

## TEMPLATE FOR CMAP PROJECT

Each participant who participated in the CMAP workshop signed an agreement to conduct a CMAP project and write up. This template is provided to you as a guide for the CMAP project you agreed to conduct with your students.

Please complete a detailed write-up of your CMAP project using this template. Use the kind of language and detail so other teachers can take your project to conduct in their classrooms. An archive of CMAP projects will be made available for Utah educators.

Send to: Jared Covili, Utah Education Network, 1705 E. Campus Center Dr, MBH 205, Salt Lake City, Utah 84112. [jared@uen.org](mailto:jared@uen.org).

**Project Title: Community/School Garden**  
**Created by: Julie Terry/Kellie Brinkerhoff**  
**Class: Community Mapping (CMaP) Workshop**

Project Description	<p>Students will help design, plan, and plant a community garden. This project will be incorporated into the 3<sup>rd</sup> grade curriculum. Many students have never had the opportunity to learn how to grow a garden. It has become somewhat of a lost art.</p> <p>They will participate in various learning activities involving 21<sup>st</sup> century skills through many areas of the core standards. Students will make real world connections and have hands-on experiences. They will be introduced to how a GPS works and find coordinates around our school. They will learn to work together in groups and with the community as a team, and learn how to make the community a better place.</p> <p>They will create their own “How To Grow A Garden” video and learn how to analyze soil. They will learn about different kinds of vegetables and how eating a balanced diet will keep them healthy. They will record observations and data through written words and pictures taken throughout the project.</p> <p>At the end of the project, there will be a presentation to other classes and the community. They will create their own class recipe book that includes vegetables grown in our garden. They will donate vegetables to the food bank. They can also share their knowledge with the community by contributing what they learned to the community newspaper.</p>
Community Issue or	Many students don't really know where their food comes

<p>Problem Selected</p> <p>-How project evolved?</p>	<p>from. They don't understand what happens before the vegetables get to the supermarket. This project will help them realize how long it takes to grow a vegetable and the varying lengths of time for different varieties of vegetables. It will teach them the process of preparing the soil to the harvesting of the produce. They will learn what grows best in our climate and area. Many of the fresh vegetables we grow will be donated to the local food bank and to needy families in our area.</p>
<p>Community Partner(s)</p>	<p>Students will work together with community partners to accomplish a common goal and provide a vegetable garden for local people who need it.</p> <ol style="list-style-type: none"> <li>1. Local Farmers- Visit a local farm and watch how farmers prepare the soil for a garden. Discuss watering systems and planting methods. Should we start with seeds or transplants?</li> <li>2. Soil Analyst- to teach students how to analyze soil so they can choose a good planting site.</li> <li>3. Guest speakers- (gardening specialists from our area) who can teach students about different vegetables, which ones are the best to grow for our climate, and the best time to plant each vegetable.</li> <li>4. Taylor Honey on Facebook- (Santa Clara, Utah 435-619-3005) bee pollination expert to speak to students.</li> <li>5. Local Food Pantry</li> <li>6. Businesses- (such as Home Depot, Walmart, or local nurseries) to donate seeds and supplies.</li> <li>7. Invite the local newspaper to write up an article about our garden to encourage other schools in our area to also create a garden project.</li> </ol>
<p>Project Objectives</p>	<ol style="list-style-type: none"> <li>1. Increase their knowledge of gardening.</li> <li>2. To learn how to work together and collaborate to grow a community garden.</li> </ol>

	<p>3. To learn how growing a garden will improve the quality of lives.</p> <p>4. To be a contributing member of the community.</p>
<p>Utah Core Standards/Objectives</p>	<p>Educational Technology:</p> <ol style="list-style-type: none"> <li>1. Use technology tools (GPS, digital cameras, presentation, web tools) for individual and collaborative writing, communication, and publishing activities to create products for audiences inside and outside the classroom.</li> <li>2. Use technology resources (calculators, data collection probes, videos, educational software) for problem solving, self-directed learning and extended learning activities.</li> </ol> <p>Health Education:</p> <ol style="list-style-type: none"> <li>1. Nutrition: Students will understand how a healthy diet and exercise can increase the likelihood of physical and mental wellness.</li> <li>2. Participate in service-learning that assists the community. Plan, implement, and report on community service.</li> </ol> <p>Social Studies:</p> <ol style="list-style-type: none"> <li>1. Identify ways people use the physical environment (e.g. agriculture, recreation, energy, industry)</li> <li>2. Students will understand the principles of civic responsibility in classroom, community, and country.</li> </ol> <p>Science:</p> <ol style="list-style-type: none"> <li>1. Observe and record the effect of changes (e.g., temperature, amount of water, light) upon the living organisms and nonliving things in a small-scale environment.</li> <li>2. Observe and report how sunlight affects plant growth.</li> <li>3. Students will understand that the sun is the main source of heat and light for things living on Earth.</li> </ol>

	<p>Math:</p> <ol style="list-style-type: none"> <li>1. Solve problems involving measurement and estimation of intervals of time and liquid volumes. (water for garden)</li> <li>2. Understand concepts of area and relate area to multiplication and to addition. (area of garden)</li> <li>3. Represent and solve problems involving multiplication and division. (multiply rows of the garden)</li> </ol> <p>Language Arts:</p> <ol style="list-style-type: none"> <li>1. Describe the relationship with time, sequence, and cause/effect.</li> <li>2. Conduct research projects that build knowledge about a topic.</li> <li>3. Record data in a journal (the growth and changes in the garden).</li> </ol>
<p>Essential Questions</p>	<ol style="list-style-type: none"> <li>1. What are the benefits of having a community garden?</li> <li>2. What are some uses of water?</li> <li>3. How can planting a community garden improve lives?</li> <li>4. What should we plant in our garden and why?</li> <li>5. How does using GPS/mapping contribute to learning?</li> </ol>
<p>Assessments (rubrics, scoring guides)</p>	<p>Journal/Reflection Assessment:  Graded by a point system for reflection and shared thoughts. They will record growth, soil tests, and share gardening knowledge with groups. Personal reflection on their feelings and ideas and what they have learned from guest speakers. Predictions can also be made. They will record what they have learned about gardening, the weekly progress of the garden, what they would do differently next time, and what worked best. Include pictures taken at different stages of growth in their journal.</p> <p>KWLH Chart Assessment:  (Know, Wonder, Learn, How Chart)- a checklist for</p>

	<p>participation, contribution, and thinking skills as a whole class and individually to assess what they already know and what they would like to learn about gardening.</p> <p>Collaboration Checklist Assessment: They will collaborate in groups and choose what to plant, what watering system to use, who will take care of which chores, etc. Record everyone’s suggestions and ideas and then use the checklist to make sure that all chores are getting done by those assigned.</p> <p>Presentation Student Scoring Guide: Graded checklist demonstrating knowledge gained throughout the experience and presented to other classes and the community at the end of the project.</p>
<p>Project Products</p>	<ol style="list-style-type: none"> <li>1. Successfully grow and maintain a community garden.</li> <li>2. Donate vegetables to the local food bank and needy families in our area.</li> <li>3. Each child will have their own individual gardening journal to do a family garden in the future at home.</li> <li>4. Record all guest speakers and fieldtrip outings to produce a video which will be placed in the school library for other classes and schools to check out and use.</li> <li>5. Videos made in groups by the students on “How To Plant A Garden”. Present what they have learned with other classes in our school and share with other schools in our community.</li> <li>6. Students will share their favorite recipes and compile a class recipe book that uses the produce grown in our garden.</li> </ol>
<p>Project Timeline  (include a step by step Procedures)</p>	<p>Discuss the Essential Questions which will encourage critical thinking and problem solving.</p> <p>Make a KWLH chart. Discuss what the students already know about gardening and what they want to know. We will discuss how our community can benefit from a garden.</p>

Geocaching Activity: Geocaching Vegetable Treasure Hunt. “What Will We Find Today?” Each day for a week have the kids learn how to use a GPS by finding coordinates where different vegetables will be placed. They will go outside on the school grounds and find a few different vegetables each day. As they find the vegetable, a parent volunteer will be there to teach them about that particular vegetable, when it’s best to plant it, if it is suitable to grow in our area, etc. They will get to taste the vegetables to get them excited to grow a garden. At the end of the week, we can graph which vegetables they like the best/least, which ones are the crunchiest, the sweetest, etc.

A “Growing a Garden Newsletter” will be sent home to parents and to the community to let them know about the Community Garden Project. It will describe how the project will be a beneficial learning experience for students and the community. We will ask for volunteers and request help and ideas for the project.

Books on Gardening will be set up in our classroom to get the kids excited! At school and at home students will be given several links for gardening videos to watch. New gardening vocabulary words will be learned.

Begin journals: record individual findings from discussion, books and videos.

Take a fieldtrip to see how a field is prepared. The soil analyst will teach students how to test the soil for nutrients and if it is a suitable place for growing a garden. Students will record what they have learned on the fieldtrip in their journals. They will also take pictures to be placed in their journals. (Teacher will video soil analyst and field preparation.)

Go to the garden spot for our school and prepare the soil for planting. Ask for a local farmer and volunteers to help prepare the soil with a tractor. Each group will begin to create their own “How To Grow A Garden” video that will continue to be added to throughout the project.

In group collaboration, have each group explore and learn about different watering systems and report to the class what they have learned. As a whole class, choose what would be the best watering system for our garden site. Have parent and

	<p>community volunteers set up the water system.</p> <p>Have guest speakers from the community come and speak to students about how to plant a garden, what is needed, pollination, etc. Using their previous graphing information, we will plant what is best suitable for our area and what the students would most like to plant. (Teacher video guest speakers.)</p> <p>Plant the garden and create garden care chore assignments.</p> <p>Weekly journaling and taking pictures of garden growth and progress. Record changes in watering needs, etc. KWLH- Come back to the KWLH chart and fill in knowledge gained through this experience.</p> <p>Using the KWLH chart and journals, students will work in groups to complete their “How To Grow A Garden” videos.</p> <p>As produce ripens, it will be taken to the local food bank.</p> <p>At the end of the project, there will be a class presentation given to other classes and to the community. Students will show off their garden and taste and share their vegetables they grew. Our local newspaper will be invited to attend and hopefully cover our story to share with the community.</p> <p>Each student will share a recipe using the produce they grew to be made into a class recipe book.</p>
Resources Needed	GPS, digital/video cameras, computers, gardening books from the library, gardening videos, guest speakers, donations from local businesses, a local farmer to contribute a piece of land preferably near the school or have permission to do on school grounds, the use of a tractor and a tiller, parent volunteers, journals.
Skills Required	GPS/mapping skills, making and editing a DVD video, recording data, and working in groups.
Project Team Member Roles	<b>Teacher(s):</b> Will be facilitators and guide the student’s learning. Record guests speakers and fieldtrip outings on video. Get guest speakers and work with community partners/volunteers.

	<p><b>Students:</b> Hands on learning, contributing as a community member, and have student group leaders. Journaling data and collection of pictures. Completion of chore assignments. Creation of group videos. Learning GPS technology. Students will make judgments and interpret information they get and apply it to the garden project. They will interact with members of the community.</p> <p><b>Partner(s):</b> Local farmers, businesses/nurseries, guest speakers, Taylor Honey, soil analyst, food bank, parent volunteers, and newspaper.</p>
Celebration/Presentation	At the end of the project, there will be a class presentation. Students will share their group videos, recipes, what they have learned, and give gardening tips to other classes and to the community. Vegetables will be donated to the food pantry. Student journals will also be on display.
Project Evaluation	Students will be evaluated on participation and time and effort they put into their group videos and journals. They will also be evaluated on how they completed their assigned chore duties and their completion of the KWLH chart.
Project Bibliography	<a href="http://www.geocaching.com">www.geocaching.com</a> <a href="http://www.thegardenhelper.com">www.thegardenhelper.com</a> <a href="http://vegetableplanner.vegetable-gardening-online.com/">http://vegetableplanner.vegetable-gardening-online.com/</a>
Plans for Future CMAP Activities	Incorporate GPS/mapping activities into the introduction of new content areas into the curriculum. Map out garden for next year.

Optional:

- Lesson Plans
- Student Artifacts
- Publicity