



Academic Service Learning Project Planner

Teacher(s): _____

Main Contact: _____ Phone: _____ Email: _____

Date: _____ Building: _____ Grade Level: _____

First Trimester: _____ Second Trimester: _____ Third Trimester: _____

First Semester: _____ Second Semester: _____

Name of Project: Ready to Grow - *Hydroponics: Sustainable Classroom Garden*

Project Overview

Give a brief overview of the project you are planning.

Hydroponic systems are used to create sustainable classroom gardens. With hydroponic systems students grow herbs, tomatoes and lettuce throughout the year indoors in the classroom. The produce can be used in the school, home or community. Chefs from area restaurants, food service cooks, parents or students demonstrate the use of the produce in creative ethnic salads and dishes. As a result, students and teachers utilize a 21st Century process to develop a healthy sustainable food source without dirt or soil in their own community.

Effective Practice: MEANINGFUL SERVICE

Service learning actively engages participants in meaningful and personally relevant service activities.

What community need will you address and how did you determine the need?

Students will address the need to produce a low cost food source in their own community. Students will learn to apply knowledge and skills acquired in science, math, language arts and social studies classes.

What service will you provide to address the need?

Students will serve the school and community. Student will donate food grown in the classroom to the school or the community. Food can be donated to parents or families in the community with a need for fresh vegetables and spices.

Effective Practice: LINK TO CURRICULUM

Service learning is intentionally used as an instructional strategy to meet learning goals and/or content standards.

How is this project related to your curriculum?

Science

1. Find seed and grow plants
2. Research plants that can grow well in the following settings: Michigan, classrooms, hydroponics
3. Write plant information and growing/harvesting instructions
4. "What has happened to heirloom seeds? Do we want to grow heirloom seeds?"
5. Water quality---school water can be tested

Math

1. Determine project costs
2. Manage budgets and funds

Biology

See Curriculum Crafter Connections and Standards & Benchmarks

English

1. Create text for brochures
2. Create text for posters and flyers for advertising
3. Create online and web based information sites

What are the educational goals?

The Students will:

1. Explore 21st Century problems
2. Develop a solution to 21st Century issues related to:
Food production, sustainability, water and resource management
3. Explore 21st Century jobs and careers - including Horticulture and Culinary Arts
4. Build and develop new employability and life skills
5. Provide meaningful service to their school and families in their community
6. Encourage students and families to eat healthier food
7. Demonstrate the use of fresh produce in ethnic foods
8. Sample ethnic foods from diverse cultures
9. Teach other students, families and community groups how to grow their own food
10. Communicate with students, families and community groups about personal family recipes

Curriculum Crafter Connections www.curriculumcrafter.com

Strand:

TLW:

Additional State Standards and Benchmarks

List standards and benchmarks met by this project. (You may attach a copy of the Content Standards and Benchmarks highlighting the items met by this project.)

BIO: (Inquiry, Reflection, and Social Implications)

TLW: Understand the nature of science and demonstrate and ability to practice scientific reasoning by applying it to the design, implementation, and evaluation of scientific investigations. (Gist: Inquiry)

BIO: Interdependence of Living Systems and the Environment)

TLW: Explain factors that influence population dynamics, evaluate situations that disrupt ecosystems, and analyze the impact of humans on the environment. (Gist: Population Ecology and Human Impacts on Ecosystems)

Effective Practice: REFLECTION

Service learning incorporates multiple challenging reflection activities that are ongoing and that prompt deep thinking and analysis about oneself and one's relationship to society.

What form(s) of reflection will you use with the students to help them identify what they have learned and accomplished?

1. *Journaling*
2. *Reflective Essays*
3. *Directed Writing*
4. *Student Portfolios including:*
5. *Hydroponic process: designs, drawings, photographs, essays, brochures, web sites, videos*
6. *Classroom Presentations*
7. *Community and School Board Presentations*

Effective Practice: DIVERSITY

Service learning promotes understanding of diversity and mutual respect among all participants.

What types of diverse perspectives and experiences will be explored as part of your project? (i.e.: cultural, generational, abilities/disabilities, learning styles, etc)

Economic Diversity: Students will work with diverse economic groups from different neighborhoods and business zones. Students may explore community and business partners from a full spectrum of economic environments.

Cultural Diversity: Students will be researching ethnic groups within their community and enjoyed by the group. Students will learn about different foods grown all over the world. Students will learn about the problems finding and growing ethnic foods and produce within their community. Students will locate ethnic recipes and grow foods to include in ethnic dishes.

Effective Practice: YOUTH VOICE

Service learning provides youth with a strong voice in planning, implementing, and evaluating service learning experiences with guidance from adults.

How will students gain ownership of the project?

Students will speak to other classrooms, the school board and community groups about their unique "green and sustainable" project. Students will be advocates for new futuristic careers promoting self sufficiency. The project will be visible each day in the classroom and school. The project creates a warm and inviting classroom environment.

Effective Practice: RECIPROCAL PARTNERSHIPS

Service learning partnerships are collaborative, mutually beneficial, and address community needs.

Who will you partner with for this project?

Business: Horizon Hydroponics: <http://www.hhydro.com>

1614 Leonard Street Northwest

Grand Rapids, MI 49504

(616) 791-1664

Hours: Sun Closed; Mon-Fri 11am-7pm; Sat 12-5pm

Teacher: Laura Robinson, Argiscience Teacher, Kent Transition Center laurarobinson@kentid.org

Students: Kent Transition Center

Web Site Partners:

<http://www.whfoods.com/genpage.php?tname=foodspice&dbid=44>

How will students benefit from this partnership?

Students will:

- 1. explore new 21st Century career pathways and job skills*
- 2. pioneer growing plants produce indoors throughout the year*
- 3. apply academic skills to solve real life problems*
- 4. address the needs of the community and provide solutions to community issues*
- 5. develop relationships with private businesses and employers*

How will the partner benefit from this collaboration?

The Kent Transition Center and business partners will replicate a project in another community and school. Private partners will be able to expand their business opportunities.

Effective Practice: PROGRESS MONITORING

Service learning engages participants in an ongoing process to assess the quality of implementation and progress toward meeting specified goals, and uses results for improvement and sustainability.

How will you assess the student learning goals?

Academic goals and math, science, social studies will be measured through assessments in the subject areas. Participation and contributions to the project will be measured through portfolio products

How will you assess your service goals?

Service will be measured through:

- 1. the amount of produced grow with the hydroponics system*
- 2. the number of hours students contributed to the service project*
- 3. the number of interactions or contacts with the people receiving the produce*
- 4. the portfolio documentation of the services provided to the school or community*

Effective Practice: DURATION AND INTENSITY

Service learning has sufficient duration and intensity to address community needs and meet specified outcomes.

How will you prepare students for this experience?

Students will study:

- 1. math, science, social studies and language arts related to the project*

2. *community needs for sustainable food sources*
3. *community needs for ethnic foods*
4. *agriscience*
5. *food production*
6. *food distribution process*
7. *water and soil resource management*
8. *hydroponics*
9. *charting progress*

What are some sample possible activities students might do as part of this project?

1. *Interview community members about the need for sustainable local food sources*
2. *Interview hydroponics business professionals*
3. *Interview culinary arts chefs, cooks and family cooks*
4. *Study ethnic foods and recipes*
5. *Build, construct and assemble the hydroponic systems*
6. *Start the hydroponic growing process*
7. *Cultivate and manage the hydroponic plant growing process*
8. *Distribute the produce to school & community groups, churches, restaurants, families*
9. *Use the produce to create recipes, salads and dishes*
10. *Promote events to feature hydroponics and use the food to attract visitors*

SUSTAINABILITY

The three arms of sustainability are environmental stewardship, economic growth, and social progress. Think planet, profit, and people.

Describe how your project addresses the issue of sustainability?

Hydroponics plant production is a sustainable:

Food production process

Environmental process

Energy conservation process

21st Century career opportunity and pathway

Hydroponics produce production in the classroom or school can promote economic growth in the community.