground. |
| Community Partner(s) | Parents<br><br>Salt Lake Valley Landfill Disposal and Recycling Facility<br>6030 West California Avenue (1300 S.)<br>Salt Lake City, Utah 84104<br>(801)974-6920<br>Hours: 7:00a.m to 5:00p.m.<br><br>Ronald McDonald House Charities<br>One Kroc Drive<br>Oak Brook, IL 60523<br>Phone: 630-623-7048<br>Fax: 630-623-7488<br>E-mail: info@rmhc.org |
| Project Objectives | The objective of this project is to give students the opportunity to experience recycling habits, and the possible money making benefits. Along with the knowledge that by recycling, we can give back to our communities. |

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| Utah Core Standards/Objectives | 3 grade Social Studies<br>Standard 1: Students will understand how geography influences community location and development.<br>Objective 3: Analyze ways cultures use, maintain, and preserve the physical environment.<br>Indicator c: Describe ways to conserve and protect natural resources (e.g. reduce, reuse, and recycle).<br>Indicator d: Compare perspectives of various communities toward the natural environment.<br>Indicator 3: Make inferences about the positive and negative impacts of human-caused change to the physical environment. |
| Essential Question(s)<br>-Spatial Issue | How can humans reuse their resources without destroying the Environment?<br><br>How has the technology of today allowed us to collect and analyze the data for the trash problem we have at out school<br><br>What are the benefits, for us personally and for the community in which we live, to recycling?<br>Assessments |
| Assessments (rubrics, scoring guides) | 1-The various graphs that they produce on each category will use as an assessment.<br>2. Assessments will be given for students to demonstrate proficiency in using GPS units<br>3. Assessment will be given for students to demonstrate the ability to us the GIS Cmapping software. |
| Project Products | Students will create a CMap displaying the trash waypoints they collect. Each month new waypoints will be added, and these monthly waypoints will be identified by a color that is associated to that month. They will analyze the data over time, and establish where are real problem areas are located. This data will be displayed on a graph added to our map. Pictures of the various types of trash will be added as well, along text boxes discussing the best disposal procedure for this type of trash.<br>Students will participate in a classroom recycling project. |

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| Project Timeline (include a step by step Procedures) | 1-Write grant to procure GPS units<br>2-Install GIS software on computers at school<br>3-Purchase GPS units<br>4-Introduce students to the project idea.<br>5. Introduce students to the use of GPS units: Geocaching<br>6. Introduce students to the use of marking waypoints on the GPS.<br>7. Assign students areas of playground and neighborhood.<br>8. Begin collecting cans as a class to recycle. Class money making project.<br>9. Giving back to the community: Separate pull tabs from cans collected by the class.<br>10. Merge data and download survey coordinates into Computers<br>11. Turn in cans at the recycling center in Salt Lake City.<br>12. Giving back to the community: Turn the can pull tabs into the Ronald McDonald house for their recycling project to help families with loved ones in Primary Children's medical center, and the University of Utah hospital.<br>13. Create maps and charts for data evaluation.<br>14. Present findings to School Principal |
| Resources Needed | ArcGIS 9.3 software<br>Salt Lake County GIS data (maps)<br>15-20 GPS Units<br>Recycling container |
| Skills Required | Ability to mark coordinates in a GPS unit<br>Ability to download coordinates from GPS units to ArcGIS map.<br>Ability to analyze and interpret data<br>Ability to create charts and graphs |
| Project Team Member Roles | **Teacher(s):** Heidi Hatch<br><br>**Students:** Mrs. Hatch's 3rd grade students<br><br>**Partner(s):**<br>Parents<br><br>Salt Lake Valley Landfill Disposal and Recycling Facility<br>6030 West California Avenue (1300 S.)<br>Salt Lake City, Utah 84104<br>(801)974-6920<br>Hours: 7:00a.m to 5:00p.m.<br>Ronald McDonald House Charities<br>One Kroc Drive<br>Oak Brook, IL 60523<br>Phone: 630-623-7048<br>Fax: 630-623-7488<br>E-mail: info@rmhc.org |
| Celebration/Presentation | We will display the finished project of our map, to the class, and also give a presentation of our findings to the school principal. We will use the money that we collected from our |

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| | can recycling project to purchase technology for our classroom (GPS, digital camera, digital video camera) |
| Project Evaluation | This project will be evaluated and revised every year by the teacher. In this way she/he can establish the things that work well, and can illuminate the things that did not. |
| Project Bibliography | |
| Plans for Future CMaP Activities | Future students will follow up to influence & promote Recycling.<br><br>Explore Ecosystems, and explore places on our playground and neighboring community that could represent examples of the world's ecosystems. Then hyperlink to actual places where these ecosystems are located. Locating their Longitude and Latitude. Creating CMaps for both our playground and the world, including pictures for both local and world examples. |

Optional:
-Lesson Plans
-Student Artifacts
-Publicity