Keeping Florida Green
Interdisciplinary Curriculum Unit
Benefits of Gardening
Benefits of gardening

• Academic achievement

• Enhances self-esteem

• Environmental stewardship and connection with nature

• Active learning and student engagement

• Life skill development

• Fosters parental involvement
Gardening isn't an add on, but rather an integral part of the whole curriculum.
Connecting to the curriculum

**Language Arts:** planting journal, read books about gardening, write a story about your seeds

**Health:** investigate the nutritional properties of fruits & veggies, keep a food diary and physical activity

**Math:** measure and graph plant growth

**Science:** predict seed sprouting under different conditions, investigate plant adaptations
## Gardening for Grades Lessons

<table>
<thead>
<tr>
<th>Activity</th>
<th>Focus</th>
<th>Level</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>It all Begins With Soil</td>
<td>Soil Composition</td>
<td>4-8</td>
<td>23</td>
</tr>
<tr>
<td>Acid to Alkaline</td>
<td>Soil Chemistry</td>
<td>4-8</td>
<td>27</td>
</tr>
<tr>
<td>We’re the Producers!</td>
<td>Photosynthesis</td>
<td>3-8</td>
<td>36</td>
</tr>
<tr>
<td>Yo Seeds, Wake Up!</td>
<td>Germination</td>
<td>K-4</td>
<td>52</td>
</tr>
<tr>
<td>Plan It, Map It</td>
<td>Garden Plan</td>
<td>K-7</td>
<td>60</td>
</tr>
<tr>
<td>Lettuce Be Different</td>
<td>Diversity</td>
<td>K-6</td>
<td>64</td>
</tr>
<tr>
<td>Feed Me - Nutritional Building Blocks</td>
<td>Nutrient Requirements</td>
<td>3-5</td>
<td>70</td>
</tr>
<tr>
<td>Inch by Inch, Row by Row</td>
<td>Garden Plan</td>
<td>1-4</td>
<td>80</td>
</tr>
<tr>
<td>The Million Dollar Can o’ Soup or Salsa</td>
<td>Production</td>
<td>1-4</td>
<td>84</td>
</tr>
<tr>
<td>Soil Sort</td>
<td>Soil Composition</td>
<td>K-3</td>
<td>87</td>
</tr>
<tr>
<td>What Are We Eating?</td>
<td>Edible Plant Parts</td>
<td>K-5</td>
<td>91</td>
</tr>
<tr>
<td>The Roots of Food</td>
<td>Significance of Food</td>
<td>K-12</td>
<td>99</td>
</tr>
<tr>
<td>Turning Over a New Leaf</td>
<td>Adaptation</td>
<td>K-6</td>
<td>103</td>
</tr>
</tbody>
</table>
Secrets to Success…

✓ Build a team
✓ Get administrative/staff support
✓ Start small
✓ Plan it out and get approval
✓ Integrate it into your curriculum
✓ Enlist the help of volunteers
✓ Get the community involved
✓ Celebrate success
What do plants need to thrive?
1) Light requirements  
   a. Number hours of sunlight  
   b. Position of garden

2) Water requirements  
   a. Access to water  
   b. Hose, wands, water cans

3) Space  
   a) Spacing  
   b) Number students
Garden Site Checklist (cont’d)

4) Soil
   a. Composition
   b. Type
   c. Nutrients

5) Time
   a. Planning
   b. Funding
   c. Building
   d. Maintenance
Gardening Basics: Light

Find a sunny spot: 6-8 hours of full sun a day
Location, Location, Location

Rows run north - south
Photosynthesis

$12H_2O + 6CO_2 \rightarrow C_6H_{12}O_6 + 6H_2O + 6O_2$

We’re the Producers! (pg. 36)
Soil

A thin layer of material on the Earth's surface in which plants have their roots. It is made up of weathered rock and decayed plant and animal matter. Soil formation takes place when air, water, plant life, animal life, rocks, and chemicals interact.

It All Begins With Soil (pg. 23)

Soil Sort (pg. 87)
Soil Components

- Pore space
- Sand, silt, clay

Diagram:
- Air 25%
- Water 25%
- Mineral Particles 45%
- Organic Matter 5%
- Organisms 10%
- Roots 10%
- Humus 80%

Soil And Space (NFL)
Perc Thru The Pores (FLP)
Soil Texture

Soil properties like texture (sand, silt, clay), drainage, and chemistry are used to distinguish different types of soil.
Determine your soil type

Soil Triangle (pg. 25)

1. Estimate % sand, silt, clay
2. Draw a line from percent sand (67%) to percent clay
3. Draw line from percent silt (25%) to percent sand
4. Draw line from percent clay (8%) to percent silt
5. Soil type is where 3 lines intersect
Plant Nutrients
(Pg. 17 Feed Me: Nutritional Building Blocks)

Non-mineral elements: air & water
Mineral elements: soil

Macro

N, P, K & Ca, Mg, S

Micro

B, Cu, Fe, Cl, Mn, Mo, Zn, Ni
Water requirements

**How:** Hand watering or hose
Sprinklers
Cup/bucket watering

**How often:** At least 3 times per week

**When:** Mornings are best
• Type of garden
• Warm vs cool season plants
• Spacing
• # using the garden
Type of Garden
(pgs. 15-17)

1) Container options…
   - Broccoli plant in 12 inch pot
   - Window box gardening
   - Pizza garden in a plastic pool

2) Hydroponics

3) Raised beds
Decide on a size

3 ft. or 4 ft. wide x __?__ ft.
~ 10 inches deep
2 decking boards, stacked
What to plant? When to plant?
(Pgs. 111-126)

<table>
<thead>
<tr>
<th>Warm Season (Feb-May)</th>
<th>Cool Season (Sept-Jan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>Radishes</td>
</tr>
<tr>
<td>Pepper</td>
<td>Greens</td>
</tr>
<tr>
<td>Beans</td>
<td>Spinach</td>
</tr>
<tr>
<td>Eggplant</td>
<td>Onions</td>
</tr>
<tr>
<td>Cucumber</td>
<td>Lettuce</td>
</tr>
</tbody>
</table>
Seeds vs. Plants

(Pgs. 111-126)

Carrots: SEEDS
Lettuce: either
Cabbage/Broccoli: either
Strawberry: PLANTS
Radish: SEEDS
Onions: PLANTS
Beans: SEEDS
Spacing? Days until harvest?
(Pg. 58)
Time

a. Planning Your Garden
b. Funding
c. Building/Construction
d. Maintenance

Plan It, Map It (pg. 60)
Funding (Pgs. 9-11)

- Florida Agriculture in the Classroom
- Florida Farm Bureau Grant
- Other sources: Lowes, Home Depot