

Teaching Children How to Grow Vegetables in Small Spaces
And Establishing a Small-Space Vegetable Garden at the School

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Billings School District
Grades 5-6 - 35 students

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OVERVIEW

This is a pilot program with the Billings School system that will educate children about how vegetables grow and give them the experience of growing them themselves, establishing a vegetable garden at the school and harvesting and cooking the vegetables.

DESCRIPTION

Third through sixth graders will make two visits to Turtle Rock Farm, which is located 8 miles from the school. In the greenhouse during the winter months, they will be educated about growing vegetables, including how worms create castings that naturally fertilize the soil, and they will plant the seeds for their garden. They will also be involved in building 3 ft. x 3 ft. solid plastic wood boxes which will be installed at their school. In March/April, their plants will be transplanted into the raised beds and other plants will be started in the beds.

During the spring and summer we will have a Gardening Day on Wednesdays, during which they will care for the garden, harvest, cook and eat the vegetables. Older students with the 4-H and/or FFA will also be involved in the gardening project helping the younger ones build the beds and maintain the beds once they are installed at the school.

GOALS AND OBJECTIVES

Encourage awareness of the environment and the role we play.

Provide hands-on experiences for kinesthetic learners.

Promote development of healthy eating habits and nutritional food preparation.

Engage parents and community residents to participate in the gardens and support the children in their learning experience.

Provide students with fresh air, exercise, sunshine, knowledge, mental therapy and positive experiences with nutritional home grown foods.

Provide a connection with the foods children eat and the source of that food.

The learner will:

learn where vegetables come from.

see how soil is created

experience growing vegetables without chemicals.

grow their own vegetables.

learn that transporting vegetables across several states uses lots of non-renewable resources and growing your own vegetables or buying them locally doesn't use as much petroleum.

taste the fresh vegetables and see how they contribute to good health.

cook with the fresh vegetables they grow.

IMPLEMENTATION

This will be hands-on learning. The students will be in the greenhouse and garden seeing vegetables, listening to them grow, asking questions.

Students will plant their own seeds and be given handouts with directions about how to continue the growing process.

Students will actually observe worms at work creating soil.

Students will grow their own vegetables.

Students will cook and eat the vegetables they harvest.

Students will be able to continue to grow their own vegetables next year, in the school's raised beds.

This is a pilot program. Upon evaluation, we plan to be able to implement it in other area schools.

TIMELINE

First visit to Turtle Rock Farm: Jan. 23 - Children are introduced to how vegetables grow. They will watch red worms turn newspapers, leaves and kitchen scraps into casting which will enrich the soil for their garden. They will plant seeds for the school's vegetable garden.

Second visit to Turtle Rock Farm: Feb 21 - Students will transplant seedlings to bigger pots and begin construction on 3x3 raised beds for the school.

Installing raised beds at the school and transplanting plants - March 14 - Plants will be taken to the school along with the raised beds. Students will fill beds with soil, set up the watering system and plant the plants.

Wednesdays after school ends - Each Wednesday, students will be invited to tend the garden and participate in a cooking class about how to cook various vegetables. Parents and neighbors will also be involved in the weeding, watering and picking of the vegetables.

BUDGET

Use of greenhouse	donated	Turtle Rock Farm
Pots	donated	Turtle Rock Farm
Plastic containers for vermi composting	donated	Turtle Rock Farm
newspapers, leaves, manure & scraps	donated	Turtle Rock Farm
Solid plastic wood for 3x3 raised beds 3 boxes - 12 feet each = 36 feet.	\$128.85	Plastic Lumber Yard
Landscape cloth	donated	Turtle Rock Farm
Nails		
Hammers	donated	Turtle Rock Farm
Labor	donated	Parents, neighbors, FFA/4-H students, Pat Hoerth &
Red Wiggler Worms	\$54.95	Gardens Alive
Seeds	\$26.25	Seeds of Change
Trellis (2) for cucumbers & squash	\$30.00	Gail Wynne
Seed Starting soil 2 bags	\$ 8.00	American Plant Products
Potting soil		
Soil: Peat Moss (bagged) 3.8 cubic feet	\$13.93	American Plant Products
Compost		
Alfalfa - 2 cubic feet	\$ 4.42	American Plant Products
Back to Nature 2 cu. ft.	\$ 3.02	American Plant Products
Vermiculite 4 cubic feet (medium)	\$10.35	American Plant Products
Watering System:		
Drip Tape 1 roll or or Rain Bird Drip Tubing polyethelene tubing	\$74.25	American Plant Products
Fittings	\$25.00	American Plant Products
Filter & Pressure Regulator	\$32.00	American Plant Products
On/Off valve	\$15.00	American Plant Products
PVC & Fittings	\$15.00	Lowe's
Hoop reemax 67" by 250 feet roll PVC	\$76.08	American Plant Products
Total	\$517.10	

EVALUATION

Students will write a story about their trip to the farm and what they learned after each visit.

Students will report to the teacher how their plants are growing and how much attention they have to give to their plants. Teacher will make notes about their comments.

As the class works on the school's garden, the teachers can continue to dialogue with students and determine the level of their understanding about where vegetables come from and how soil is made. Teacher will note in writing their feedback.

As we visit with students, we will record anecdotal information about their observations, their questions, their comments around growing, harvesting and cooking the vegetables.

Before school is out, students will write a second essay, about what they learned about growing their own vegetables.

We will gather the documentation from this pilot project to help in our designing the program to offer to other schools.