

2013 Florida School Garden Competition ENTRY FORM

School Avalon Elementary School

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

Mrs. Patricia Thorsen Grades 3-5

Mrs. Marianne Ravenna Grades 3-5

Contact Person Mrs. Patricia Thorsen

Email address thorsepa@collierschools.com

Phone (239) 377-6239 Fax (239) 377-6201

Time contact person can be reached 7:30- 9:05 am. 11:35- 12:15 - lunch 2:45 - 3:10 pm

Street address 3300 Thomasson Drive

City Naples State FL Zip 34112

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 _____

Number of classes involved Grades 3-5

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

Vegetable

Flower

Combination vegetable/flower

Other, please specify _____

Please indicate the number of hours a week, on average; your students spend in the garden. 3 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: _____

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

Planting

Watering

Weeding

Observing

Recording

Harvesting

Pruning

Sitting

Fertilizing

Experimenting

Other: Art-creating exhibits for the Naples Flower show

3. Please indicate the percentage of time, on average, that you used the garden as an instructional tool in your classroom. This is an after school program

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

Math

Science

Social Studies

History

Health/Nutrition

Language Arts

Music

Physical Ed.

Environmental Ed.

Ethics (responsibility and nurturing)

Other, please specify Character Education traits used by our District and Art

5. Please indicate the number of years that a school garden has been part of your curriculum. 15

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 Windstar Development, Kennedy Foundation, and the list contains around 70 more local companies and organizations.

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 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>The Naples Botanical Garden Staff</u> | |
-
-

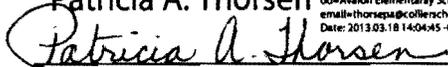
8. Please indicate the types of educational material(s) used in the classroom to support the use of school gardening in the curriculum.

- | | |
|------------------------------------------------------|----------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Library books | <input type="checkbox"/> Computer software |
| <input checked="" type="checkbox"/> Internet | <input 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 type="checkbox"/> Other, please specify _____ | |
-
-

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.

Patricia A. Thorsen

Signature

Digitally signed by Patricia A. Thorsen
DN: cn=Patricia A. Thorsen, o=The Global Garden Club,
ou=Avalon Elementary School,
email=thorsapa@collierschools.com, c=US
Date: 2013.03.18 14:04:45 -0400

3/18/2013
Date

EDUCATIONAL RELEVANCE

How is the garden used for interdisciplinary learning? What subjects are emphasized?

The Global Garden has gone through a major reconstruction, both physically and educationally as a means to support the overall education of the entire school. Our garden has been redesigned and our main focus has shifted from teaching students about different ecosystems to incorporating the subjects of science, math, literacy, and social studies. This has enabled us to create sections of the garden specifically designed for student learning in each/several of the subject areas.

Literacy skills are being enhanced in every section of the garden. There are plenty of great subjects to read and write about. Teachers need only look at the life cycles, planting techniques, or ask students to use their imagination and create a story about the garden. Students can research the different areas of the world that the plants and flowers originate from and how they are used throughout the world. One section of the garden is now called "Mr. Charlie's Garden" dedicated to being utilized by students and teachers for reading, writing and reflecting. Teachers are able to use this space to read to their students, have book talks, buddy reading time, as well as a place to complete writing assignments. Global Garden students produce their own Global Garden Gazette where students act as a reporter for the week and discuss what they have observed and learned. Students are advised by adult mentors on how to improve their writing skills based on current FCAT writing standards. Students then read the weekly newsletter together as part of their group meeting at the beginning of each session..

In science, our focus remains true to teaching our students all aspects of sustainable gardening. Students are brought back to the basics of how plants have different structures and have various roles in food production, water and nutrient transport, and reproduction. Our lessons encompass the difference between dirt and soil, the addition of worms and composting materials, the overall importance of photosynthesis to the whole process of growing a garden. The students continue to be exposed to the differences in planting zones throughout the United States and how our Florida growing season is dramatically different from other regions. Emphasis is placed on using the scientific method to make observations, hypotheses, and draw conclusions based on what they have learned. The new Life Cycle Garden will allow students to monitor the growth of plants and insects as they go through their own individual cycles. This area will provide the students with a place to plant individual/class plants and watch them grow. It provides a place for the release of butterflies and ladybugs which many of the classes at the school participate in each year. Student's watch the insects go through their different stages then provide them with a home within the Global Garden. Overall the students learn how the climate, the soil, and the environment play a key role in what is planted in the garden and where success and failure is learned.

Mathematics plays a large role in students' use of critical thinking skills. Students have learned to use many mathematical operations in the planning and redesigning of the garden. Students are challenged with real world situations such as the: the spacing of the beds, the amount of water coming from the drip irrigation, calculating square footage and seed spacing.

Our Social Studies garden is in its early stages. Here students will learn about the different geographical locations, history, cultures and environments where the plants within originate. It is also here where students learn that gardens can take different forms in different areas of the world such as urban, suburban, and third world countries.

What resources are used to facilitate garden learning?

The longstanding partnership between the Naples Botanical Garden (NBG) and Avalon (AVE) Elementary School continues to thrive and grow. An Education Director from the NBG oversees the curriculum development, coordinators, mentors and donations to the program which are all critical pieces to making the program a success. The staff of NBG not only give their wealth of knowledge and hard work, but often give of their spare time in the maintenance of the garden. The coordinators include a teacher from AVE, and two horticulture experts. The Administration and the staff of AVE this year included the use of the Global Garden as part of the school improvement plan to increase usage of the garden as an outdoor classroom learning environment.

What educational standards (i.e. Sunshine State Standards, National Standards) are addressed with the garden? Are they listed?

The Florida Sunshine State Standards have always been a driving force behind our curriculum. Just as our program has gone through changes over the years so have the standards. We thought it was time to reflect, review and revamp our lessons based on the current standards. This year we took the standards and created new lessons based on the standards that are addressed in grades three through five. This allowed us to create more effective lessons and helped us to recommit to our goal of helping our students become successful learners. We continue working on adding the standards addressed in math, science, writing and social studies. Below is a sample of Standards addressed in one of our recent lessons.

Standards Addressed

Science

SC.3.N.1.1 - Raise questions about the natural world, investigate them individually and in teams through free exploration, and systematic investigations, and generate appropriate explanations based on those explorations

SC.3.L.17.1 - Describe how animals and plants respond to changing seasons.

SC.4.N.1.1 - Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.L.16.2 - Explain that although the characteristics of plants and animals are inherited, some characteristics can be affected by the environment.

SC.4.L.17.1 - Compare the seasonal changes in Florida plants and animals to those in other regions of the country.

SC.5.E.7.6 - Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water.

Writing

LA.3.3.5.1- The student will prepare writing in a format appropriate to audience and purpose (e.g., manuscript, multimedia)

LA.3.4.1.1-The student will write narratives based on real or imagined events or observations that include characters, setting, plot, sensory details, and a logical sequence of events.

LA.3.3.5.3-The student will share the writing with the intended audience.

LA.3.4.2.3-The student will write informational/expository essays that contain at least three paragraphs and include a topic sentence, supporting details, and relevant information;

LA.3.4.2.4-The student will write a variety of communications (e.g., friendly letters, thank-you notes, formal letters, messages, invitations); and

LA.4.4.2.1-The student will write in a variety of informational/expository forms (e.g., summaries, procedures, recipes, instructions, graphs/tables, experiments, rubrics, how-to manuals);

LA.4.4.2.2-The student will record information (e.g., observations, notes, lists, charts, map labels, legends) related to a topic, including visual aids as appropriate;

LA.4.4.2.3-The student will write informational/expository essays that contain introductory, body, and concluding paragraphs;

LA.4.4.2.4-The student will write a variety of communications (e.g., friendly letters, thank-you notes, formal letters, messages, and invitations) that have a clearly stated purpose and that include the date, proper salutation, body, closing and signature.

LA.4.3.5.3-The student will share the writing with the intended audience.

LA.5.3.5.3-The student will share the writing with the intended audience.

LA.5.4.2.1-The student will write in a variety of informational/expository forms (e.g., summaries, procedures, instructions, experiments, rubrics, how-to manuals, assembly instructions).

LA.5.4.2.3-The student will write informational/expository essays that state a thesis with a narrow focus, contain introductory, body, and concluding paragraphs;

LA.5.4.2.4-The student will write a variety of communications (e.g., friendly letters, thank-you notes, formal letters, messages, and invitations) that have a clearly stated purpose and that include the date, proper salutation, body, closing and signature.

LEVEL OF INVOLVEMENT

How does the garden promote student leadership?

The Global Garden Club is an enrichment program for the students of Avalon. Twenty four students are chosen each year based on grades, student behavior, a recommendation from their classroom teacher and a desire to learn more about gardening techniques. Four managers are chosen from students who have already been through the program in previous years. These students have demonstrated good leadership qualities and a sense of superb sense of responsibility. These students submit an expository essay explaining what qualities they possess that would make them a good candidate for this position. This year we have increased this number to eight students. This is due to the overwhelming amount of interest and students who possess the qualities to fill these positions. They have been placed in two groups and each are assigned specific duties and areas of responsibility within the garden. Students continue to thrive for excellence as they are inspired by the High School Volunteers who attend the program. Most of these students are former AVE students and Global Garden participants. These students receive community service hours and serve as Peer mentors for the current class of students. Our hearts fill up and our eyes tend to swell up when the older students return to the garden.

The Global Garden Club brings a sense of tradition and pride to the students and parents of Avalon Elementary School. Students arrive at the school at an early age with a desire to be a part of the program because they have had older siblings who have gone through the program. Many family members have been able to share the experience with each other and continue to support the garden through the years.

Are there partnerships with garden-related organizations (Master Gardeners, Garden Clubs, local garden businesses, etc.)?

Community involvement comes in many forms and is a vital part of the program. Our volunteer mentors come each week and work with a group of 6 students. These volunteers top our list of

people who add to our success. The list includes a former school principal, a teacher, a nurse, artists, business owners and Master Gardeners. Our mentors not only share their gardening expertise, but their worldly knowledge with students who attend a Title 1 school and might not otherwise have this exposure.

Our list of friends within the community continues to grow. We have several local companies who have donated mulch, soil, and plants. Most of our funding this year came from The Windstar Development which is a local housing community committed to giving back to the neighborhood in which our students live. They were part of the founding members of the garden fifteen years ago and continue to support us today. We recently had a celebration for our 15th year anniversary and counted over 70 different organizations and individuals who have supported the garden over the years. We wish we could list them all!

The Naples Garden Club has worked with the students this year and they have invited the students to create an exhibit for the 60th Annual Naples Flower Show. Mentors from the club have taught students how to create several different types of floral designs including a display of shoes containing flowers and creating insects from leaves and twigs found in the Global Garden. We are very honored and privileged to be a part of this longstanding Naples tradition.

What type of school support is there for the school garden program? What type of community support is there for the school garden program (parents, neighbors, community)?

The Global Garden receives support from the use of school facilities, utilities, and personnel. The Administration feels strongly about the integration of the Global Garden into the curriculum and includes the use of the garden as part of the school improvement plan. The use of the garden by classroom teachers has increased over the years. Teachers integrate their curriculum and are able to use the garden as a hands on classroom. It is very common to see the garden used in productive educational activities. The cafeteria provides snacks for the students on club days while the Plant Manager oversees all work days in the garden.

Community support comes from organizations/businesses such as: The Naples Botanical Garden Volunteers, The Naples Garden Club, The Marco Island Garden Club, Starbucks, Florida Gulf Coast University, Golden Gate High School JROTC, North Naples Rotarians and Collier Team Sports. There are many days where we find people from the community who come to visit and offer support by weeding, planting, painting, and constructing beds.

Parents come each week and work with their children or just observe while the children are busy at work. Many of the parents offer their support in the form of small monetary donations, snacks, volunteering for field trips and donating T-shirts for the students. All the food grown in the garden is sent home with the students and parents are actively involved in the harvest.

GARDEN QUALITY

How/by whom was the garden designed?

In 1994 a group of forward thinking administrators, teachers, and community members decided to build an outdoor classroom where students would have access to hands on learning in the life sciences. It would take another two years of planning and obtaining funds before the actual construction began. The Avalon students were actively involved in the original design and actually constructed a Lego representation of their vision. All the planning, designing, and hard work came to life in May of 1998 when the official dedication of the garden took place. For the past fifteen years the garden has provided an outdoor learning environment an educational experience for the school and the community.

What qualities make this garden unique?

The Global Garden is unique in the fact that over the past fifteen years it continues to thrive and to transform itself along with the changing times. This past summer all of the original beds were torn down and the garden once again became a blank canvas. A team of people looked at ways in which the garden could be improved from the original design yet continue to maintain its vitality. The garden's current design takes into consideration summer maintenance, an improved irrigation system, and a plan to continue working on upgrading several areas of the garden.

“In my garden there is a large place for sentiment. My garden of flowers is also my garden of thoughts and dreams. The thoughts grow as freely as the flowers, and the dreams are as beautiful”~ Abram L. Urban. That quote seems to sum up the feeling you get while experiencing the Global Garden. Many students have wandered in and amongst the flowers and vegetables and many lives have been touched by the program. We see it in the faces of the students anxiously awaiting their time on Tuesday afternoons and it is a reflection in the eyes of the many students who return years later to volunteer their time. Young plants and young minds are given the opportunity to be nurtured and grow in an extraordinary natural environment.

How is the garden cared for and maintained?

The maintenance of the garden is a partnership with NBG and AVE. During the Months of January through May the students, mentors and teachers care for the garden. Our new and improved sprinkler system helps with the majority of our watering on the days when the students are not working. In the summer months we rely on our school's Plant Manager, NBG volunteers, and volunteers from the community schedule work days for trimming, weeding and other maintenance projects.

Under our new design we have removed high maintenance bushes, trees and plants and replaced them with new low maintenance native plants. This plan helps us during the rainy season and prevents major maintenance when the school reopens in August. We have been working towards extending our growing season to begin in September with individual classrooms working the garden. This will help make maintaining the garden a school wide initiative. Our new vision will finally provide this opportunity to the students starting in September 2013. It took us several more years than anticipated to implement this plan but with hard work and endurance we have persevered.

How were the plants selected and used?

Our choice of plants is well thought out. Our mission is for the garden to contain plants that are native to Florida which enhance student learning pertaining to the Florida climate and growing season. Many of these plants are also representative of the cultures of our students.

Students and Mentors choose plants for the beds assigned to each group. This gives students complete ownership of the garden beds, Woolly Pockets, and various containers within the garden. Mentors discuss with the students what types of meals can be prepared with the foods grown and students look forward to their harvest. The harvest is used in several ways including preparing an afternoon snack and the bulk of the food is sent home with the students at the end of each day. Teachers and mentors often discuss and send home recipes for students to share with families. Since the students come from low socioeconomic backgrounds the extra food is always appreciated.

PACKET QUALITY

Does the packet adhere to the guidelines? Are all required support materials included?

Neatness, grammar, photos and creativity of packet

"Inch by Inch, row by row
gonna make this garden grow.
All it takes is a rake and a hoe
and a piece of fertile ground."-David Mallett



The Global Garden Blank Canvas Reconstruction 2012-2013



The Global Garden in Full Bloom Regeneration Complete 2012- 2013!



Naples 60th Annual Flower Show
Designs by: The Avalon Elementary School
Global Garden Kids



Global Garden Theme Song



Garden Song Lyrics

Written BY: DAVID MALLET

Inch by inch, row by row
Gonna make this garden grow
All it takes is a rake and a hoe
And a piece of fertile ground

Inch by inch, row by row
Someone bless these seeds I sow
Someone warm them from below
Till the rain comes tumblin' down

Pullin' weeds and pickin' stones
Man is made of dreams and bones
Feel the need to grow my own
'Cause the time is close at hand

Rainful rain, sun and rain
Find my way in nature's chain
Tune my body and my brain
To the music from the land

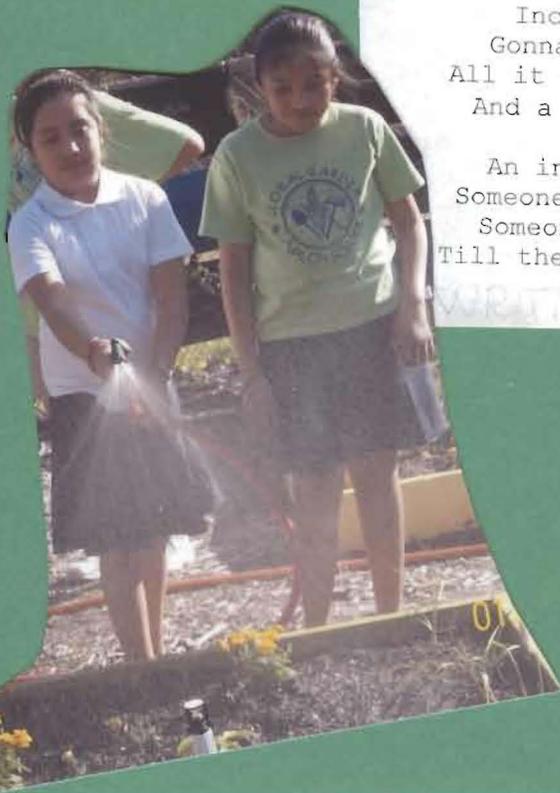
Plant your rows straight and long
Temper them with prayer and song
Mother Earth will make you strong
If you give her love and care

Old crow watchin' hungrily
From his perch in yonder tree
In my garden I'm as free
As that feathered thief up there

Inch by inch, row by row
Gonna make this garden grow
All it takes is a rake and a hoe
And a piece of fertile ground

An inch by inch, row by row
Someone bless these seeds I sow
Someone warm them from below
Till the rain comes tumblin' down

WRITTEN BY: DAVID



Naples, Florida * 3:15 PM ET - First Lady Michelle Obama will arrive at Naples Municipal Airport where she will be greeted by students from Avalon Elementary and Mike Davis Elementary Schools. Students at Avalon Elementary School recently won first place in the University of Florida's School Garden Competition, and their Global Garden introduces students to new foods and new ways to prepare the food that is grown. In maintaining their garden, the students work with Naples Botanical Garden, a member of the First Lady's *Let's Move! Museums and Gardens* initiative. Mrs. Obama will also be greeted from students from Mike Davis Elementary School, which in addition to other efforts to promote physical activity, recently started a running club called "Kids on the Go" for its third to fifth grade students. Both schools participate in the Florida Farm to School program to provide their students with seasonal, fresh produce from local farmers. This greet will be open press, please RSVP to FirstLadyPress@who.eop.gov by Monday, April 26th at 12:00 PM Eastern.

Michelle Obama in Naples

“ We know what we need to do; we need to keep moving forward.
... The vision we have belongs to all of us.”

Michelle Obama

First lady's first visit



SCOTT MCINTYRE/STAFF (2)

First lady Michelle Obama meets with students from Avalon Elementary School and Mike Davis Elementary School on Friday after she arrived in Naples.

Join the Naples Daily News and the Naples Botanical Gardens for a special treat!

Friday, January 25th at 3:30 pm
at Avalon Elementary school for a **LIVE**
cooking demonstration featuring celebrity
Chef Jon Asthon and the students from the
Global Gardens program!

Get tips on healthy living and the benefits of
eating organically grown produce! Avalon
Elementary is located at 3300 Thomasson Drive,
Naples.

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**Naples
Botanical
Garden**



Avalon Elementary School and The Naples Botanical Garden
Present



The Global Garden Gazette

January 29, 2013

Character Trait of the Week: Responsibility



Prompt of the Week: Think of the food you've eaten in the last 24 hours – dinner, breakfast, lunch, and snacks. What plant parts did you eat at each meal?

Awesome Agricultural Avocado

Last night for dinner we had rice, asparagus and juicy steak. We learned that rice was a seed and that asparagus is a stem. For breakfast I had cereal, cherries and fat free milk.

Did you know that cereal is a seed? Cherries are fruit. All fruits have seeds or a pit. For example an apple has seeds and a peach has a pit.

For lunch I had a nutritious salad. It had lettuce, spinach, broccoli and carrots. Lettuce and spinach are part of the leaves family. Broccoli is a flower. Shocking, Right? Carrots are roots. I ate lots of varieties from the green global garden.

By: Kisha

Garden Ghosts

I had all kinds of plants to eat yesterday and today. Last night I ate broccoli. Broccoli is a fruit. We had potatoes which is a root. We had salad and the lettuce is a leaf.

Then for breakfast I had cereal which is made from whole grains. For lunch I had a sandwich and the bread is also made from grain which is made from a seed.

I had lots of fruits, seeds, stems and roots to eat!

By: Olivia

Plant of the Week:
Avocado



If you have a garden and a library,
you have everything you need.
-Marcus Tullius Cicero

Orange Orchids

At breakfast I ate cereal which is a whole grain. I had strawberries on top which comes from the flower. The seeds on a strawberry are on the outside. I some bananas which is a fruit, too.

At lunch, I ate pizza. The tomato sauce came from the tomato which is a fruit! The crust was made of grain which comes from seeds. The cheese would be a dairy product.

I ate tacos with green chilies for dinner. The taco shell is made from whole grains and the green chilies come from vegetables. I had beans and rice too. The beans are a vegetables and the rice is a grain. I learned a lot. I eat well!

By: Angela

The Diggers

I planted all kinds of plants today in the Global Garden

Last night I ate tomatoes. Tomatoes are a fruit. Today I ate a salad with tomatoes an pineapples. The lettuce is a vegetable and the tomatoes and the pineapple are fruits.

For breakfast I like cereal with strawberries. The cereal is made from grain. Strawberries are fruit and they have seeds on the outside. They taste good.

I ate asparagus and they are in the stem family. We learned all about fruits, stems, seeds, leaves and vegetables today.

By: Andy

I'VE GOT A LITTLE LIST

A Poem By Mister Barry

As some day it may happen with our garden in the ground,
I've got a little list, I've got a little list.

Of the children of this school who like to dig around
Who surely will be missed if I leave them off my list.

There is Jannia who's tomatoes are the best that we can eat
and there's Marissa who's village writing is so very, very neat

And Ricardo and Gerardo who love to shake my hand
and the radishes that never grew and left Mr. Sid in the sand.

We kept a little list, yes we kept a little list.

When Marcus came to tell us that our taters were coming up
and then Guadalupe followed with some bug juice in a cup

We added them to our list, yes we added them to our list

Then April came to show us onions that we have grown
and Miss Lorette thought we should leave them for Miss Mary
to disown

We kept them on the list, yes we kept them on our list.

You may have your little list, or add it to our list
Whatever will be missed, we'll love it on our list.

For the Wetlands, April 2010

Poem written by an Adult
Global Garden Mentor

SAMPLE LESSON PLAN

Week 7 – Flowers

Materials

- Various cut flowers (avoid Asteraceae)
- Magnifying glasses
- Scissors
- Tweezers
- Labeled flower diagram
- Pollinator pictures

Introduction

Plants are primary producers that are the foundation of food pyramids. They provide oxygen to breathe, habitat for other living things, and help prevent soil erosion. For plants to survive, they must be able to reproduce; therefore, pollination is a vital process to the survival of other living things. The food we eat depends on plants being pollinated. Before students can understand pollination and the role it plays in our world, they have to know what a flower is and how a flower is designed for reproduction. By dissecting flowers, students will see that flowers vary greatly in color, scent, and structure. Flowers are specially designed for specific pollinators.

In this activity, students will examine flowers, identify flower parts, and determine which pollinators pollinate certain plants.

Procedure

1. Look at the flower diagram. Discuss the functions of different flower parts and explain that flowers are different to attract different pollinators.
2. Ask students, "What is a pollinator?" A pollinator is something that takes pollen from one flower to another, allowing that flower to begin to produce a fruit. Some examples of pollinators include wind, bats, moths, bees, butterflies, and hummingbirds.
3. Look at the pollinator pictures with students and discuss what kinds of flower characteristics might attract each pollinator.
4. Begin the flower dissection by introducing each flower by name. As a group and using the flower diagram, identify flower parts. It might be necessary to cut some flowers open in order to get to their reproductive parts. Allow students to touch and smell the flowers and to use magnifying glasses for a closer look. Ask students for their best guesses as to how that flower is pollinated.
5. If students have journals or science notebooks, have them draw and label each flower and write observations about the flower. Explain that this process of observation, drawing and note-taking is something that professional scientists do.
6. Look at some of the flowers in the Global Garden. How are those flowers pollinated?

Standards Addressed

Science

SC.3.N.1.1 - Raise questions about the natural world, investigate them individually and in teams through free exploration, and systematic investigations, and generate appropriate explanations based on those explorations

SC.3.N.1.3 -Keep records as appropriate, such as pictorial written or simple charts, and graphs of investigations conducted.

SC.3.N.1.6 - Infer based on observations.

SC.3.L.17.1 - Describe how animals and plants respond to changing seasons.

SC.4.N.1.1 - Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.N.1.3 - Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.

SC.4.L.16.1 - Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.

SC.4.L.16.2 - Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.

SC.4.L.17.1 - Compare the seasonal changes in Florida plants and animals to those in other regions of the country.

SC.5.E.7.6 - Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water.

Writing

LA.3.3.5.1- The student will prepare writing in a format appropriate to audience and purpose (e.g., manuscript, multimedia)

LA.3.4.1.1-The student will write narratives based on real or imagined events or observations that include characters, setting, plot, sensory details, and a logical sequence of events.

LA.3.3.5.3-The student will share the writing with the intended audience.

LA.3.4.2.3-The student will write informational/expository essays that contain at least three paragraphs and include a topic sentence, supporting details, and relevant information;

AVALON GLOBAL VILLAGE



Allow hedge to attain height of six feet (6') to screen parking building

Oak

Hedge

GARDEN PLOTS

Raised Planters

Woolly Pocket Fence

URBAN GARDEN

Wildflower Garden

GLOBAL PAVILION

Rainbow Garden of Flowers

Butterfly Garden

MR. CHARLIE'S GARDEN

FILL

Vines

A/C

Arbor

ORIGINAL DESIGN

GLOBAL CLASSROOM



Global Garden Map

2012-2013