

2012 Florida School Garden Competition ENTRY FORM

School Endeavour Elementary

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

6 Kindergarten Teachers + 1 2nd grade teacher
approx. 115 students

Contact Person Barbara Wilcox

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Time contact person can be reached 7:30 - 3:30

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City Cocoa State FL Zip 32922

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 _____

ENTIRE SCHOOL GARDEN (Garden that is used by all grade levels at the
school)

Number of students involved in the garden and grades 115 (K+2, plus additional
3-5th grade mentors)

Number of classes involved 7

TYPE of school garden that you use with your students. (Please mark only one)

Vegetable

Flower

Combination vegetable/flower

Other, please specify Combination flower/vegetable/fruit + herb garden

Please indicate the number of hours a week, on average; your students spend in the garden. 1 1/2 hours

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: growing seedlings to replant,

lessons about the garden, cleaning/litter patrol in garden

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: studying insects, collecting caterpillars

3. Please indicate the percentage of time, on average, that you used the garden as an instructional tool in your classroom. 5-10%

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

Math

Science

Social Studies (esp. Character Ed.)

History

Health/Nutrition

Language Arts

Music

Physical Ed.

Environmental Ed.

Ethics (responsibility and nurturing)

Other, please specify technology (digital pictures, writing garden books on our InterWrite Board) Writing,

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 Gardener volunteers

County Extension Office

Parents

University students

Garden club members

4-H members

High school students

FFA

Older students at your school

Senior citizens

Other, please specify Community members, local business owners +

District personnel

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 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>Jr. Master Gardener curriculum,</u> | |
| <u>Ag in The Classroom Curriculum,</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 checked="" 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 checked="" type="checkbox"/> Textbooks | <input checked="" type="checkbox"/> Experiments |
| <input checked="" type="checkbox"/> Trade books | <input type="checkbox"/> Gardening magazines and catalogs |
| <input checked="" type="checkbox"/> Newspapers | |
| <input checked="" type="checkbox"/> Other, please specify <u>Speakers, field trips</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 Epcot® International Flower & 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 Wolcott

Signature

3/2/12

Date

Plant and Eat A Rainbow



A Fruit and Vegetable Garden
Created By
The Belvedere Elementary Eco-Bees

Florida School Garden Contest for Endeavour Elementary 2012

EDUCATIONAL RELEVANCE: How is the garden used for interdisciplinary learning, what subjects are emphasized?

Our kindergarten gardening project began in 2003-2004 between one kindergarten class (16 students) and their 6th grade book buddies. It has since progressed into 9 separate garden entities: ABC garden (flowers beginning with each letter of the alphabet), Butterfly Garden (native Florida nectar and host plants for butterflies), 5 Senses garden (container gardens each pertaining to a specific sense), Rainbow Garden (flowers in the colors of the rainbow), Monarch Migration Garden (milkweed garden for migrating monarchs), Tea Garden (plants to make tea, edible flowers to use in tea treats and flowers to cut for vases on tables), Butterfly Castle (20' x 30' Permanent screened butterfly habitat), Edible Forest (Fruit Tree garden) and VEGGIES (Vegetable Eating Garden Grown Involving Endeavour Students: our new garden for 2011-2012- raised bed garden to raise vegetables to donate to our local needy students and to build small container gardens to send home with our students planted with fresh vegetables to grow at home.

This is the ninth year our garden projects have also been service learning projects. In addition to providing our school with outdoor classrooms, we've provided mentoring opportunities for our 2nd grade students and future teachers from our local colleges as well as increasing our intergenerational focus by including seniors and grandparents in our garden activities. The newest service we are implementing this year is growing food for others in our vegetable gardens and providing home container gardens so families can enjoy fresh vegetables at home.

Every month from September to April we host a garden day. This year we have six kindergarten classes working in the garden with community volunteers. The following information will provide you with an overall look at a years worth of activity in our gardens. The months of September-February will describe what we have accomplished so far this year. The months of March –May will describe our plans for the rest of this school year. Throughout the month we teach lessons in our classroom about the garden, plants, insects and weather and then on our gardening days we focus on a specific concept and implement several activities pertaining to that theme.

September: Our kindergarten classes observed the garden throughout the month and collected caterpillars from our plants. (*Science*) These caterpillars were donated to various classrooms in our campus for classroom observations of the swallowtail life cycle. (*Service*) Hatched swallowtail butterflies were released into the butterfly castle. (*Science*) We studied the lifecycle of an apple, including the seasons. Our students learned about the different types/colors of apples, found the star in the middle of the apple, made apple sauce, graphed favorite apples, counted apples, read books (*literacy*) and learned apple facts (*reading, math, science*). We have two Florida apple trees in our garden. One of our apple trees was flowering. Our second grade learning buddies worked with a class of kindergarten students to perform an apple test using the five senses- compared, smelled, touched, tasted various apples, graphed results, compared results, (*science, math*). We learned about Johnny Appleseed (*literacy*) and participated in the Global Johnny Appleseed project-(planting fruit trees on school campuses). For five years we've also wrote letters to other schools in our district inviting them to participate with us. (*Language/writing, community outreach*) We studied about spiders (as we find numerous bugs in the gardens). We learned the parts of the spider, symmetry (legs), designed spiders from paper and food and learned spider facts. (*Science, literacy, math*). We learned about the seasons, with a focus on fall. We sequenced the seasons, including the seasons of the apple tree as well as performed several leaf observation lessons. (*Science, math, language*). We implemented Seasons of the Year- Ag in the Classroom lesson. This lesson shows students where their birthdays fall within the seasons of the year. (*Science*) We performed bean seed experiments- comparing different seeds, hypothesizing do bean seeds absorb water? planted and observed bean seed growth. (*Science*) We adopted the garden areas as our litter patrol areas and also helped maintain the gardens through weeding and watering. (*Environmental*) Our garden day focus was to introduce the garden to our students. We invited Ms. Lori, the Dietitian Specialist from our School District, Ms. Judy-master gardener and Ms. Kari- owner of Naturewise plants to work with our students while planting vegetables in our new VEGGIE garden. (*Community connection*) We also had several senior volunteers and some local college volunteers for support. (*intergenerational focus*) They introduced our students to the different parts of the plant, what a plant needs to grow, how to plant a plant and a seed, and to identify some vegetables being planted. (*Science*) As the students finished in the garden they rotated into a kindergarten classroom. Activities in the kindergarten classrooms included: Building a Monarch to send on the Symbolic Monarch Migration

(paper monarch sent to Mexico and “migrates” back to another school in the north, while we will receive a monarch migrating back from a different school), songs and stories about the garden, stamp the parts of the plant and perform leaf rubbings. (*Social studies, music, science, literacy*)

October: We continued to maintain the gardens. We studied about bats and birds (especially owls). (*Science*) Our second grade learning buddies helped us make pinecone bird feeders. (*Students mentoring students*) We learned about the lifecycle of a pumpkin plant, planted pumpkin seeds, took a field trip to a Pumpkin Patch and did a variety of experiences with the pumpkin (measured, weighted, floated, etc) as well as compared a pumpkin to a Jack-o-lantern. (*science, math*) We continued to collect caterpillars and raise butterflies for our Butterfly Castle Habitat. We created farm murals on our walls. (*Art, writing, science*) Our garden day focus was potatoes. With our volunteers the students practiced identifying the different parts of the plant and how to plant a plant correctly and extended it into discussions about why roots are important to the plant. They planted vegetables in our VEGGIE garden as well as planted a Three Sister bed (corn, beans, and cucumbers-not melons) to prepare for our November Indian/Pilgrim focus. (*Social studies*) They learned how potatoes grow from other potatoes (“eyes”) and planted an eye to sprout. Rotating into the kindergarten classrooms the students made potato prints and turned them into people (we saved to use as thank you cards for our volunteers-*Social studies*), put together plant puzzles, made insects from K’Nex and with the support of some intermediate students (6th grade) read the book *The Very Hungry Caterpillar* and acted out the sequence. (*Literacy, math, science and mentoring*)

November: We continued to maintain the garden, grow caterpillars into butterflies, observe the edible forest and began to collect harvest from our VEGGIE garden. (*Science*) We partnered with a group of students from the University of Central Florida to update, improve and extend the Edible Forest. The UCF students graded the ground, designed a new layout plan and held a fund-raiser to purchase garden benches, pots, stepping stones, borders and plant signs. Both the UCF students and our kindergarteners planted the fruit trees. (*Community connection*) Our kindergarten and 2nd grade buddies are in charge of watering and weeding it. As it grows they will also be in charge of harvesting the fruit and sending it home with needy students or donating to the local Sharing Center. (*Service*) We planted papaya, avocado, banana, plantain, pineapples, navel oranges, peach and a cocktail tree (we are anxiously awaiting to see if it will really grow five different fruits on it!). We also planted some grape vines and a few pots of blueberries, strawberries and blackberries. This is a great improvement in our Edible Forest which was being overrun with weeds. Our garden day focus was popcorn. Our mentors this day included Brevard Community College’s Future Educators of America class. (*Community connection*) They continued to reinforce the parts of the plant and their uses as well as the lifecycle of the plant. Each kindergarten student planted a flower or a vegetable as well as a bean, popcorn and a sunflower seed (for future comparison and plantings). Rotation into the kindergarten classroom included activities where they compared different types of popcorn, made a “Three Sister/Squanto” snack (dirt cup with pudding included “fish”-ie.gummy fish, for fertilizer and candy corn for the corn seed) as well as sang songs about the parts of the plant and built insects. (*Music, science, math, literacy*)

December: We continued to maintain the gardens, grow caterpillars into butterflies, and observe the Edible Forest. We also held our first “harvest feast”. We harvested lettuce, peppers and carrots from our VEGGIE garden and built a salad. (*Nutrition*) We also harvested several bags of mustard greens and sent them home with needy students. (*Service*) We performed several science fair projects including: Can a bean grow faster in soil or water, what will make a plant grow faster-natural fertilizer or chemical fertilizer? What will happen to a stalk of celery when it is placed in a glass of colored water? And which seed will germinate first: corn or sunflower? We did not hold a garden day in December as our focus of the month was on Holidays Around the World and Science Fair, not gardening, but we did learn about the Poinsettia plant from Mexico and the Christmas tree from Germany. (*Art, music, science, social studies.*)

January: We continued to maintain the gardens (*garden caretakers*). Our second grade buddies are learning an “How to care for the Earth” play they will perform for us during Earth Week. They also assembled their Aerogrow garden (*hydroponics*) and planted lettuce seeds. (*Science*) Selected students from 3, 4, and 5th grade along with our adult volunteers mentored our kindergarten students during garden day. (*Service*) We videotaped the students explaining the parts of the plant, why they are important and how to plant a plant. This video tape was sent to our District’s Health and Food Coordinator to make a district-wide video about school gardens to show on our local PBS system. (*Community outreach/advocacy*) The kindergarteners examined sunflower seeds from a packet (store) and compared them to the

sunflower seed head from our garden. (the seeds were the same!). (*Science*) We added more dirt and replanted parts of the Tea Garden Beds. We planted two navels, one peach tree, one avocado tree and a pomegranate tree in our Edible Forest. After planting in the garden and planting sunflower seeds the students rotated into the kindergarten classroom to learn and practice additional concepts which included watching a video clip (*technology*) about parts of the plant, drawing and labeling the parts of the plant (*art, writing, science*), putting together plant puzzles and building insects. (*Math, science*) Our mentors included two master gardeners, one senior and Brevard Community College future educators club. (*Intergenerational focus*)

February: Our kindergarten students designed a garden scene on used yogurt drink containers to use as table decorations during our Literacy Week Celebration. (*art, environmental*) They also designed paper flowers (cut and paste) to put in the vases. (*Art, fine motor skills*) Some of these flowers we used to decorate a poster of gardening pictures that we sent to the Florida Department of Agriculture to hang on their walls so they could highlight Florida School Gardens. (*Outreach/advocacy*) Kindergarten started their AeroGrow garden (*hydroponics*) and observed lettuce growth. (*Science*) They started searching for caterpillars in the garden to repopulate our Butterfly Castle. Caterpillars are observed in the classrooms (*sharing*) and released into the Butterfly Castle when hatched. They also harvested two bags of vegetables to donate to needy students. This fresh produce is included in their weekend food bags. (*service*) Our second grade buddies are continuing to learn their parts for the "How to Care for the Earth" play. In addition to our selected 3, 4, 5th grade mentors we had two seniors (*intergenerational focus*), Ms. Judy (master gardener), Ms. Kari (Naturewise/business partner), and some college student volunteers (*community connection*) to help our students plant in the garden. Our focus this month was George Washington Carver. In the garden, the students planted flowers, herbs and vegetables then they found the seed in a peanut and planted them in recycled plastic food containers. The students reviewed their knowledge about plant parts, plant life cycle and types of plants (fruits, vegetables, herbs, and flowers). When asked who likes to visit the flowers? One student answered, "The kids" (This was our favorite answer!) After working in the garden they rotated into classrooms to learn more about George Washington Carver (*social studies/Black History*) through books (*literacy*) and a video clip (*technology*) then planted sweet potatoes in reused plastic liter soda bottles. (*science, environmental*) They read about how to make peanut butter, made some and then ate it and planted sweet potatoes. They learned the peanut grows underground and labeled the parts of the peanut plant. (*Science, writing, art*) We invited parents from a neighboring school to participate in our garden day to support their desire to build a garden at their school. (*Building/expanding community*) We continue to care for our gardens (*garden caretakers/social studies*) and installed a rain barrel.

March: We continued to maintain the gardens. (*Garden caretakers*) On Dr. Seuss/Read Across America Day we read The Lorax book and compared the importance of caring for the earth (how did the Oncler do it and how do we do it! As well as discussed why the Lorax left and how he will return) (*literacy*). Kindergarten harvested one bag of vegetables to donate to weekend food bags for needy students (as of March 8). (*Service*) They continued to search for caterpillars in the garden and ordered some caterpillars and butterflies to hold a butterfly release with PreK later in the month. (*Service, science*) We also ordered some earthworms to set up our worm composting to compare/contrast with compost from our rolling compost. (*Science*) Several of our fruit trees are flowering (peach, apple, navel, cocktail tree and nectarine). The watermelons have flowers and the grapevines are growing new leaves. During garden day this month our plan is to focus on beneficial insects in the garden. This will include insect life cycle, different types of insects and insect parts. (*Science*) Kindergarteners will continue to build and enhance the gardens during garden day as well as plant some bean seeds to sprout and grow up the stalks of our already developed sunflower plants. This month our habitat study is the Rainforest. Kindergarteners will learn about the levels of the Rainforest, the types of animals that inhabit the forest (including their traits), what products come from the rainforest and how cutting down trees harms the environment. They are currently building a large paper Rainforest mural on the wall outside our cafeteria, which includes trees, plants, flowers, and different classifications of animals. (*Science, literacy, art*). We will focus on nutrition also. Kindergarteners will study the differences between fruits and vegetables, learn the food pyramid and healthy choices, what plants produce which items (food, clothing, medicine, etc) and visit the local grocery store (farm to market sequence). (*literacy, science, math, social studies, and "being there" experiences*)

April: We will hold our last garden day with our second grade mentors. Our focus with our mentors will be building container gardens (window boxes) so each student can take home an individual vegetable garden to grow, harvest and

eat healthy food. (*Science, home connection, mentoring*) Another focus this month is plants. Students will learn which part of the plant produces what food. (Lettuce is the leaf; broccoli is the flower, etc) We will hold a butterfly release, hopefully gulf fritillaries. After being mentored all year by 2nd -5th grade students, the kindergarteners will reciprocate by teaching the PreK students about the fritillary and how to release it into the butterfly castle. (*responsibility, mentoring*). The kindergarteners will write their 5th annual book about the garden project through our InterWrite Board. (*technology*) This book will be printed and included in Learning Bags the kindergarteners develop for PreK students to help provide the materials (student made flashcards) to practice kindergarten concepts (*literacy, math, science, social studies, service*) During Earth Week we will provide each grade level with a fruit tree or bush to plant in our Edible Forest (expansion into other grade levels) and we will plant a special fruit tree during an Arbor Day celebration. (*social studies, science*) We will provide any class with the materials to make Radish necklaces (planted in plastic bags and hung on string for a necklace) and/or Garden Gloves (seeds planted in plastic gloves). (*Advocacy*) We will hold our third annual "Most Unusual Garden Container Contest". Last year we had garden containers such as gardens in a hat, in orange peels watered with an aluminum can drip system and shoes. If approved by administration we will hold our 3rd annual Earth Program (after FCAT) and each class that wishes to participate will sing a song or perform a skit (our second grade buddies have been practicing their skit for three months!). The ending highlight is our kindergarten students signing "Heal the World" and getting the audience to sing the chorus. It is so touching that it draws tears to the eye to watch and participate in this moving song. (*Music, literacy, public speaking/ performing, environmental, science*) Every year we hold a garden contest. Last year we started an Earth Book (*literacy, writing, art*) and plan to do so again this year. We requested every grade level submit a page for our Earth Book. We suggested specific topics for each grade level but individual classes may choose to write about any part of Caring for the Earth. Our suggestions include: PreK: How to plant a flower, Kindergarten: How to Compost and how to care for a garden, First grade: Litter Control, Second grade: Tools you use in a garden and hydroponics, Third grade: Energy Control, Fourth Grade: Endangered Species, Fifth grade: Recycling, and 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 collaborative book to the Young Author's Conference in May. (They don't have a category for a school-wide collaboration, but we are hoping they will develop one!) Of course, our kindergarten students will continue to care, weed, and maintain the gardens (*garden caretakers*)

May: Kindergarteners and their 2nd grade buddies will continue to care for the garden. (*Garden caretakers*) This year will mark our seventh annual Garden Celebration. Each kindergarten class performs a story, skit, song, or dance to show our garden learning (*music, literacy, movement, public performances*). Mentors and volunteers will be recognized and appreciated through student made gifts (*fine motor skills/art*). The adult volunteer and mentor gift will be a student developed story written on our InterWrite Board (*technology*) and printed into individual books. The ending highlight of the program is kindergarten singing and signing "What a Wonderful World" then showing it through a PowerPoint complete with kindergarten drawn pictures to match the words to the song and invite the audience to sing along. (*Art, technology, sign language, music, public performance, advocacy*) The students will make a foam flower for each 2, 3, 4, and 5th grade mentor supporting our garden days. (*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. 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, habitat study, insect/plant thematic units, healthy eating themes, 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, and giving tours of our gardens to parents, teachers, and other schools. (*Community awareness*)

What resources are used to facilitate garden learning?

Our gardens are funded by teacher written grants and community donations. This year we extended our Learn and Serve grant to December and utilized \$1,500 to implement our student generated home container gardens as well as building the veggie garden and expanding/improving our Edible Forest. Florida Ag in the Classroom awarded us \$1659.00 for our garden programs which include the worm composting. We've received 30 packets of vegetable seeds and two gardening books from the Feed the Children S.E.E.D program. The Comprehensive Cancer Control Program's "Grow Healthy" Community Garden project supplied us with packets of green beans, cucumber, pepper, radish, collard and carrot seeds, a class supply of sunscreen and handouts about gardening. Our local Agriculture Center donated multiple strawberry, pepper, lettuce, tomato and mustard greens plants. Mr. Les, a senior volunteer donated the funds to purchase some commercial grade weed block to line the pathways in the Edible Forest.

Both 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 or contact us so we can share how to start and maintain a garden at their school, day care or home.

We have three senior volunteers and several college students who spend multiple Saturdays helping us maintain the garden (weed, stake plants, renew weed block, renew dirt in raised bed gardens, build the rain barrel, etc)

Our lead kindergarten teacher is an Ag in the Classroom Trainer. She was just selected as Florida's elementary winner of 2012 Excellence in Teaching about Agriculture Award and will attend the National Agriculture in the Classroom Conference this June in Colorado. She has also been nominated for the Presidential Science award and the District Excellence in Teaching Science award. She writes our grants and has purchased the Junior Master Gardener program for our second grade buddies.

Brevard School District provides support in maintaining our irrigation system for all the non-edible gardens (reclaimed water irrigation).

Our media center has a section for gardening books for both teachers and students. This area is highlighted during March and April when the interest in the garden is higher due to the focus on Life Sciences within the school-wide curriculum.

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 nonfiction 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—38 % passing, Posttest—90% passing (an improvement of 52% on grade level). Quite a success!

LEVELS OF INVOLVEMENT

How does the garden promote student leadership?

These garden are built by the students, therefore they have a vested interest in keeping it healthy and beautiful. Learning the LIFESKILL of Responsibility at the age of 5 and 6 will help our students develop the basics of leading others. There are also levels of leadership which include our second grade students mentoring our kindergarten students, both in garden concepts in the classroom, comparing/contrasting hydroponics through the AeroGrow's and building the individual home container vegetable gardens. This new project further enhances responsibility and leadership as they will need to utilize their garden knowledge to care, maintain and harvest their garden in their home environment. This will expand healthy living concepts and awareness into the larger community as well as building a stronger school/family partnership. The VEGGIE garden promotes student leadership and positive citizenship traits because it is a service learning project- to grow fresh foods for needy families in our school and/or community. They grow the food and give it away- and they are excited to do it! They are learning they have the ability to make a change in the world! There are several levels of reciprocal mentoring- Our 3-5th graders teach the kindergarteners about plants during gardening days, and our 2nd graders teach our kindergarteners through Jr. Master Garden activities and in return our kindergarten students utilizing what they learned about working together and teaching others will instruct the PreK students in how to find, catch caterpillar, grow butterflies and release them in our gardens. They become the experts. Our kindergarten students, in addition to mentoring PreK are also environmental advocates, by keeping both the garden and our entire school grounds litter free and encouraging others to do the same. (Through their actions/modeling for others during our walks around the campus and through verbal discussions and hallway artwork) 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. Kindergarteners 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, newsletters, PowerPoint's and our Service Learning page on Endeavour's website. Every Garden day we invite our local legislators, school board members, and community leaders to visit and participate in our garden projects. Another area of focus is our intergenerational activities- by inviting seniors (including grandparents) to garden days we are giving our kindergarteners practice in leadership skills

On a separate note, one of our college volunteers wrote an essay about teaching, which included comments about our garden days. She won first place in the Florida Future Teachers Association Essay contest this year. Our garden projects not only teach our elementary students, they also augment education for others. Please read attached essay.

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 continued to implement these designs in 2010-11 and at the beginning of this year with the help of the BCC business student's project. This year our main focus was on the Veggie garden and while the garden beds were already in place (we took over the grade level garden beds as they were not being utilized throughout the year) the kindergarten students determined which types of plants they wanted to grow and harvest. After multiple discussions they determined the best type of food would be salad items, mostly vegetables that would not need to be cooked. They will have this same opportunity when they determine the types of plants they wish to grow in their home container gardens.

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 Sense, Edible Forest, Monarch Migration) as well as promote environmental advocacy projects. (Monarch Migration Garden, VEGGIE garden) We are also first in our district to implement an Edible Forest and we have inspired other schools to follow our example. We have consistently been utilized as "the" place to go to learn how to implement a school garden. 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) twice over (once for the ABC, Butterfly Castle and Tea Garden and that length again for the VEGGIE garden and Edible Forest) 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! Our newest project, the home container gardens brought gardening into our students' homes (a home/school connection). The VEGGIE project, growing vegetables and giving them away to needy students has further enhanced our service –learning opportunities. However, the most unique aspect of this garden is that is built, cared for and maintained by our youngest learners!

How is the garden cared for and maintained?

The garden is planted, cared for and partially maintained by our kindergarten students and our second 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 and family members to volunteer time for maintenance. However, as we do want the students to understand about weeds, what

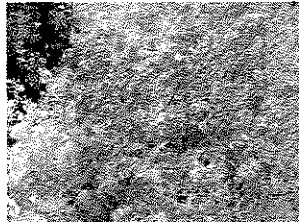
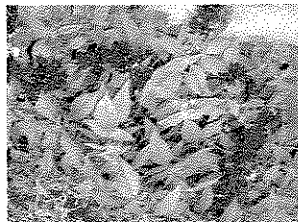
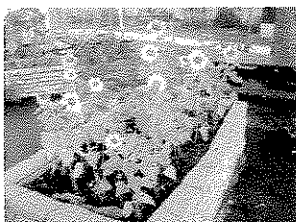
they are and how to deal with them we do implement weeding days. This provides a wonderful opportunity to discuss what we call weeds might be wanted by someone/something else (specific insects/animals). It is also a great time to compare/contrast between weeds and non-weeds. Our master gardener and nursery owners volunteer additional time to help maintain the gardens. Several of our senior volunteers and college students with their families, not only volunteer time to weed the gardens, but they also build us arbors, rain barrels, fund stepping stones and benches, 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 a reclaimed water irrigation system installed and when we have sprinkler heads needing maintenance our District maintenance team fixes it for us.

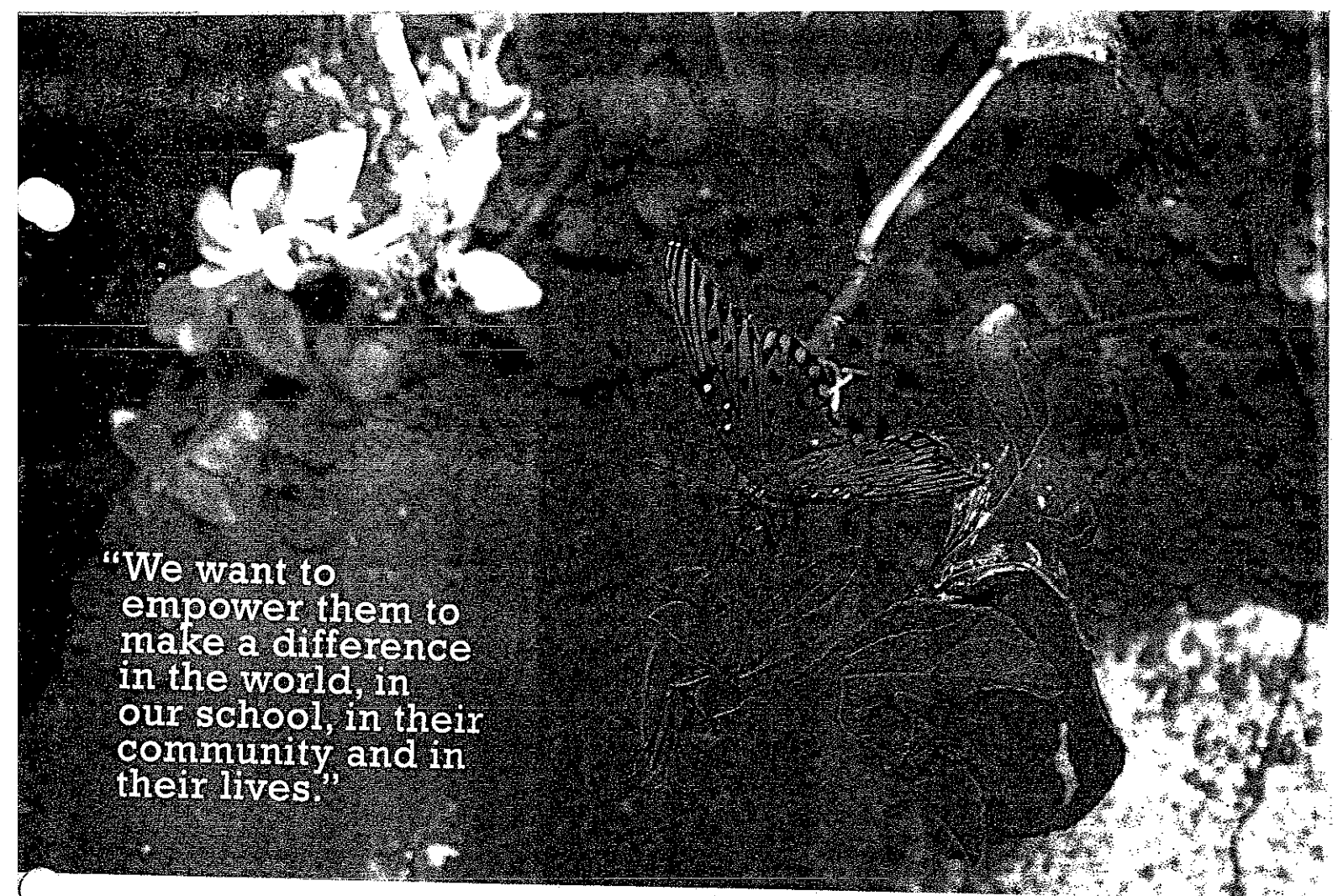
How were the plants selected and used?

This year with the implementation of the VEGGIE garden, the kindergarten students tasted multiple fruits and vegetables. They discussed their favorites and we also discussed the best types of vegetables to plant in order to donate to needy families (we determined mostly salad veggies). We try to include in our plant orders the students choices as the plants come into seasons. Earlier in the year when we couldn't find carrot plants we planted seeds instead so we could still grow carrots for giving away. (Not as exciting as planting a seedling!) In the rest of the garden beds for upkeep we have to stick with certain plants- for example in the ABC garden we have to have plants that begin with certain letters. In the Milkweed garden, we must have milkweed for the monarch migration. In other areas of the garden we try to utilize Florida friendly plants first and then augment with others. We do have a heavy focus on pentas for nectar as they are long blooming and a heavy focus on passion vines for the fritillary host plant. During gardening days our focus is for the students to learn first hand the different parts of the plant by using a real life plant so plants are selected on their ability to show all the parts of the plant. On the few instances we have plants that are not currently flowering, we ask the students to name all the parts they see and then identify the part that is missing! The trees in the Edible Forest were mainly chosen by price- what we could afford that was available at any given time. While another one of our goals is to donate fruits from our trees when they mature to our local sharing center to help promote healthy eating within the larger community so we purchase the more popular fruit trees.

Is there an environmental focus to the garden program?

Always! Our gardens have helped Endeavour win Keep Brevard Beautiful School of the Month in February. As mentioned previously we met our goal of becoming a Certified Wildlife Habitat several years ago. The entire focus of the garden is to promote environmental studies through hands-on, real- life experiences. All the gardens provide multiple opportunities for any grade level to study the environment while they are meeting their grade level standards. The gardens also help provide a nature space for our students who are mostly nature deprived. Our Service Learning Newsletter, Garden Days, and Garden celebration highlight our garden projects and are used for dissemination purposes. Our garden and service learning PowerPoint's are currently being utilized in a district service -learning on-line class to provide environmental outreach to others. We are continuing to harvest seeds from our plants and work towards sustainability or to use as gifts for visitors and volunteers. Our ultimate goal is to make our students environmentally aware both on our campus and within the community at large. To provide food for the hungry, caterpillars for study in classrooms, organize learning opportunities for mentoring possibilities, involving the community in school activities and promote healthy eating and living all helps us build connections between each other, nature, life and learning. What's more it's FUN!





"We want to empower them to make a difference in the world, in our school, in their community and in their lives."



Students replant from seed pots to the garden.
Katleen Hernandez.

Endeavour Elementary Magnet School, Cocoa

Endeavour's gardens began over 6 years ago and have since evolved to include more than 5 different gardens - including a butterfly, hydroponics strawberry and a new edible forest garden.

For the past four years third grade students have mentored the kindergarten students in the different aspects of the process, beginning with planting seeds. The children rotate between classrooms learning a different concept tied to the garden or plants. Kindergarteners are then in charge of watering and maintaining seed pots and replanting them into the raised bed gardens when plants are big enough. Every March at a "Welcome to the Garden" day, each student then mentors a PreK child, teaching the younger students what they have learned from the third graders.

Third grade teacher Katherine Nelson explains, "Research tells us that if a child teaches a concept to someone else,

they will retain the most information -- certainly a goal we have for our students. Besides, it is fun to take the students outside the classroom walls for learning. Nothing like getting some dirt under our nails -- using all our senses!"

In addition to learning through doing, the ultimate goal is to teach students about being responsible to the earth and each other.

"We want to empower them to make a difference in the world, in our school, in their community and in their lives. Endeavour is Florida's first ELEMENTARY Service Learning Leader school. Our big garden project provides mentoring opportunities to intermediate students and provides an outdoor classroom for the school, opportunities to interact with nature, and to beautify our campus."

Teachers Plant the Seeds of Knowledge

Teachers play such an important role in a child's life as they grow and develop. Not only is it a teacher's role to teach curriculum and prepare students for the next level of instruction, but I believe it is also their responsibility to help students gain insight as to what the real world is like and what the future has in store for them. It is the simple things that teachers teach, such as tying shoes, using a computer, or gardening, that plant the seeds of knowledge. Once these seeds are planted, the student can take this base knowledge and add to it, blossoming into a successful individual in the future.

I have spent many hours volunteering at Endeavour Elementary Magnet School in Cocoa, and I have witnessed teachers planting the seeds of knowledge, first hand. Endeavour is a school with many less fortunate children, and it is so important for these teachers to provide a strong educational base for them by giving them various experiences with real-world situations. One of the ways teachers provide these experiences for their sheltered students is with Endeavour's butterfly garden. The school has set garden days, where kindergarteners can plant flowers and seeds in the garden with the help of their third grade buddies. Not only do the students get the experiences of gardening, but they also release caterpillars into the garden and excitedly observe as the caterpillars go through the process of metamorphosis to become beautiful butterflies.

This butterfly garden provides so many great experiences on many different levels. The third graders get the experience of working with younger children and helping them decipher the different parts of the plant as they are planting them. They go over topics such as where the roots are located and how the roots help the plant grow. Not only do the third graders get experience with younger children, but the kindergarteners get the experiences of planting

plants and learning first-hand about all the different components. These students can take what they learned from the experiences in the garden and possibly apply them to their future careers. Gardening with buddies may be the inspiration needed for our future agricultural engineers or even America's future educators. This butterfly garden is a very progressive way for teachers to literally plant the seeds of knowledge and instill inspiration into these students.

I can also use myself as an example as to how teachers can plant the seeds of knowledge. When I was in fourth grade, I was given a first grade reading buddy. My teacher thought it would be a great experience for the class to work with younger children, and I would be lying if I said a seed was not planted in this process. I loved reading with my first grade reading buddy, and I loved teaching her how to read even more. I am a firm believer that this seed is where my passion for teaching children began. The seed sprouted and grew as my love for working with children grew. I got my first job teaching gymnastics to children and absolutely adored it. This inspired me to go further with education and ultimately aided me in making the decision to become a school teacher myself. As my flower continues to grow, I hope I can eventually blossom into a wonderful teacher in the future myself, and continue the cycle of planting the seeds of knowledge into my students.

Ultimately, it is not through pure curriculum that teachers plant the seeds of knowledge per say, but through simple experiences that provide inspiration. After the seeds have been planted, the student has the power to manipulate and add knowledge to determine which plant they will eventually bloom in to. Teachers provide students with the seeds they need to get started. All the students have to do is take these experiences and ideas and they can become anything.

Wilcox, Barbara@Endeavour

From: Vicky Croft [vickycroft1983@yahoo.com]
Sent: Wednesday, February 08, 2012 3:51 PM
To: Wilcox, Barbara@Endeavour
Subject: Congratulations to Endeavour Elementary!

Dear Barbara,

Congratulations to Endeavour Elementary for winning the February KBB SEA award! This was based on judging done last month. Your judge or a member of office staff will be by soon to deliver the frame and sign to you. If you do not need a frame, please let me know. The certificate is being sent via courier to your school. If you would like some sort of presentation of the award, please let me know.

Vicky Croft

Director of Environmental/Recycling Education, SEA Program Coordinator, Webmaster

Keep Brevard Beautiful

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Cocoa, FL 32926

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"Waste is a terrible thing to mind - reduce, reuse and recycle"

Poster sent to Fl. Agriculture Department to hang on walls to highlight school gardens



Veggie harvest



lettuce garden



Sunflowers



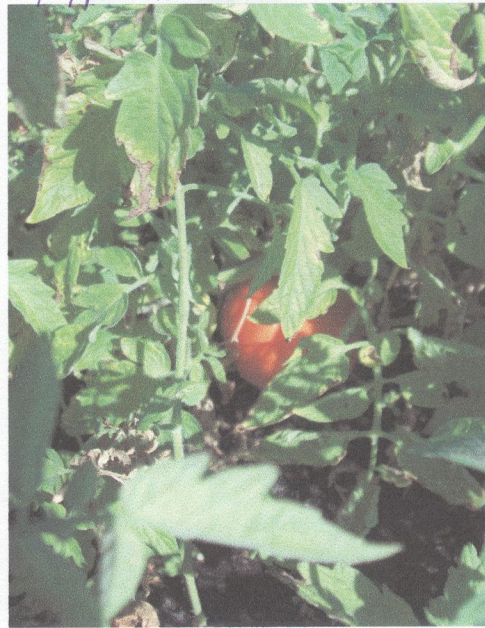
Pepper harvest



Sunflower seeds replanted



Apple tree



Tomato plant



Pepper plant

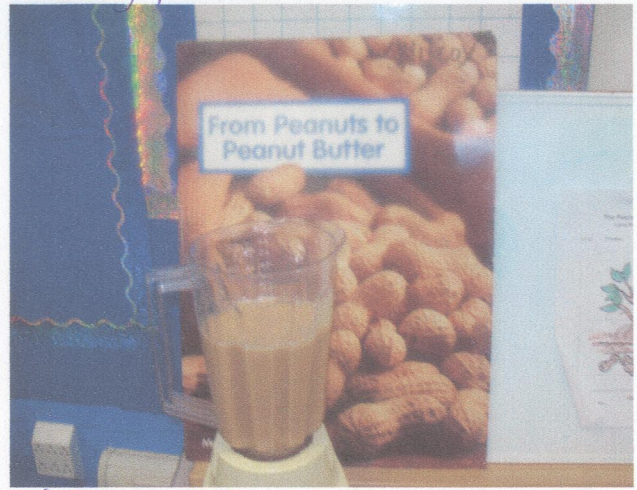
Planting



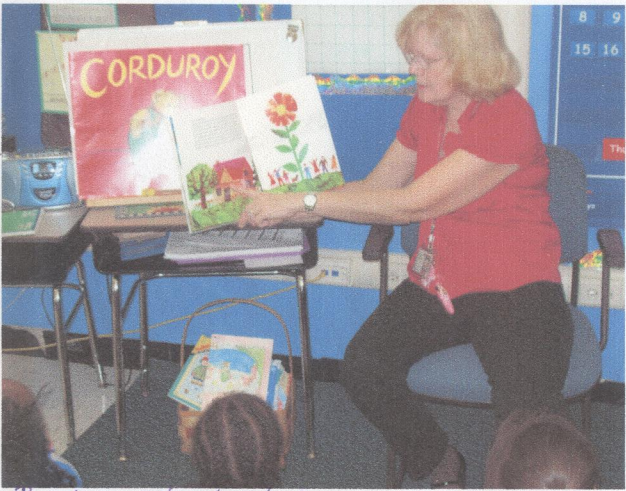
students harvesting lettuce



making peanut butter



College mentor ↓



Reading plant stories



Pumpkin seed sprouting



Planting lettuce garden (wheelchair/walker accessible)



Students mentoring each other during planting



Senior volunteers helping



planting seeds

Veggie garden



Cleaning + Updating Edible Forest Before



Edible Forest After.



Edible Forest Before

Inside Butterfly Castle



Aerogrow Garden - hydroponics in the classroom



Milkweed Migration garden outside Butterfly Castle



Inside Butterfly Castle.

Updating 5 senses garden before



Tea Garden + Grape Arbors



After

Meggie Garden
2-23-23 garden



ABC/Butterfly garden + Butterfly Castle behind.
Tea Garden is on the other side of The Butterfly Castle.

Sarah L (M) e - Kindergarten, Age 5

Plant parts

