March 19, 2009

Florida School Garden Competition
University of Florida
P.O. Box 110675
Gainsville, FL 32611-0675

Dear Chairperson,

I am happy to submit to you the Tavares Elementary School Garden Competition packet for the school year 2008-2009.

Sincerely,

Cecile M. Hemphill
Pre-K ESE Teacher
2009 Florida School Garden Competition
ENTRY FORM

School: Tavares Elementary School

Teacher(s) & Grade(s) involved in garden program:
Stephanie Moles (ESE K-5), Patricia Badget (ESE-VE K-5)
Tracy Braddy (1st), Charis Bickhart (Kindergarten), Cecile Hemphill (ESE 1st)

Contact Person: Cecile Hemphill

Time contact person can be reached: 8:00 AM - 3:30 PM

Phone (352) 543-2861
Fax (352) 343-6618

Address (please include city and zip code):
720 E. Clifford St.
Tavares, FL 32778

Email address: hemphillc@lakefl.us

CATEGORY (Please mark only one):

____ SINGLE CLASS GARDEN (Garden used by one class only)
Number of students in class and grade: ______

____ MULTIPLE CLASS GARDEN (Garden used by more than one class or grade,
but not by the entire school)
Number of students involved in the garden and grades: 83
Pre-K, Kindergarten, First, Third, ESE K-5

____ ENTIRE SCHOOL GARDEN (Garden that is used by all grade levels at the
school)
Number of students involved in the garden and grade: ______

TYPE of school garden that you use with your students. (Please mark only one)
Vegetable
Flower
Combination vegetable/flower
Other, please specify Teaching Garden - vegetable/flower, animals, hydroponics, and butterfly, solar fountain.

Please indicate the number of hours a week, on average, your students spend in the garden. One hour.

1. Please mark all the activities that your students participate in prior to gardening.
   - Planning the garden
   - Preparing the garden
   - Designing the garden
   - Choosing plants
   - Other, ________________________

2. Please mark all the activities that your students participate in while in the garden.
   - Planting
   - Watering
   - Weeding
   - Observing
   - Recording
   - Harvesting
   - Playing
   - Sitting
   - Fertilizing
   - Experimenting
   - Other, seed germination

3. Please indicate the percentage of time, on average, that you used the garden as an instructional tool in your classroom. 30%

4. Please mark the subject area(s) into which you have incorporated school gardening. Check all that apply.
   - Math
   - Science
   - Social Studies
   - History
   - Health/Nutrition
   - Language Arts
   - Music
   - Physical Ed.
   - Environmental Ed.
   - Ethics (responsibility and nurturing)
   - Other, please specify ________________________

5. Please indicate the number of years that a school garden has been part of your curriculum. 6

6. Please indicate the types of volunteers that have helped you and your students with the garden.
   - Master Gardeners
   - University students
   - High school students
   - Senior citizens
   - Garden club members
   - Parents
   - 4-H members
   - FFA
   - Older students at your school
   - Other, please specify friends
7. Please indicate the source(s) of information used to assist in the incorporation of school gardening into your school's curriculum. Check all that apply.

- ✔ County Extension service
- ✔ Personal knowledge
- ✔ Educational journals/publications
- ✔ National Gardening Association's Growlab/Growing ideas newsletter
- ✔ Other, please specify

4-H education materials
Lifelab
Master Gardener training
Friends/volunteers

8. Please indicate the types of educational material(s) used in the classroom to support the use of school gardening in the curriculum.

- ✔ Library books
- ✔ Internet
- ✔ Filmstrips
- ✔ Textbooks
- ✔ Trade books
- ✔ Newspapers
- ✔ Other, please specify: field trips, seed run fountain, hydroponics, composter, homing pigeons, pond, pitcher pump system

- ✔ Computer software
- ✔ Videos
- ✔ Personal books
- ✔ Experiments
- ✔ Gardening magazines and catalogs

***Please read and sign below***

By submitting the same you acknowledge and agree that the University of Florida (and Walt Disney World Co.) may reproduce the same, and all materials may be displayed (in part or in whole) at the 2010 Epcot® International Flower and Garden Festival and for other promotional materials. Such presentation materials (and School Garden packets) will NOT be returned to you (they will become the property of the University of Florida and Walt Disney World Co.) Finally, you acknowledge and agree that should your school be selected as a winner under the competition, then to the extent any of the photographs or materials submitted contain the names of likeness of students, teachers and/or others, you will be required to have adult individuals sign (and the parents/guardians of such students) sign consent/release forms provided by us so that we can display those photographs or materials concerning your winning garden. Such requirement would be a condition of your accepting the award.

I have read and understand the above.

[_] [Signature]

[ ] [Date]
TAVARES ELEMENTARY SCHOOL (TES) GARDEN CLASSROOM

BACKGROUND:

Our TES Garden Classroom started in 2003 as a small face garden for pre-kindergarten students with exceptionalities. Using plants to make a face, students learned the parts of a face, colors, names of plants. The “Face Garden” introduced students to the joy of digging and watering and getting wet. It also started our love affair with monarch butterflies who laid their eggs on donated milk weed. Instead of participating in a scavenger hunt, our students excitedly hunted for many monarch chrysalis on the school walls, on mops, under tables, and drain pipes. Over the years, our garden has evolved into gardens between portables into our present day 1134 square feet sun-shaped garden.

OUR GARDEN CLASSROOM (Garden Quality)
“One touch of nature makes the whole world kin.” (William Shakespeare)

Our garden, formerly called the TES Teaching Garden, was changed to the TES Garden Classroom because we wanted to focus on student directed learning, instead of teacher directed learning. By providing a garden classroom, students were provided a natural environment that enabled nature to unfold itself to the students. The plants and animals encouraged the students to observe, touch, interact, and be active in nature.

The garden was originally designed by Cecile Hemphill and the basic design which is still used is very unique. Our garden is in the shape of the sun. The sun is the center of our solar system. The sun is the source of life of our planet. The sun is outlined by yellow flowers – marigolds and day lilies. The center of the sun is planted to grass and serves as a classroom/stage especially for cultural celebrations. Sixteen rays emanate from the sun. Flowers, vegetables, herbs, shrubs are planted in the middle of the rays. A pond is now in one of the rays. Animals thrive in our garden. Pathways in between the rays enable the students to garden easily and to explore the garden. In our garden, the four spheres that make up the earth - the lithosphere (land), the hydrosphere (water), the atmosphere (air), and the biosphere (ecosystems) are represented.

The plants, animals, and features of our garden are directed by the theme of our garden every year. One year, our garden was a multicultural garden. We grew vegetables and herbs that different cultures use for food. Last year, our theme was Ecosystems. We created a bird and insect ecosystem. We also created a pond ecosystem. In these ecosystems, we brought living and non-living things together. Students saw how soil, atmosphere, heat, light from the sun, and living things interact with each other to support life. A windsock, a solar-run fountain, composter, vermiculture, rain barrels, hydroponics, a pitcher pump, and a pigeon loft are features of our garden that show students how we can utilize nature and conserve our natural resources to sustain and promote life.

Our garden efforts during 2008-2009 focused on maintaining and developing the various ecosystems and features of our garden. It took several months for our pond to find the right balance. One of our water lilies died but our minnows and goldfish are thriving. Frogs sunned themselves on our lily pads. Our pond is thriving on its own. The perennials we planted last year have grown taller and have provided some shelter for the growing number of birds who visit our garden for food and water. Our cassia, pipevines, passion fruit, dill and fennel enabled many classes to raise caterpillars who metamorphose into monarchs, swallowtails, gulf fritillaries, and sulphurs. Lady bugs, stinkbugs,
TES Garden Classroom

“One touch of nature makes the whole world kin” - William Shakespeare

The thick rays around the sun contain various flowers, herbs, vegetables, shrubs, and butterfly host plants.
Man lives in this earth. He is a steward of this earth. For him to be a good steward, he must live in it, experience it, and interact with it. This is the only way that he can see how his actions affect his world. Education does not come from books. Our Classroom Garden helps our students reconnect with nature and hopefully discover how to be good stewards.

**LEVELS OF INVOLVEMENT**

Our Classroom Garden is available to all students and teachers of Tavares Elementary School. There are different levels of involvement in our Classroom Garden. The classes directly involved in our garden cultivate, plant, water, weed, fertilize, and harvest. Some have projects in the garden. For example, Mrs. Moler’s class planted vegetables for the poor and care for the pigeons. Mrs. Bickhart’s class wrote down names of plants for the garden. Ms. Hemphill’s class put out feed for our birds in the garden.

Another level of involvement in our Classroom Garden is visits. Some classes are involved in our garden by visiting and observing the plants and animals. They look for butterfly eggs and caterpillars. Others come and water. Others are allowed to harvest and enjoy the vegetables. During some of the visits, visiting students are given impromptu lessons on the tap root system of the carrot, host plants of different butterfly species, and different parts of a vegetable plant. Others visit the homing pigeons and see hold the baby chicks, and see them grow.

Another level of involvement is observing garden animals and plants in the classroom. Eleven classes raised caterpillars from our garden and observe the life cycle of butterflies in their classrooms. The caterpillars in the Media Center inspired students to borrow books on butterflies and caterpillars.

Each class directly involved in our Garden Classroom has to come up with a plan to develop their garden ray. Every activity need some kind of organization and students have to learn to work together. In some instances, some students are chosen to lead the activity. For example, students are assigned to provide feed and water to the pigeons. In some instances, the activity is achieved through collaborative efforts. Because students are not used to gardening, directions from a teacher is important during activities in the garden.

The additional development of our 2008-2009 Garden Classroom is made possible by grants from Lake County Water Authority, The Educational Foundation of Lake County, and The Golden Rule Foundation. The prize money from winning second place in the 2007-2008 Florida School Garden Competition also provided additional money for our garden. Local newspapers cover our garden efforts. Our school administrators support our Garden by allowing us to develop part of the school grounds. Our classes support our Garden by utilizing what the garden has to offer in their own lessons.

Although there are no formal partnerships with garden-related organizations, we have consulted Master Gardeners and local businesses on different features of our garden. The Lake County Pigeon Flyers Association continued to provide feed and expertise. Local businesses have given us discounted prices for our purchases. Local newspapers cover our garden efforts. Many of the seeds and seedlings have been provided by the parents of our students. Our irrigation system was installed by one of our students’ grandparent.
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EDUCATIONAL RELEVANCE

Education prepares students for life. The ecosystems we have developed in our Classroom Garden provides numerous opportunities to observe, explore, and experience life in its various forms. Our Classroom Garden addresses Sunshine State Standards in all subject areas, particularly, Science, Mathematics, Social Studies, Physical Education, The Arts, Reading, Language, and Geography. The classroom teachers determine what activities and/or features to use and how to use them in their lessons.

All the activities and features of our Garden Classroom are resources to facilitate learning. The ABC Garden, the pond ecosystem, the bird and insect habitats, the rain barrels, and the hydroponics system are examples of these resources. These resources can plant seeds of learning, inspire inquiry, and spark the imagination. They provide concrete and real learning opportunities to students. Textbooks and library books, the Internet, videos on gardening, guest lecturers on garden related topics, are additional sources to facilitate garden learning.

Listed below are Sunshine State Standards that are addressed by specific activities in our Garden Classroom.

<table>
<thead>
<tr>
<th>Sunshine State Standards</th>
<th>Activities</th>
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<tbody>
<tr>
<td>Health/Physical Education</td>
<td>Eat freshly picked vegetables from the garden for snack or as part of a meal. Play and run around the Garden</td>
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<tr>
<td>HE A.1.1 Health Literacy</td>
<td>Count seeds</td>
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<tr>
<td>P.E. A.3.1 Benefits of Physical Activity</td>
<td>Record birds that visit the garden</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Observe leaf shapes and sizes Collect data on birds and insects in the garden Sort and classify plants grown according to shape, color, and plant family characteristics.</td>
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<tr>
<td>MA.A.1.1-MA.A.1.2 Number Sense and Concepts</td>
<td>Trace flow of energy in the ecosystems in the garden; Food chains and food webs Solar-powered fountain, windsock Composting Insect and bird habitat Conserving and use of rain water with rain barrels; using underground water with a pitcher pump; irrigation system Pond ecosystem</td>
</tr>
<tr>
<td>MA.B.1.3 Measures quantities in real world and use the measures to solve problems</td>
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<tr>
<td>MA.C.1.3 Geometry and Spatial Sense</td>
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<tr>
<td>MA.E.1.3 Data Analysis and Probability</td>
<td></td>
</tr>
<tr>
<td>M.A.D.1.3 Algebraic Thinking</td>
<td></td>
</tr>
</tbody>
</table>
| TES Garden Classroom | Use of mulch and weed cloth  
Garden is in the shape of the sun  
Different plants and animals demonstrate growth, adaptations, characteristics i.e. life cycle of a butterfly, tendrils of a snow pea  
Bird and insect habitat |
|----------------------|---------------------------------------------------------------|
| SC.E.1.2 Solar System | SC.F.2.1 –SC.F.2.2 Process and importance of genetic diversity  
SCF.2.1-SCG.1.2 How Living Things Interact with Their Environment |
| SC.G.2.1-SCG.2.2 Consequences of limited resources |
| SCH.1.1-SC.H.1.2Use of scientific process | Observing life cycles and off springs of plants and animals in the garden  
Bird and Insect Habitat  
Pond ecosystem  
Life cycles of plants and animals observed in the garden  
Bird and Insect habitat  
Pond ecosystem  
Hydroponics  
Use of rain barrels  
Wind and solar energy as alternative sources of energy  
Collect data on birds and insects that come to the garden; compare different butterflies |
| Social Studies | Grow vegetables for the poor  
Pond ecosystem  
Dress up garden mannequins for holidays |
| Geography – People, Places, & Environment  
S.S.B.2.1-2.2 – Interaction of people and the physical environment |
| Language | Research insect and bird from books  
Find birds and insects from reference books  
Build background information on animals  
Write a book on poverty  
Write a report of the life cycle of a butterfly |
| LA.A.1.1 Reading Process  
LA.A.2.1 Constructing meaning from a variety of text  
LA.B.1.1 Use writing process effectively |
| The Arts | DA.C.1.1 Cultural and Historical Connection |
| Use the garden to celebrate holidays |
Jasmine Porter, a nine-year-old third grader at Tavares Elementary, releases her award winning pigeon Wednesday morning.

Pigeons teach students compassion, responsibility

DAVID DONALD
Staff Writer

TAVARES — A dozen pigeons soared over Tavares Elementary School.

Mrs. Moler's class has cared for a pair of pigeons since last year.

Their offspring have grown up to become racing pigeons. Dave Bacon, a member of the Lake County Flyers Club, cares for many of the offspring. He also teaches students about the history of homing pigeons and how he trains them to return to their loft after they're released.

Bacon presented the class with a Young Bird Award trophy for a pigeons born on Moler's class' watch. The young bird reached its loft before any other pigeon in competition. The birds Bacon released on Monday returned to their loft near Bacon's home in Mount Dora.

Educators at Tavares Elementary said tending to pigeons teaches students how to take care of an animal that is smaller and weaker than they are.

"It was really cool," Moler said. "It was a great way for these kids to learn how to give.

Every school morning last year, two of Moler's students fed and watered the birds — a male and female pigeon.

"I learned how to take care of them," said Jasmine

See PIGEONS, A2
Feeding the hungry with a classroom garden

DAVID DONALD
Staff Writer

TAVARAES — A vegetable garden at Tavares Elementary school may feed several families during the holidays.
Stephanie Moler’s class began harvesting ripe vegetables from the garden on Tuesday to donate to a food bank in Eustis.
Students yanked fat stubby carrots from the earth, plucked budding broccoli florets from their stalks and bundled leafy mustard greens together filling up a large wicker basket.
"We’re harvesting to help poor people," said Austin Rivera, 9, a fourth grader. "There are probably kids out there that are starving and we want to help them."
Cabbage, carrots, Boston lettuce, eggplants, broccoli and strawberries were planted in September. Some have yet to ripen. Students have been tending the garden for several months, and occasionally munching on carrots along the way.
The garden project is funded by a Golden Rule Foundation grant. Students learn about fruits and vegetables, conservation and nature.
Colorful butterfly plants surround the gar-
den, prompting lessons on caterpillars and their metamorphosis into butterflies and rain barrels store water for irrigation teaching about water conservation.

"I think nature is the best teacher," said Cecile Hemphill, a pre-kindergarten teacher. "The fruit of their labor goes to those who are needy."

Following the harvest students will have a writing assignment on poverty, said Moler, who is an exceptional student education teacher.

With the economy in recession and charitable donations shrinking, food banks are struggling to keep their pantries full this year. Anything they can get is helpful, including fresh produce.

William Tyson, pastor of Union Congregational Church in Tavares, said the food the students' bounty would go to Agape Ministries in Eustis to help feed needy families.

"These kids grew this from scratch," Tyson said. "I think it gives them a sense of pride and achievement."
Porter, 9, a third-grader, "I liked feeding them and giving them water."

Porter received the trophy on behalf of the class.

The pigeons are descendants of the army messenger birds the U.S. Military used in World Wars I, II and the Korean War to communicate across enemy lines, Bacon said.

When the birds are no more than 5 weeks old, Bacon takes them a block away from their loft. He takes them farther and farther away each time to condition them.

The pigeons released Monday will participate in a racing competition in Lawtey, in Northeast Florida, at the Mid-Florida Combine, a gathering of dozens of pigeon racing clubs.

Bacon said pigeons, hundreds of miles from home, can find their lofts easily. The record distance is more than 700 miles, Bacon said. The birds have crystals in their heads that can "read the magnetic bearings of the Earth" to find their way home, he said. "They can see for miles," said Bacon. "They're just talented animals."

Pre-K teacher Cece Hemphill wrote the grant for the program in 2003. The program is funded by the Golden Rule Foundation in Orlando.

"We are using the pigeons to teach the kids compassion," she said. "The birds bring out a lot of nurturing and caring. "They have become very responsible."
We learn plant names and our ABCs in our garden.
(Counterclockwise)
Installing our irrigation.
"My! That baby pigeon grew so fast!"
A bird found our Garden Classroom.
(clockwise)
“Is that broccolli?”
Moving tadpoles into our pond.
“This pond has interesting things in it.”
Unexpected visitors – a swarm of bees!

These broccoli flowers are beautiful!
We dug in our garden and found golden treasure — sweet potato tubers! Is that frost on our Dutch pipe vine?
Harvesting our vegetables!