

## 2011 Florida School Garden Competition ENTRY FORM

School Endeavour Elementary

Teacher(s) & Grade(s) involved in garden program

Pre K, Kindergarten and Third grade

Contact Person Barbara Wilcox

Time contact person can be reached 8:00 - 4:00

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### **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 227 students in PreK, K + 3<sup>rd</sup>  
plus available to entire school as an outdoor classroom and/or picnic area

☐ 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 also herbal and butterfly garden

Please indicate the number of hours a week, on average; your students spend in the garden. \_\_\_\_\_

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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, finding plants/insects in the garden (scavenger hunts)  
picnics in the garden, touring the garden + other activities to observe what  
happens in the gardens, learning about garden tools, different types of seeds, and  
learning the names of our ABC plants already in existing gardens.

2. Please mark all the activities that your students participate in while in the garden.

☒ Planting

☒ Watering

☒ Weeding

☒ Observing

☒ Recording

☒ Harvesting (fruits, vegetables, seeds  
AND caterpillars)

☒ Playing

☒ Sitting

☒ Fertilizing

☒ Experimenting

☒ Other, harvesting caterpillars, reading with buddies, lunch,  
inviting other classrooms (+ schools) to join us, photographs

3. Please indicate the percentage of time, on average, that you used the garden as an instructional tool in your classroom. 10% (a large majority of our science focus all year long.)

4. Please mark the subject area(s) into which you have incorporated school gardening. Check all that apply.

☒ Math

☒ Science

Edible Forest + Vegetable garden

☒ Social Studies

☒ History (Victory Garden)

☒ Health/Nutrition

☒ Language Arts

☒ Music

\_\_\_\_\_ Physical Ed.

☒ Environmental Ed.

☒ Ethics (responsibility and nurturing)

☒ Other, please specify public speaking (presenting to others)  
Service Learning (civic responsibility)

5. Please indicate the number of years that a school garden has been part of your curriculum. 8

6. Please indicate the types of volunteers that have helped you and your students with the garden.

☒ Master Gardeners

☒ Senior citizens

☒ Parents and Grandparents

☒ University students

\_\_\_\_\_ Garden club members

\_\_\_\_\_ 4-H members

☒ High school students

\_\_\_\_\_ FFA

☒ Older students at your school

☒ Other, please specify Teachers, their children, teacher assistants, custodians,  
and district resource teachers

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.

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> County Extension service  | <input type="checkbox"/> 4-H education materials       |
| <input checked="" type="checkbox"/> Teacher in-service training                                       | <input type="checkbox"/> Lifelab                       |
| <input checked="" type="checkbox"/> Personal knowledge  | <input type="checkbox"/> Master Gardener training      |
| <input checked="" type="checkbox"/> Educational journals/publications                                 | <input checked="" type="checkbox"/> Friends/volunteers |
| <input checked="" type="checkbox"/> National Gardening Association's Growlab/Growing ideas newsletter |  |
| <input checked="" type="checkbox"/> Other, please specify <u>Internet searches, local nurseries,</u>  |  |
| <u>Jr. Master Gardening books</u>   |  |

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

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Library books  | <input type="checkbox"/> Computer software                           |
| <input checked="" type="checkbox"/> Internet   | <input checked="" type="checkbox"/> Videos                           |
| <input type="checkbox"/> Filmstrips  | <input checked="" type="checkbox"/> Personal books                   |
| <input type="checkbox"/> Textbooks   | <input checked="" type="checkbox"/> Experiments                      |
| <input checked="" type="checkbox"/> Trade books  | <input checked="" type="checkbox"/> Gardening magazines and catalogs |
| <input checked="" type="checkbox"/> Newspapers   |  |
| <input checked="" type="checkbox"/> Other, please specify <u>Jr. Master Gardening Program, Student generated</u> |  |
| <u>books (past + present) about gardening, photo albums,</u>   |  |
| <u>Power Points (past + present) Supplies purchased from catalogs</u>  |  |

\*\*\*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 2012 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.

Barbara Wilcox

Signature

3-18-11

Date

# Florida School Garden Contest for Endeavour Elementary 2011

## EDUCATIONAL RELEVANCE

### How is the garden used for interdisciplinary learning, what subjects are emphasized?

Our kindergarten Gardening project began in 2003-04 between one kindergarten class (16 students) and their 5<sup>th</sup> grade book buddies. They built a butterfly garden in the shape of a butterfly to learn about plants, insects and to beautify a sandy area. Every succeeding year this garden has been maintained and expanded. The kindergarten students (now with seven participating classrooms- 119 students) have added an ABC garden, an egg, flower and chrysalis garden (so we have the lifecycle of the butterfly in garden shapes) and a Rainbow garden. In 2006-07 we invited the new first grade students to return to the garden to teach our new kindergarten students how to become garden caretakers in the "Transfer of the Garden Day". In 2007-08, we invited our third grade classes to become our garden mentors. They mentored our kindergarteners in science concepts and helped us build the Five Senses garden, and the Tea Garden. We also started growing/harvesting/sharing butterflies in a butterfly tent. The following year our third grade mentors helped us build the Hall of Arbors and to plant our new 20' x 30' permanent Butterfly Castle so we could raise butterflies for students to study and share. We began an Edible Forest (fruit trees and bushes) in 2009-2010 and a Monarch Migration garden which we are continuing to plant this year. The Monarch Migration garden is a garden of milkweed plants and used as a habitat for monarchs on their migration path to Mexico. This year we are also implementing a salad garden- the first year we've focused on vegetables. While we have held butterfly releases in the garden in previous years this is the first year our kindergarteners have become butterfly experts and mentored PreK about various butterflies and shared butterfly releases with them.

This is the seventh year our garden projects have also been service learning projects. In addition to providing our school with outdoor classrooms, we've provided mentoring possibilities for our intermediate students and future teachers from our local colleges as well as increasing our intergenerational focus by including seniors and grandparents in our garden activities.

From 2003-2007, we held five "big" garden days, (September, January, February, March and April) but with the inclusion of our new Butterfly Castle in 2008, we started holding eight garden days.

The following information will provide you with an overall look at a years worth of activity in our gardens. The months of September – March will describe what we have accomplished so far this year. The months of April –May will describe how we finished last year with information describing what we plan to do the rest of this school year.

**September:** Kari Ruder (owner of Naturewise Nursery, one of our business partners) talked to our kindergarten classes about plants and why they are important to us. (*Science, language*) We held a Monarch Butterfly release in our Butterfly Castle. We released 48 monarchs. (*Science, language, endangered species*) Our fifth annual, Transfer of the Garden Day—we invited the first grade students to return to the garden and teach our new kindergarten students how to plant plants and seeds as well as rotate between classrooms. Activities included: partners making a paper monarch butterfly to send to Mexico as part of the Symbolic Monarch Migration—we should receive a different monarch in return this spring (*science, fine motor skills, visual*), sang plant/insect songs, (*science/music*) made insects from K'Nex (*science, language*). We planted vegetable seeds in recycled milk cartons to sprout for our salad garden (*science/recycling*). We had 4 community volunteers including Kari, one master gardener and two senior citizens (*intergenerational focus*). We also spent one week learning about apples and Johnny Appleseed. Activities included: writing cards inviting other schools in our district to plant a fruit tree as

part of the Global Johnny Appleseed project, (*writing/language*), finding the star in the middle of the apple (*science/inquiry*), tasting different apples and graphing favorites (*math*), life cycle of the apple tree and seasons of the apple tree (*science*), counting apples and seeds inside apples (*math/science*), cut and paste of Johnny Appleseed (*social studies/fine motor skills*). We observed our apple tree that we planted last year. We also collected donations from students to plant a fruit tree in honor of our Johnny Appleseed project—this year we planted a peach tree during our November garden day (*community service*).

**October:** Our first garden day with third grade. One third grade class mentored in the garden while the other third grade classes mentored in the classrooms. Students rotated every 10 minutes. Activities included drawing/labeling the lifecycle of a plant (*science, writing*), tasting/graphing favorite seed—pumpkin or sunflower (*math*), sorting seeds into edible/non-edible (*science, math*). We had three volunteers: Kari (business partner) and two senior citizens (*community /intergenerational focus*). Mentors in the garden taught the kindergarteners the parts of the plant, how to plant a seed (carrots, beans and lettuce), and planted the seeds into recycled milk cartons (*science*). We also spent a week learning about pumpkins. Activities included: visiting a Pumpkin Patch with story time (“*being there*” *experience/literacy*), learning and sequencing the life cycle of a pumpkin (*science/math*), turning a pumpkin into a jack o’lantern including voting on the types of facial features to carve (*science/math*), testing it to see if it would float (*science*) and describing/writing about it using their five senses (*language/writing/science*). We also held a Fritillary release in the butterfly castle. We released 40 Fritillaries and we wrote a book about How to Release Butterflies in the Castle through our InterWrite Board (*writing/science/technology*). We planted the sprouted bean, lettuce and carrots into a Raised Bed garden (salad garden- a freeze in December killed all our beans-which provided multiple lessons on weather, it’s affect on us , our gardens and our food supplies).

**November:** Kindergarten held a monarch butterfly release with a visiting school. We taught these new friends how to release a butterfly in the castle and explained why you do not grab its wings. (*science, citizenship, collaboration*), We made red/white/blue carnations to give to Veteran’s for Veterans day and learned about how water travels through the stem to the flower (*science inquiry, citizenship*), We held a “Grandparents in the Garden Day” to encourage more senior citizens to volunteer in our gardens. Kari, two seniors (one is a master gardener) and one college student volunteered (*community/ intergenerational focus*). We practiced how to plant flowers and identified the different parts of a plant while we replanted parts of the Tea Garden. (*science*) After several years, the dirt in the Tea Garden raised beds needed replenished so we have been rotating to different Tea Garden beds to update and improve them (*science, garden caretakers*).

**December:** Kindergarten participated in our school’s Science Fair (*science, earth consciousness/Social Studies*). Every kindergarten class participated. All the projects incorporated gardening or Earth health. Our topics included: “Will plants that are dead-headed produce more flowers?”, “Which type of apple has the most seeds?”, “What happens to a plant if it doesn’t get enough sun?”, “What types of materials will decompose?” and “Where on our campus is the best air quality?”

**January:** Our kindergarten students continued to learn about the monarch butterflies. They pasted pictures of monarchs on a card and wrote the name, (*science, writing*) they invited a PreK class to the Butterfly Castle to release the monarch butterflies (*collaboration, mentoring/Social studies*). Our third grade gardeners mentored our 7 classes of kindergarten students in the garden. (*collaboration, science, mentoring/Social studies*) They explained and showed the different parts of the peanut plant, helped the kindergarteners plant a flower and find the seed inside the peanut and plant it in recycled milk cartons (*earth care*). During rotations into the classroom the kindergarteners learned about peanuts by

tasting different types of nuts and voting on their favorites (*math*), tasting smooth and crunchy peanut butter, learned about George Washington Carver (*literacy*) as well as singing songs (*music*) about peanuts and making the lifecycle of the peanut plant (*science, fine motor skills*). We had one Master Gardener and two senior citizens volunteered to help this day. (*Intergenerational focus*). Ms. Kari (Naturewise Nursery owner-*community connection*) spoke to the kindergarteners and shared several plants and their properties with us.

**February:** We (kindergarten and third grade mentors) practiced how the kindergarteners will be mentoring PreK students next month in the garden (*role-playing*). They planted flowers and herbs, updated the ABC garden. The third graders also taught kindergarteners the seasons of a tree (*science, math*) and observing/comparing/contrasting various plants. We planted more vegetable seeds in our recycled milk cartons. Ms. Kari (Naturewise/*business partner*), Ms. Judy (*master gardener*), three senior citizens (*intergenerational focus*) and three University of Central Florida students (*community involvement*) volunteered this day. Another day we planted our sprouted peanut seeds into our raised bed gardens to grow. We continue to care for our vegetable garden (*garden caretakers/social studies*). Our kindergarten students mentored PreK in a Julia Butterfly Release (*science, mentoring/social studies*). The kindergarteners prepared a speech (*oral language*) to tell PreK about the Julia butterflies and made them a paper Julia on a popsicle stick for the PreK to carry into the castle (*art, writing*). Both kindergarteners and PreK students released and observed Julia butterflies in the castle ("*being there*" experience).

**March:** We invited PreK to the garden for a Welcome to the Garden day. One class of kindergarteners taught the PreK the parts of the plant and how to plant a flower and a seed (*science, collaboration*). Then the PreK students rotated into different classrooms where they participated in other garden related activities including making a flower vase by decorating a recycled yogurt container (*art*), building bugs out of K'Nex (*math, following picture directions, spatial connection*), making leaf rubbing designs (*art, science, fine motor skills*), flower and insect puzzles (*math, spatial*) and garden songs (*music*). PreK took their seeds back to their rooms in order to watch the plant life cycle (*science*). Kindergarten also mentored one class of PreK and taught them about the Julia butterfly (*science, collaboration, social studies*). In addition to the PreK teachers and assistants, we also had Ms. Judy (*master gardener*), one senior citizen, and one UCF student volunteering (*community connection*). The PreK students learned the lifecycle of a butterfly, what a Julia butterfly likes to eat and then they went into the garden and released some Julia butterflies and observed them (*science*). Kindergarten harvested swallowtail caterpillars and shared them with 8 different classrooms (PreK-5<sup>th</sup>) so they could raise them and watch the metamorphosis process (*science for all*). Our master gardener, Ms. Judy helped us plant our bean seeds we sprouted into the Vegetable raised bed garden (*science, community connection*). The lettuce and carrots that we planted earlier in the year are almost ready to harvest. Currently we have fruit on our peach tree, one lemon tree and one of our apple trees that we continue to observe as we already watched them flower.

**April:** We will hold our last garden day with our third grade mentors. In the garden we will be focusing on the Edible Forest. The third graders haven't planned their concepts yet but they will most likely be focused upon insects in the garden or fruit trees (*science, literacy*). We will hold our last butterfly release, hopefully with zebra longwings and/or gulf fritillaries (depending upon which butterflies are available). Our kindergarteners will mentor PreK about the butterfly through student made books, a presentation or a PowerPoint (*literacy, science, public speaking*). Both kindergarteners and PreK students will release the butterflies in the Butterfly Castle and observe, as well as search for other butterfly eggs and caterpillars from previous releases. During Earth Week we will provide each grade level with a fruit tree to plant in our Edible Forest (*expansion into other grade levels*) and we will plant a

special fruit tree during an Arbor Day celebration. We will also provide any class with the materials to make Radish necklaces and/or Garden Gloves (*seeds planted in plastic gloves or plastic bags and hung on string for a necklace*). We will hold our second annual "Most Unusual Garden Container Contest". Last year we had garden containers such as gardens in muffin tins, made from newspaper tied together to form a pot (still growing this year!), and take home food containers, etc. (*science, creative enterprise*.) Last year our kindergarteners participated in our Earth Program and each class sang a song or performed a skit in front of other students and parents (*music, literacy*). One of the highlights of the program was the ending song, "What a Wonderful World" shown through a PowerPoint complete with kindergarten student drawn pictures to match the words to the song and the audience sang along with one class of kindergarteners singing it in Sign language (*music, technology, movement*). We will not be able to incorporate our Earth Program this year during Earth Week due to FCAT testing the same week, but maybe we will be able to hold it in May. We also invited Tom Hill (*Agriculture specialist*) to read "Green Florida Farms" to every grade level (K-6) to learn about Florida Farming (*literacy, science, Florida connection*). Every year we hold a garden contest. Last April we held a garden sign contest in order to make signs for our new gardens: The Edible Forest and the Monarch Migration garden. We also requested signs designed for the Lifecycle of a Butterfly which we could promote in our Butterfly Castle. This year our garden contest will be to make an Earth Book (*literacy, writing, art*). We requested every grade level to submit a page for our Earth book. We suggested specific topics for each grade level but they may choose to write about any part of Caring for the Earth. Our suggestions included: PreK: How to plant a flower, Kindergarten: How to compost, First Grade: Litter control, Second grade: Energy Control, Third grade: How to care for the garden, Fourth grade: Endangered species, Fifth grade: recycling, Sixth grade: Ecosystems and biodiversity. We will acknowledge and award the winning entries during our Garden Celebration in May (*science, literacy, writing, art*). We plan to submit this school-wide book to the Young Author's Conference in May.

**May:** Garden Celebration. This will be our sixth annual Garden Celebration. Each kindergarten class performs a story, skit, song or dance to show our garden learning (*music, literacy, movement*). Mentors and volunteers will be recognized and appreciated through student made gifts (*fine motor skills/art*). This year one of our kindergarten classes wrote a story about how to release butterflies in the garden and showcased the butterflies we have in the castle. This book will be printed and given to each third grade teacher and each adult volunteer (*literacy, technology, writing*). We will be making foam flowers for each third grade mentor (*art, fine motor skills*). Cookies and drinks will also be served.

ALL garden days incorporate *Social studies*, especially good citizenship manners such as sharing, patience, responsibility and effort- on the parts of both the kindergartners and the third grade students. This is apparent in all classrooms and also in the garden. Students are learning to be caretakers of the garden, how to work with one another and community members, how to follow rules and procedures and how to become garden advocates. After a garden day the third grade students *reflect* upon their mentoring (*writing, discussions*). Some comments include: "I learned today that teaching little kids is hard to do. The part I don't like is when they don't listen and that is how our teachers feel when we do it." Or "The best part of the day is that everyone had a great time planting" to "Next time I think we should have the milk carton planters ready (cut off the tops) the day before."

Other activities pertaining to the garden but not done during our gardening days include reinforcement of some of the above activities (*science, math, literacy, writing*), including but not limited to life cycle study, insect/plant thematic units, finding caterpillars, harvesting seeds, observing butterfly lifecycles in nature or in the classroom and discussing similarities/difference between different butterflies, plants, and other insects, taking digital pictures and writing stories about our experiences through our InterWrite Board (*technology*), litter patrols in the garden and around the campus, planting flowers in

other areas of the campus to beautify it, inviting local nursery owners to discuss plants prior to garden days, writing thank you notes to our garden helpers, implementing our fourth year of the "Johnny Appleseed project". The Global Johnny Appleseed project is to encourage environmental learning, reduce global warming and grow food by planting at least two fruit trees on school campuses. Our kindergarten students write to every school in the district and invite them to plant fruit trees on their campus as we are doing. We also give tours of our gardens to other schools- this year we've had visits from three elementary schools and one college professor who is starting a Garden/Environmental club. (*Community awareness, advocacy*).

#### **What resources are used to facilitate garden learning?**

Our gardens are funded by teacher written grants and community donations. This year we've written and received \$1800.00 from Learn and Serve to implement the Edible Forest, the salad garden, the Monarch Migration garden and maintain the existing gardens through our garden mentors. We've also received \$500.00 for our Butterfly releases through a district mini-grant and part of our funding from Myra Langford for the year 2009-10 was forwarded to this year to implement our September gardening day and butterfly release. \$542 from two separate District mini-grants (one service learning and one technology grant) will be used to print copies of our Butterfly Release book (which we will also include in learning bags we give to PreK students). A mini-grant from our Youth Advisory Council (part of our Learn and Serve grant) will fund the printing of our Earth Books.

Both of our local nurseries (Naturewise and Rockledge Gardens) provide discounts, donations of plants/trees, information about plants, sharing of opportunities for learning, as well as offering their time and expertise during our garden days. They are also advocates of Endeavour and frequently share with others about our gardens and encourage them to visit so we can share how to start a garden at their school, day care or home.

We also have a master gardener who volunteers during each of our garden days as well as many Saturday weeding dates. She visited our classrooms to read "The Lorax" book during Dr. Seuss's birthday celebration. She made us a fertilizing schedule for our Edible Forest and has donated plants from her garden for us to plant during garden days.

One of our Senior volunteers also spends multiple Saturdays helping us weed the garden, propping up fruit trees, weed-eating around the garden beds, donating materials such as stepping stones, and has even been called upon to transfer plants from the nursery to our garden days.

Our lead kindergarten teacher is an Ag in the Classroom trainer. She writes our grants and has purchased several copies of The Junior Master Gardener program from which we are utilizing activities.

#### **What Florida Sunshine State Standards are addressed with the garden?**

**Science:** *The Practice of Science:* Collaborate with a partner to collect information. Make observations of the natural world and know that they are descriptors collected using the five senses. Keep pictorial records, observe and create a visual representation of an object which includes its major features, recognize that learning comes from careful observation. *Properties of Matter:* Sort objects by observable properties, such as size, color, shape, temperature, weight and texture. *Motion of Objects:* Investigate that things move in different ways, such as fast/slow. *Organization of Living Organisms:* all plants and animals, including humans are alike in some ways and different in others. All plants and animals have internal parts and external structures that function to keep them alive and help them grow and reproduce. Humans can better understand the natural world through careful observation. Recognize



that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life. **Language:** *Reading:* phonemic awareness (identify sounds/letters, “A is for Angelonia”), *Vocabulary:* Use new vocabulary that is introduced and taught directly, describe common objects and events in both general and specific language, use language correctly to express spatial and temporal relationships, relate new vocabulary to prior knowledge. *Comprehension:* Make predictions about text, use background knowledge, supporting details from text, to determine if reading selection is fact or fiction, retell the main idea, arrange events in sequence, select materials to read for pleasure, participate in group response to various literary selections and connecting text to self and text to world, identify purpose of nonfictional text, retell important facts from text heard or read. *Writing:* connect thoughts and oral language to generate ideas, draw a picture about ideas from stories read or class discussion, draw/tell/write about a familiar experience, topic or text, knowledge of letter/sound relationships to spell simple words, create narratives by drawing, dictating and/or using emergent writing, participate in writing simple stories, poems, rhymes, or songs, write friendly letters or thank you notes. *Listening and speaking:* Listen carefully and understand directions for performing tasks, listen to fiction/nonfiction read aloud and demonstrate understanding, recite short poems, rhymes, songs, and stories with repeated patterns, communicate effectively when relating experiences and retelling stories heard, use complete sentences when speaking. *Research Process:* Ask questions and recognize the teacher as an information source, use simple reference resources to locate and obtain information (books, pictures, environmental print), participate in creating a simple class report where the teacher is the scribe. **Technology:** Use technology resources to support learning (interactive whiteboard, digital cameras, internet, PowerPoint, videos, etc.) **Math:** Represents quantities with numbers up to 20, verbally, in writing and with manipulatives, solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering and by creating sets up to 20, describe/sort/re-sort objects using a variety of attributes such as shape, size and position. Interpret the physical world with geometric shapes and describe it with corresponding vocabulary, use basic shapes, spatial reasoning, and manipulatives to model objects indirectly or directly using measurable attributes such as length, height, and weight. Identify and duplicate simple number and non-numeric repeating and growing patterns. **Social Studies:** understands broad categorization of time, knows the accomplishments of major scientists and inventors (ex. George Washington Carver/peanuts), uses simple maps to identify places, knows basic needs and how families in the US and other countries meet them, knows the role that resources play in our daily lives, knows the qualities of a good citizen, knows that a responsibility is a duty to do something or not to do something, knows the sources of responsibility, examples of situations involving responsibility, and some of the benefits of fulfilling responsibilities.

We assess our kindergarten students yearly with pre-tests and post-tests about garden concepts. (plant parts, plant and insect lifecycles). As we will be giving the post test in May we do not know the rate of achievement for this year, however last year our students scored: Pre-test—14% passing, Posttest—83% passing (an improvement of 69% on grade level). Quite a success!

## LEVELS OF INVOLVEMENT

### How does the garden promote student leadership?

We have several levels of leadership working within our gardening projects. The students in first and third grade are mentors during our gardening days. Kindergarteners become mentors of PreK after learning gardening concepts from their third grade mentors. First grade students mentor our kindergarteners in responsibility for the garden, garden procedures and social skills necessary during our annual Transfer of the Garden Day. Third grade students construct learning situations where they are

matched with kindergarten students to instruct them in a specific activity during our Gardening Day rotations; each third grade students mentors six different kindergartners in a one-to-one situation during garden rotations. This mentoring is expanded into the garden with one class of third grade mentors becoming garden experts. These garden experts also mentor individual kindergartners. They teach them the different parts of a plant and their uses, how to handle a plant and garden tools, how to plant a plant and a seed as well as read books to them. The third graders are also in charge of helping build the new areas to the garden, including collecting milk cartons and turning them into seed pots, clearing out some of the raised garden beds for upkeep and replanting. These activities enable our third graders to plan lessons, teach a concept and reflect upon their responsibilities. These students are becoming self-motivated and are refining their communication skills while they are learning and/or reinforcing concepts themselves. Our kindergarten students, in addition to mentoring PreK are also garden advocates, by keeping it clean and free from litter as well as encouraging others to do the same. They also invite other classes into the garden (both from our school and from other schools in our district) through garden days and butterfly release dates. Kindergartners also encouraged the entire school district (elementary, middle school, high school) to participate with them in the Global Johnny Appleseed project by writing letters to inform them of the project and inviting their school to participate. Our gardens are part of our service learning projects (we are the FIRST Elementary Florida Service Learning Leader school) and we share our projects through display boards and our service learning newsletters with our school board, as well as during Service Learning conferences such as the Florida Learn and Serve Conference in November and the Raising Youth Voices Conference in April (Our Youth Advisory Council attends this conference and will share with other students around the state about our service learning projects, which include our gardens—of which they participated in when they were in kindergarten and third grade) They also share this information with our legislators when they visit them during this trip. Another area of focus is our intergenerational activities-- by inviting seniors (including grandparents) to garden days we are giving our kindergartners practice in leadership skills such as responsibility for our elders, caring and problem-solving. Our local colleges (Brevard Community College and University of Central Florida/Cocoa campus) have been invited to participate in our gardening projects; this partnership supports our students learning as well as enables the college students to complete their service learning requirements (a win-win situation). Multiple students have participated in several of our garden and/or butterfly release dates. This is actually leadership from outside our school but it models future possibilities for our students as well as citizenship skills. Endeavour's kindergarten classes provide service learning, student leadership, mentoring and intergenerational opportunities to our students, other students in our school, other school's students and our local community.

### **Are there partnerships with Garden-Related Organizations?**

Our two local nurseries are staunch supporters of our gardening activities. They donate plants, time, provide discounts, free delivery and advice. They schedule time to talk to our students about plants as well as attend our garden days and volunteer as adult mentors. (All combined over \$700.00 in matching and in-kind funds). Kari Ruder, owner of Naturewise Nursery, a Florida Native plant nursery has spoken with our kindergartners five times this year as well as worked during our gardening days. She also donated the time and expertise of her intern to develop the plan for our Edible Forest. We currently have a master gardener, Ms. Judy, who volunteers during our gardening days, our weekend weeding days, as well as read the book, "The Lorax" to our class. Ms. Judy has also expanded her time at Endeavour to participate in our Tea Parties and our field trips as well as donating funds for our projects and milkweed plants for our Monarch Migration garden. Ms. Judy developed a fertilizer schedule for our

Edible Forest to help us track and care for our newest garden. Our county extension office has also supported us through resources and advice.

### **What type of school support is there for the school gardens?**

Our entire school is supportive and interested in our gardens. Our kindergarten gardens are just one area of gardens on our campus. We have a hydroponics garden (fifth grade), a PreK Learning garden and a raised garden bed for each grade level to use as they see fit (or as our science teacher incorporates it into her lessons). Our art teacher worked with the entire student population to design and paint butterflies and/or flowers on ceramic tiles that were adhered to the raised beds inside the butterfly castle by one of our PreK EELP teacher and her parents. Our fifth and sixth grade students were leader mentors and worked with the primary classes to make a beautiful design on their individual tile. Students from every grade level participate in our garden sign design contests and we expect the same level of participation in our Earth Book contest this year. Several classes provide food and plant scraps for our compost pile. One of our PreK assistants uses her lunch time to help weed our Monarch Migration garden. Our administration frequently brings visitors to our gardens and is supportive of other schools visiting us to see our gardens. Our custodians help us care for the gardens as their time allows (we have had a turnover of custodians this year so their help is sporadic) and our PTO purchased two umbrellas for our garden tables. (Approx. \$900 each). Of course, just the level of mentors in the gardens (five classes of first grade during Transfer of the garden, three-five classes of third grade mentors/depending upon their schedules, seven classes of kindergarteners) are phenomenal. Our technology specialist supports and helps us with our InterWrite books as well as other requests, such as transferring pictures onto CD's for developing. She has also developed a Service Learning page on our Endeavour website which includes PowerPoint's about our garden projects. Check it out at: [www.endeavour.brevardschools.org](http://www.endeavour.brevardschools.org). Our librarian has a special "Garden" section she sets up every spring to encourage reading about gardens, plants and insects.

### **What type of Community Support is there for the school garden program?**

Every year our community support grows. In addition to our two local nursery supporters, the local colleges and our master gardener, Ms. Judy, we also have several senior citizens who are regular supporters of our garden days and our weeding days. Florida Today, our local newspaper has supported our garden projects through the years and continued to do so this year. Our local Keep Brevard Beautiful organization, The Agriculture center, and our District Service Learning co-coordinators support us through sharing projects (our projects with others and other projects/ideas with us). Kari Ruder, Naturewise Nursery has an article about us on her website: [www.naturewiseplants.com](http://www.naturewiseplants.com). Our local school district has a service learning department who has funded planting grants in the past, as well as funded our Butterfly Releases this year, presented gardening in-services and provided materials, such as books. Florida Learn and Serve organization supports our gardens through funding, positive recognition (including our status as a Florida Service Learning Leader school), plus sharing ideas and resources. They have our past and present projects listed as well as our Kindergarten Garden Project as a link on their website: see "Once Upon A Service Learning Journey" at [www.learnandserve.hhp.ufl.edu/projects/projects.html](http://www.learnandserve.hhp.ufl.edu/projects/projects.html). We are currently in the process of building a partnership with a new program at Brevard Community College. They are starting an environmental garden club and their goal is to help schools develop gardens. We are planning to work together to further develop our Edible Forest.

### **GARDEN QUALITY**

### **How/by whom was the garden designed?**

The original butterfly garden (2003-04) was designed by the teacher of one of our kindergarten classes but was constructed by the sixth grade book buddies. The following year (2004-05) our fifth grade classrooms measured the area and designed the ABC Garden. The kindergarteners voted upon their favorite and built the ABC garden. We did another garden contest in 2007-08 to determine the design of the Tea Garden. We combined two student ideas to build this garden. In 2008-09, due to the necessity of quickly designing and ordering the materials necessary to build the Butterfly Castle, we didn't have the option to have our students design this garden. Instead we let the students design the garden signs. In 2009-10 with the donation of Kari Ruder's intern's time and expertise we received a design of our Edible Forest. Once again our students designed the garden signs for the Edible Forest as well as for the Monarch Migration garden—which was just an extension of a raised bed garden added to the side of our Butterfly Castle. We are still implementing these designs this year (2010-11).

### **What qualities make this garden unique?**

Each area of our kindergarten gardens is unique. We have, with the Butterfly Castle, what we believe is the only *permanent* butterfly habitat on an elementary school campus. Each of our gardens has a specific focus and several have special shapes to enhance their focus. The Butterfly garden is in the shape of a butterfly, The ABC gardens are in the shape of caterpillars and a flower and an egg, so combined with the Butterfly they reproduce the lifecycle of the Butterfly which include a fennel- planted "chrysalis" garden hanging off a petal of the ABC "Flower". Our garden mentor project earned a National Promising Practice award from the Character Education Partnership in October 2010. We have formal (Tea Garden) and informal (the rest) gardens. Our gardens enhance our kindergarten standards (learning colors-Rainbow Garden, learning the alphabet—ABC garden, science—Tea Garden, Five Senses, Edible Forest, Monarch Migration) as well as promote environmental advocacy projects (Monarch Migration Garden). We are also first in our district to implement an Edible Forest and we have inspired other schools to follow our example as this year we know of at least one middle school that is building an orchard and requested our support and sharing of our knowledge. Our garden signs include new signs in the Butterfly Castle (using photographs taken by students) that explain the different types of butterflies that might be seen in the Castle as well as a student designed sign to promote learning about the Butterfly Life cycle. In the fall of 2008 our gardens became a Certified Wildlife Habitat and have all the necessary criteria needed to promote and sustain wildlife. The other unique aspect of our kindergarten gardens is the size. All the gardens combined stretch the length of our entire school building. (Eight classrooms and Two sidewalks long) and that's not including our Hall of Arbors which stretches from our kindergarten rooms up the sidewalk to the front office or the Edible Forest or Vegetable garden which are located across the road in our Raised Bed Garden area. Our gardens incorporate a wide variety of garden types: we have host/nectar plants for butterflies, native and non-native plants to observe, herbs, flowers and vegetable and fruit gardens. Almost every type of garden imaginable!

### **How is the garden cared for and maintained?**

The garden is planted, cared for and partially maintained by our kindergarten students and our third grade mentors throughout the course of the year. Throughout the years as our garden area has grown it has become too much for our students to have full responsibility of the maintenance of the garden so we have actively invited community members to volunteer time for maintenance. However, as we do want the students to understand about weeds, what they are and how to deal with them we do implement weeding days. Our master gardener and nursery owners volunteer additional time to help maintain the gardens. Several of our senior volunteers not only volunteer time to weed the gardens,

but they also build us arbors, fund stepping stones, repair the waterfall in the Butterfly Castle and weed-eat/edge around the gardens when we had limited custodial support earlier in the year. We run into difficulties during Winter/Spring/Summer break and then the maintenance of the garden becomes the responsibility of the kindergarten teacher in charge with the help and support of the custodial staff, college and senior volunteers. Three years ago we had an irrigation system installed and when we have sprinkler heads needing maintenance our District maintenance team fixes it for us.

#### **How were the plants selected and used?**

The plants in the majority of the areas were selected by their specific properties: the ABC garden had to be flowers beginning with letters of the alphabet, the Butterfly garden and Butterfly Castle were selected due to their butterfly properties. Milkweed in the Monarch Migration garden was the only plant we could plant due to the fact that is the only host plant for the Monarch. The majority of our plants are selected by the kindergarten teacher in charge in order to enhance learning through the kindergarten students and third grade students. Full grown plants are usually selected to use during garden days so the third grade mentors could teach the different parts of the plant to the kindergarteners. Native plants were used whenever possible. Plants in each area are used for learning purposes- the ABC garden to teach the alphabet to students, the Tea Garden to teach about herbs, try new types of food, including homemade tea and edible flowers. The vegetable garden was produce entirely by seeds (donated by our district food services team) planted by the kindergarten students so they could observe, care for and maintain the entire plant cycle. The Edible Forest fruit trees were determined mostly by availability and cost. In addition to observing the trees, comparing the plants and learning about the cycle of fruit, it is our goal once the Edible Forest is well established to donate fruit harvested to our local food bank to promote healthy eating to needy families.

#### **Is there an environmental focus to the garden program?**

Always! Last spring, 2010, our gardens helped Endeavour win for the third time the Environmental Education award from Keep Brevard Beautiful. As mentioned previously we met our goal of becoming a Certified Wildlife Habitat. The Butterfly Castle, the Monarch Migration garden and the ABC/Butterfly gardens provide multiple opportunities for environmental studies, including butterfly /plant lifecycle and plant/insect parts study for our students, other students on campus, as well as visiting students and adults. Our garden brochure, our Service Learning Newsletter and our Garden Celebrations highlight our garden projects and are used for dissemination purposes. Our kindergarten teacher in charge has designed and taught multiple in-services and workshops on building a school garden to educate and promote environmental learning to other schools. We are working towards harvesting more seeds from our gardens to sell or give to visitors to promote gardening. Our ultimate goal is to make our students environmentally aware both on our campus and within the community at large: To provide caterpillars, seeds, knowledge to classrooms in our school and other schools to promote environmental awareness, collaboration and cohesiveness and build connections between each other, nature, life and learning.



ABC Garden



ABC Garden



Butterfly Castle & Monarch Migration

10-6-10

FLORIDATODAY.COM

# Endeavour students explore garden

BY ALISON DIANA  
FOR FLORIDA TODAY

Guided by their first-grade mentors, the kindergartners at Endeavour Elementary took over the Cocoa school's luscious gardens, planting new flowers and seeds and learning about their Florida-friendly surroundings.

This annual rite of passage, spearheaded by kindergarten teacher Barbara Wilcox, is part of the school's ongoing garden program.

In addition to toiling in the soil, children listened to "Growing Things," a garden-

related story by Elena Lopez, and made crafts out of plastic connecting toys.

"This year we have a lot of first-graders who are new to the school and the garden," Wilcox said. "It's more of an experience day."

Both grades also colored in large paper monarch butterflies as part of a nationwide project. Just as real monarchs migrate to Mexico, students' multi-colored paper versions will travel to Mexico as part of an annual project organized by Journey North. Mirroring the live butterflies' paths, students later will receive paper but-

terflies created by students in other regions, teacher Teri Lutz said.

"Who knows where it's going to come from," she told the children. "You never know who's going to get your butterfly."

Back in the garden, volunteers such as Les Donow, Gray Boot and Karl Ruder, owner and operator of Naturewise Gardens, helped students dig holes and plant flowers. Patiently, the adults asked children questions about roots and leaves, about how plants grow and the role of insects.

"I do this every year," Don-

now said. "I really enjoy it. I enjoy working with the kids."

Ruder is a long-time partner, providing about 60 different Florida-friendly plants for the school's gardens.

"I designed some of the landscaping, including the butterfly castle," she said. "We have non-toxic plants and an Edible Forest. My nursery does all Florida-friendly and edible plants."

Learn more about Endeavour, its garden and volunteering opportunities at [endeavour.brevard.k12.fl.us](http://endeavour.brevard.k12.fl.us) or call 633-3545. ■

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## Planting Peanuts With Kindergarten Classes

When we planted with the Kindergarten I told them the parts of the peanut and the plants, they filled a carton with dirt, and added some nuts.

I told them that peanuts were used to make things. Also we learned that they don't grow in bushes they are not really nuts.

The part we loved the most was when we got to plant the peanuts.

Next time we plant with the Kindergarten by making it better we can already have the milk cartons ready.

Anyway I still had fun. I hope we can plant again soon.

Syr'kia Ruth 14-17-11

I learn today that teaching  
little kids is hard to do.  
the part I don't like is they  
don't listen and that how  
our teacher feel when we do this  
to it's like we are the teacher  
and the kids don't  
listen we feel the way that the  
teacher feel we don't listen  
to the teacher so now we  
know how you feel when we  
don't listen to you we know  
that now we will listen to you  
for now on



# Security Trailer

Edible Forest

Shed

Lemon tree

Peanut garden

Salad vegetable garden

gardens

Peach Tree

Apple Tree

Pomegranate tree

A hand-drawn map of a farm. At the top, there are three clouds labeled 'Liquor', 'Liquor', and 'Liquor'. Below these, a wavy line separates the top section from the main farm area. In the center, there is a rectangular box labeled 'Shed'. To the right of the shed is a cloud labeled 'Lemon tree'. To the left of the shed is a cloud labeled 'Apple tree'. Below the shed, there are several rectangular areas with diagonal lines, some labeled 'Peanut garden' and 'Salad vegetable garden'. To the left of these, there is a cloud labeled 'Peach tree' and a cloud labeled 'Pomegranate tree'. At the bottom left, there is a cloud labeled 'garden'.

[illegible]

A hand-drawn site plan of a school building, oriented vertically. The plan shows a long building with several rooms and outdoor areas. At the top, there are three rectangular areas labeled "2nd grade", "2nd grade", and "1st grade". Below these are two more rectangular areas, each labeled "1st grade". A central horizontal corridor is labeled "Hallway Sidewalk". Below the hallway are three rectangular rooms, each labeled "Kindergarten Room". To the left of the building, there are several outdoor areas: a "classroom planter" (a small rectangle with an arrow pointing to it), a "rock garden" (a small rectangle with an arrow pointing to it), and a "margold garden" (a small rectangle with an arrow pointing to it). The entire plan is drawn with simple lines and includes some hatching for outdoor areas.

Kindergarten  
Room

Kindergarten Room

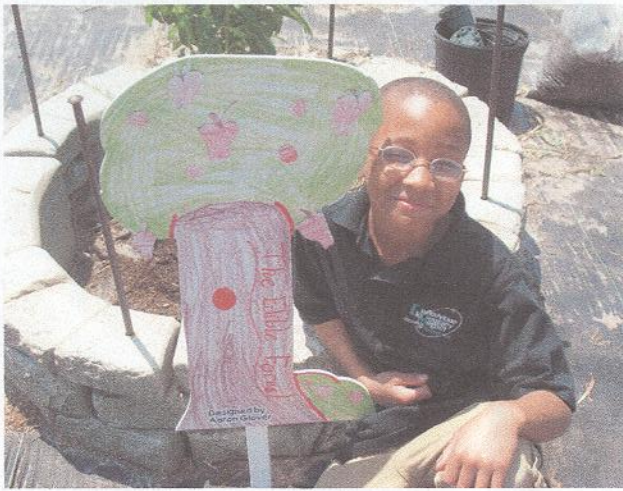
Kindergarten  
Room



Monarch's Inspiring Garden with  
tiles in The Butterfly Castle (2009)



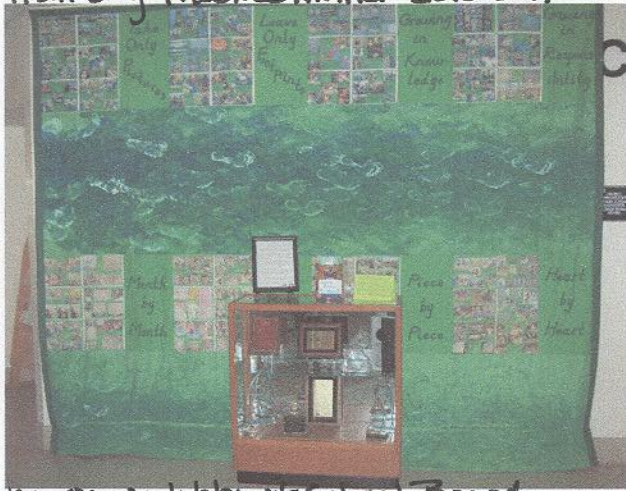
Edible Forest sign winner



Monarch Migration (latter photo)



Promising Practice Winner 2010 Oct.



Earth Quilt

hanging in lobby of School Board.



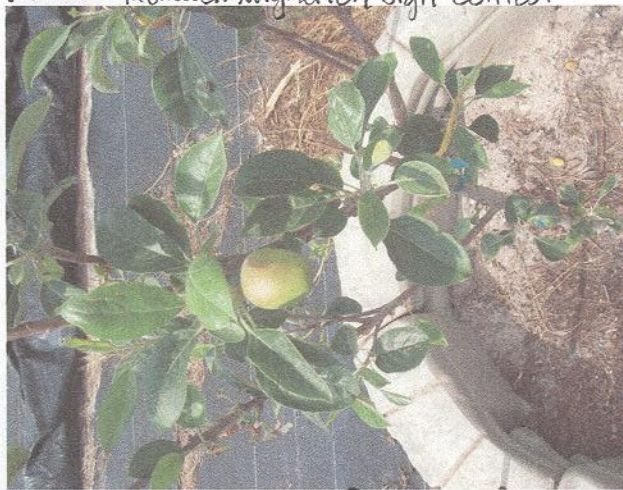
Winner - Monarch Migration Sign Contest



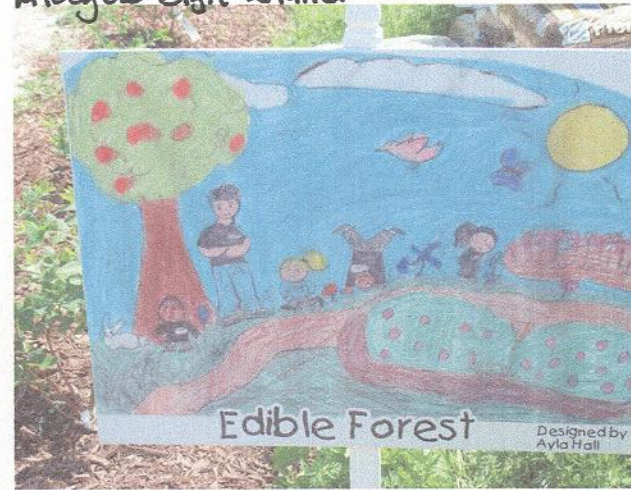
Life Cycle Sign Winner



Planting The Edible Forest - 3rd grade  
mentoring Kindergarten.



Apple Tree with fruit



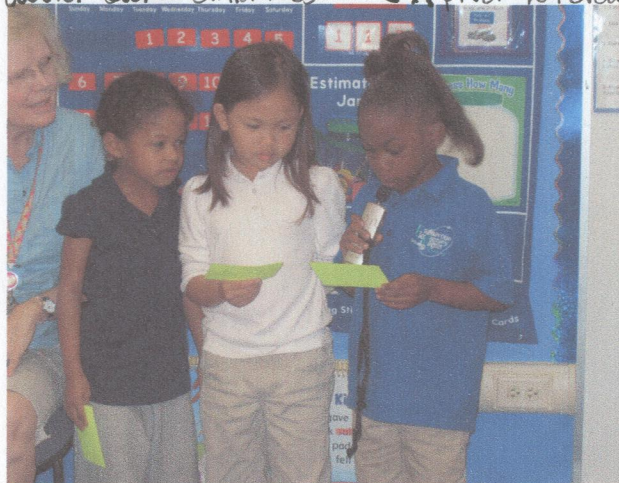
Winning Edible Forest sign



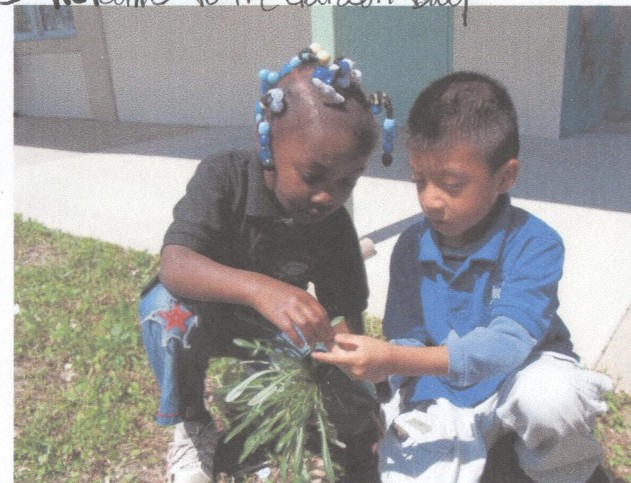
Butterfly release day with kindergarten mentors



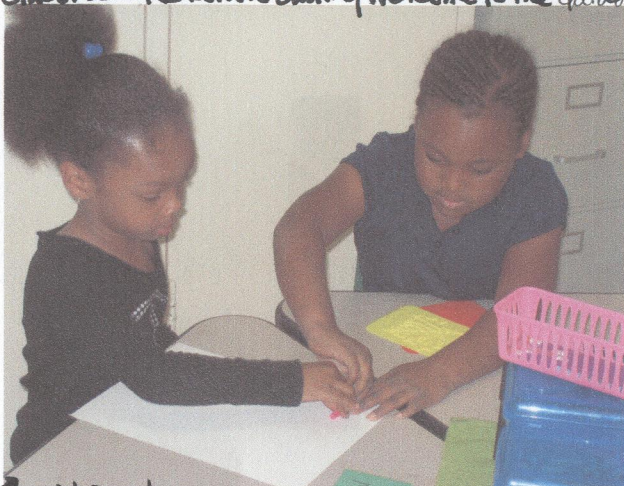
about Julia Butterflies to Pre K prior to release



Welcome to The Garden Day



Classroom Rotation during Welcome to The Garden Day



Crubbing leaves



Flowers made for volunteer appreciation



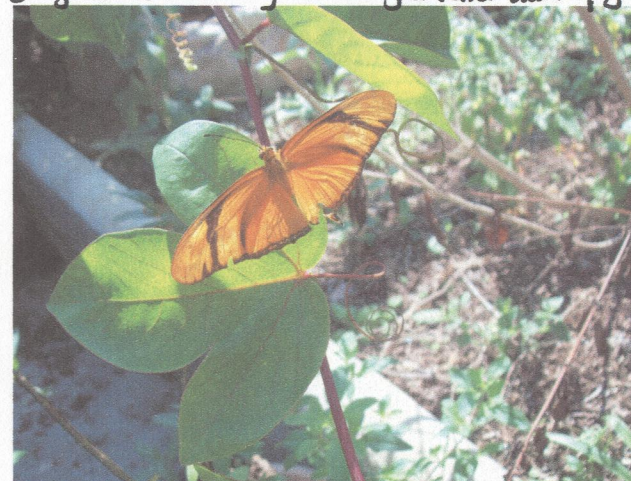
3rd grade mentoring kindergartener during garden day



3rd grade mentor reading to Pre K/Kindergartners after planting in the garden.



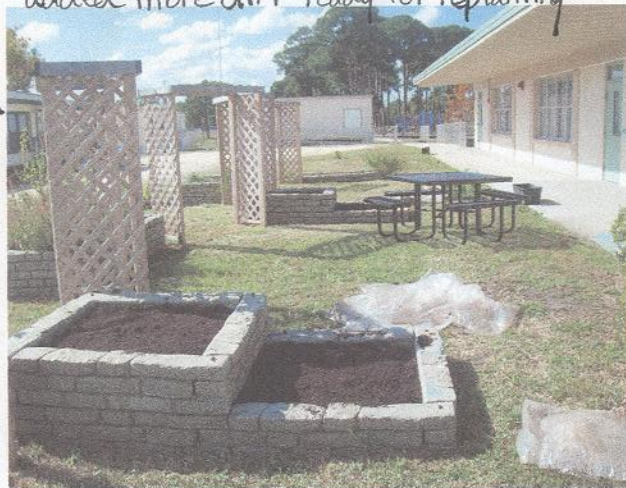
Pre K student with a Julia Butterfly and Butterfly ID card during Release Day



Julia Butterfly in Castle



upgrading Tea Garden - removed weeds  
added more dirt - ready for replanting



Raising butterflies in The classrooms



visiting school example: children  
releasing butterflies in The Castle.



Labeling Plant Parts - Garden Day Rotation



Kindergarten making an informational sign  
to give to PreK during Butterfly mentor release day



3rd grade mentoring kindergarten in planting seeds



in  
recycled  
milk cartons



Additions to the Tea Garden  
- Arbors built by volunteers (senior)



Planting in The Tea Garden addition  
1st grade mentor Kindergarten in "Transfer of The Garden Day (Sept 2010)



Ms Kari,  
Naturewise  
Nursery,  
talking  
about  
plants  
with  
Kindergarten



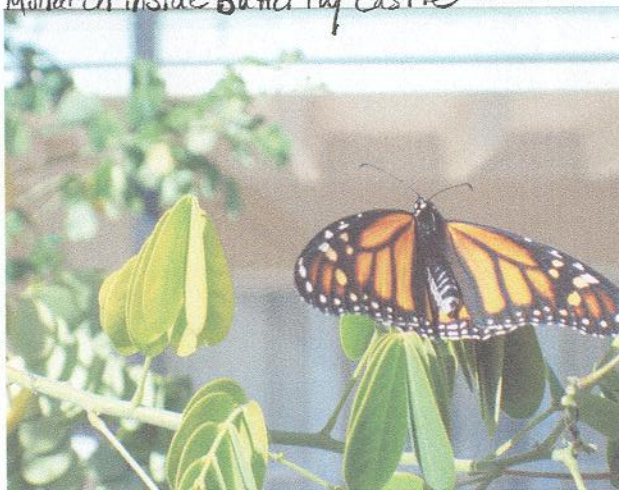
Inside the Butterfly Castle with new tiles and new Butterfly informational signs.



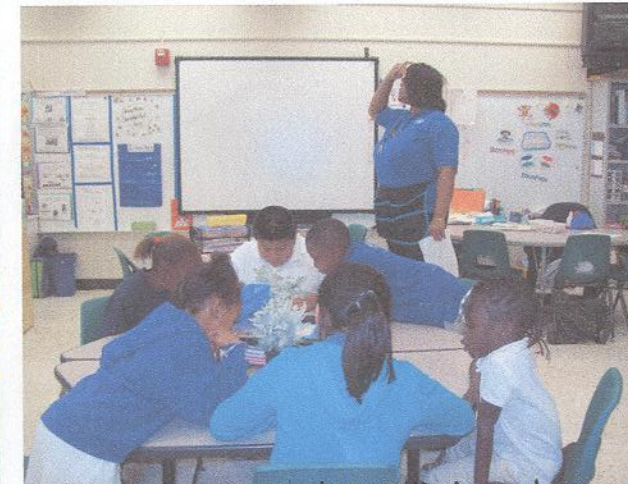
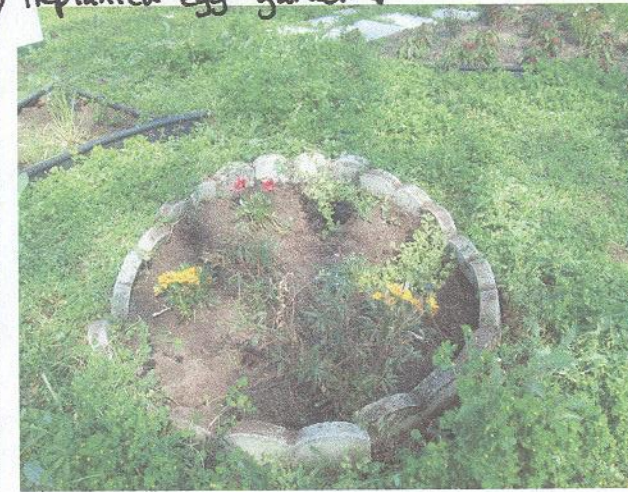
R-2 (ABC garden) Flower Shaped Garden (Pre-photo)



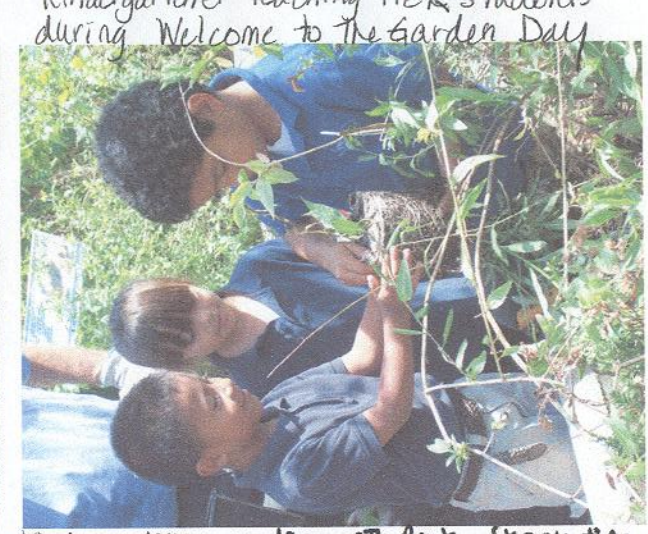
Monarch inside Butterfly Castle



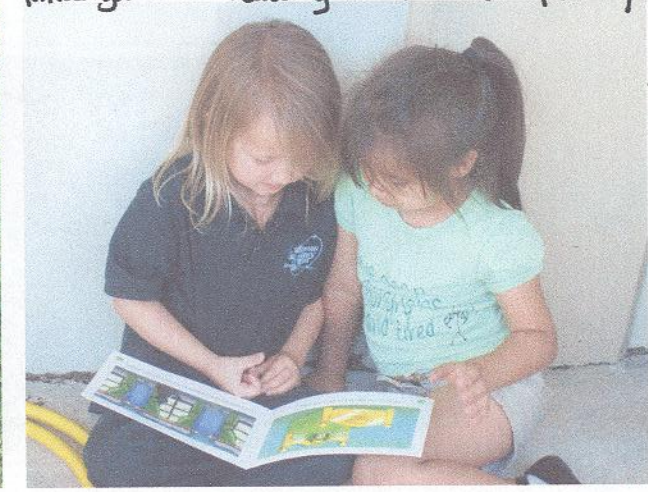
Replanted "egg" garden +



3-4 grade mentors helping kindergartners observe and label plant types + parts.



Kindergartener reading with Pre-K after planting during Welcome to The Garden Day



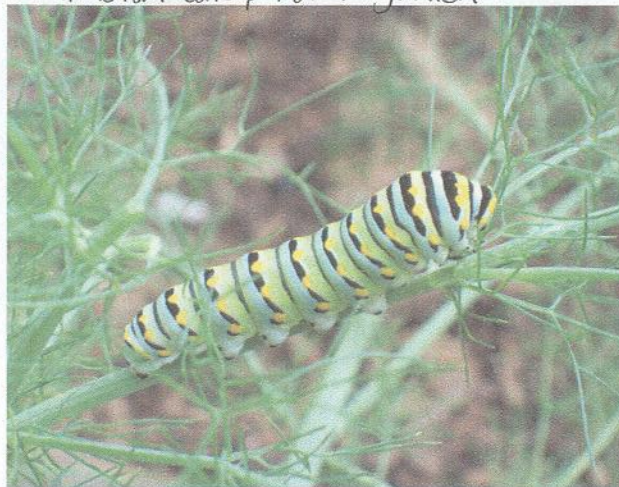
Kindergartener mentoring Pre-K during Welcome to The Garden Day (March 2011)



Peach tree ↓



Swallowtail Caterpillar in garden ↓



Monarch Migration Garden (Pre-photo)



Ms. Judy Master gardener helping K-Kids plant the vegetable garden



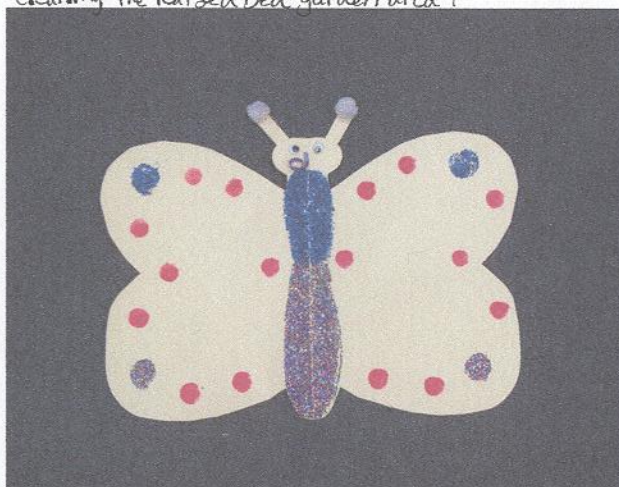
cleaning The Raised Bed garden area ↑



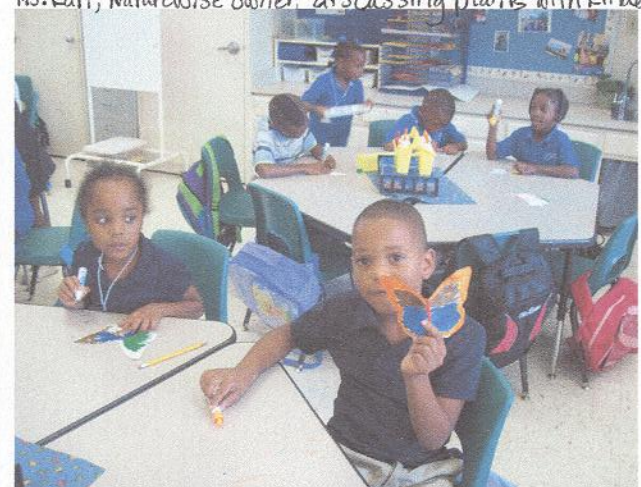
Ms. Kari, Naturewise owner, discussing plants with Kindergartners



Ms. Judy, master gardener reading "The Lorax"



Kindergarten's "Grade Level" Symbolic Monarch Migration Butterfly



Kindergartners making butterflies for Symbolic Monarch Migration.