

**Title:**

SCHOOL GARDEN

**Author:**

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**Grade Level:**

K-6

**Concepts:**

- 1. The Sun
- 6. Natural Resources
- 12. Stewardship

**Disciplines:**

- 1.Math
- 2.Economics
- 3. Social Studies
- 4. Science
- 5. Art

**Objective:**

Students shall design, plant and tend a garden for the class, the school lunch room and/or to sell the produce.

**Rationale:**

Gardens provide the opportunity for a multidisciplinary approach to learning for a class. This includes the motivation for team work by committees to plan the layout of the garden on paper, learn about soil analysis, correct soil deficiencies, prepare the ground for planting, plant and tend by controlling pests, and finally harvest and merchandise the produce.

The potential for relevant teaching of math, science, art, history cultural heritage, geography, economics, etc., is there to whatever extent the teacher desires to employ it.

**Materials Needed:**

- |                       |            |
|-----------------------|------------|
| Pick ax               | Seeds      |
| Hoe                   | Seedlings  |
| Hose and water source | Fertilizer |
| Rake (helps)          | Mulch      |

**Teacher Needs To Know:**

Garden produce grows best in an acid soil. The islands' soil is decidedly alkaline. However, manure worked into the soil helps to make it more acid as well as adding the nitrogen, phosphorus and potassium essential to sturdy plant growth. These elements must be in the soil to be transferred to the plant so that the consumer can benefit when the vegetables are eaten.

**Directions/Activity:**

1. Send samples of your soil to the Cooperative Extension Service, College of the Virgin Islands, St. Thomas. Allow two weeks for the analysis.
2. The Department of Agriculture will, by appointment, plow the soil and harrow

3. You might fertilize with manure before the harrowing if you have a source such as the Chicken Farm on St. Croix.
4. Start with a plan on paper. Plant corn for wind fertilization, for example, in many short rows rather than one long one.
5. Prepare stakes for plants needing to be staked. Manjack holds up whereas tantan will be bug devoured in short order.
6. With pick and hoe open rows for planting. Allow space for paths so you can work in your garden.
7. The Department of Agriculture can supply you with seed and seedlings.
8. Plant seed according to directions for depth and distance apart.
9. Pot bare-rooted seedlings for a while in protected area and transplant into the garden when root growth has taken place.
10. Baled hay is available at the Department of Agriculture to use for mulch to keep down weeds and retard evaporation of moisture from the soil.
11. Water and/or hoe as indicated depending upon the season, keeping the soil loose so rain can penetrate.
12. When seedlings such as carrots, collards or other greens are a few inches high, weed out the weakest so as to space the plants to make room for growth.
13. Pick peas and beans to encourage future growth.
14. Legumes can use an inoculator at the time of planting to aid in the nitrogen fixing function that goes on in their roots. You will find it listed in a seed catalogue.
15. When, for example, a crop like corn shows signs of ear worm the Extension Service Pest Control experts can advise you as to the best method of combating the infestation.
16. Some vegetables produce one crop and can then be cleared and another planting made after fertilization. Most plants can be side dressed with fertilizer about every two weeks as they grow.
17. Seeds from a nursery are more likely to have 100% germination than seeds saved from a crop. Hybrid seeds will not produce. Seeds in the tropics have a very short life. Save them in a refrigerator if you cannot plant at once.

### **Evaluation:**

Although September and March are the best months to start a garden, geared to the rain cycle, a clever gardener can have year around produce. He must have sufficient water during the dry periods. A sunscreen to shade some plants or the planting of papaya or Maran bushes to cast some shade during the hottest and driest weather can help.

He needs the knowledge of soil composition, moisture retention, depletion rate, pH, and helpers such as earthworms and labor saving watering techniques.

Fresh garden produce is not only more attractive and economical but also higher in nutritional value. Food brought in from the garden and prepared for the table keeps all its vitamins intact.

1. Keep track of your expenses and the value of your vegetables use the going rate in the supermarket. Calculate your gain (or loss).
2. Determine the composition of a typical garden planted 100 years ago and duplicate it. Talk to elderly people or look up in books to learn what went into a garden years ago. (Provisions)
3. Look up the meaning of pH and find the range of the scale. From pH 6 to pH 5 represents a tenfold, hundredfold or thousandfold increase in acidity. (Indicate which)
4. Why is the acidity of soil important to a plant? (The plant cant make use of the N,P or K available to it unless the level of acidity is right for that vegetable ... lettuce likes about pH 7, or neutral soil).
5. Why are vegetables so expensive in the markets in the islands when they are shipped from the mainland? In mainland markets grapes sometimes come from Spain or eggs from Africa, air freighted to the USA? Ask the supermarket manager about this or invite a Consumer Affairs person to the classroom.
6. Look up in a health book to learn which vitamins are not very stable. Also investigate which vegetables contain which vitamins and which are rich in each.
7. Take a picture show of your garden from beginning to end by taking a few pictures each week or so.
8. Does the V.I. have any product to export for the trip back to the U.S. on the boats which bring the green groceries?

Eulalie Rivera School Est.Grove St.Croix C.G	Crop to Fert: <u>Vegetables and Bananas</u>	Field & Sample No. _____
	Yield Goal: _____	Farm Location Grove place size: <u>1/2 acre top 8"</u>
	Last Crop: <u>Bush</u>	
	Approx. Yield : _____	Date Sample Rec'd: <u>9-26-82</u>
	Lime Applied: _____	Date Returned: <u>10-11-82</u>

Soil condition: Act. C.E.C. 24.1 meg/100 ml;  
Base Satn. 100%; Acid. Satn. 0%; pH 8.0;  
O.M. 2.0%; Sol. Salts 112 ppm

Elements	Soil Analysis		Interpretation			Fertilizer Suggestions
	Lab No. - B-8 20-1		Guide			
	meg/100 ml	ug/ml	Below	Optimum	Above	Lbs./acre or kg/ha
t. Acidity	A.A					
Calcium	Ca	19.7				Calcium
Magnesium	Mg	4.1				Magnesium
Potassium	K	.28				Potash (k20)
Sodium	Na	0.7				
CA/Mg Ratio	Ca/Mg	4.8				Dolomitic Lime
Mg/K Ratio	Mg/K	14.6				Calcitic Lime
Nitrogen	N	4				Nitrogen
Phosphorus	P	16				Phosphate (p205)
Sulfur	S	6				Sulfur
Boron	B					Boron
Copper	Cu	2.5				Copper
Iron	Fe	3.7				iron
Manganese	Mn	12.2				Manganese
Zinc	Zn	1.1				Zinc

N P K plus minor nutrients

Comments: Add a complete fertilizer (10,10,10) or (10,10,20) for bananas and zinc sulphate and iron sulphate

SCHOOL GARDEN

EULALIE RIVERA SCHOOL

.6	Corn, Sweet	Spacing: 12" x 36" Approx. days to maturity: 90 days	# of rows = 3 Plants / rows = 50 # of plants = 150	100'
.6	Okra	Spacing: 18" x 36" Maturity : 60 days	Rows = 3 Plants / Rows = 33 # of Plants = 99	
.6	Egg Plant	Spacing: 24" x 36" Maturity : 75 days	Rows = 3 Plants/row = 25	
.6	Tomato (Staked)	Spacing: 24" x 26" Maturity: 75 days	Rows = 3 Plants/row = 25 # of plants = 75	
.8	Pepper, Sweet	Spacing: 24"x24" Maturity: 75 days	Rows = 4 Plants/row = 25 # of plants = 100	
.8	Pepper, Hot	Spacing: 24"x24" Maturity: 75 days	Rows = 4 Plants/row = 25 # of plants = 100	
.6	Collard & Mustard Green	Spacing: 12" x 12" Maturity:	Rows = 9 Plants/row = 50 # of plants = 450	
.9	Pak Choy	Spacing:12" x 12"	Rows = 6 Plants / row = 50	
.8	Parsley	Spacing: 6" x 12"	Rows = 3	
.6	Onions and Chives Thyme	Spacing 6" x 12"	Rows = 3	

Herbs will also be interplanted with vegetables

← 50' →